

The Pennsylvania State University

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**PERCEIVED SOCIAL SUPPORT AND WELL-BEING AMONG INTERNATIONAL
STUDENTS: HOPEFUL CAREER STATE AND CAREER ENGAGEMENT AS
MEDIATORS**

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by

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ABSTRACT

The purpose of this study was to investigate the relationships between perceived social support and well-being among international students enrolled in U.S. higher education institutions. Both the direct relationship between perceived social support and well-being and the indirect relationship through mediators (i.e., hopeful career state, career engagement) were examined among 410 international students across the United States. Structural equation modeling was used to test the hypothesized relationships. Results revealed that perceived social support directly contributed to international students' well-being. Results also showed that hopeful career state partially mediated the relationship between perceived social support and well-being, suggesting that international students with higher levels of social support were hopeful about their career futures, which then increased their levels of well-being. Similarly, results showed that career engagement also partially mediated the relationship between perceived social support and well-being, suggesting that international students with more social support had greater engagement in proactive career activities, which then contributed to their well-being. Lastly, results also showed a serial mediating effect of hopeful career state and career engagement on the relationship between perceived social support and well-being, suggesting that international students who had higher levels of social support were more hopeful about their career futures, which promoted greater engagement in proactive career activities, which then increased their levels of well-being. Findings of the study highlighted the important role that social support plays in international students' well-being, as well as provided empirical evidence for career development (i.e., hopeful career state, career engagement) as mechanisms through which social support contributes to international students' well-being. Implications for higher education practitioners (e.g., mental health and career counselors, student affairs professionals), counselor educators, and researchers are discussed.

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Chapter 1

Introduction

In the year of 2020-2021, approximately one million international students were enrolled in U.S. higher education institutions, consisting of 4.6% of the total student population (Institute of International Education, 2021). International students coming to the United States often have goals of attaining educational degrees and advancing their career prospects. As they pursue their goals in a new social and cultural environment, international students face unique challenges to their career development and well-being, such as acculturative stress (Brunsting et al., 2018; Smith & Khawaja, 2011), language barriers (Alharbi & Smith, 2018), as well as homesickness and lack of social support (Poyrazli & Lopez, 2007). Existing studies have shown the prevalence of international students' mental health concerns, with common concerns being depression and anxiety (Poyrazli, 2015; Zhou et al., 2021). Research on international students' career development have shown the impact of cultural adjustment on their career development (Crockett & Hays, 2011; Franco et al., 2019; In, 2016; Nadermann & Eissenstat, 2018; Reynolds & Constantine, 2007), in addition to systemic barriers to employment (Balin et al., 2016; Sangganjanavanich et al., 201). Despite the needs of international students, limited studies have focused on international students' well-being or career development (Pendse & Inman, 2017; Zhou et al., 2021).

To better support international students, it is important to explore protective factors that contribute to their well-being. Well-being is a concept that has received more attention in recent years, as the focus has been shifted from absence of illness and mental health issues to achieving optional well-being. There are many aspects of well-being. In this present study, well-being was comprised of individuals' cognitive evaluation of life satisfaction, positive feelings, and

psychosocial flourishing, which emphasizes on positive functioning and thriving in one's life (Diener, 1984, 2009; Diener et al., 2010).

Social support has shown to be a strong protective factor for well-being. International students with more social support are more likely to have better sociocultural adjustment, less acculturative stress, and fewer mental health symptoms (Jackson et al., 2019; Wang et al., 2021). According to Feeney and Collins' (2015) conceptual framework on thriving through relational support, social support helps individuals achieve and maintain long-term thriving through multiple pathways. Guided by Feeney and Collins' (2015) conceptual framework, my aim in this study was to examine 1) the direct effect of social support on well-being among international students, 2) the mechanisms through which social support contributes to international students' well-being.

Statement of the Problem

International students have unique challenges as they study abroad in the United States due to the cultural adjustment and systemic barriers for them. Despite the significant needs of international students, limited research has examined their well-being (Zhou et al., 2021).

Although an important reason for international students to study abroad, career development is often not included as a potential predictor when examining international students' well-being.

It is important to understand intrapersonal and interpersonal factors that contribute to international students' well-being. Social support has shown to be a strong interpersonal protective factor for well-being. Feeney and Collins (2015) provided a conceptual framework that explains multiple pathways through which social support leads to long-term thriving. However, limited empirical studies have tested the framework (Wilson et al., 2020), and no study has tested the framework with the international student population. The pathways in the framework

highlights different aspects of immediate outcomes of receiving social support, with areas including but not limited to emotional state, self-evaluation, and motivational state (Feeney & Collins, 2015). These immediate outcomes then impact one's long-term thriving.

Based on Feeney and Collins' (2015) conceptual framework, hopeful career state and career engagement were chosen as potential immediate outcomes of social support for international students. As international students study abroad for better educational and career outcomes, their hopefulness about their future and ability to proactively manage their careers have become critical. Research also have shown hopeful career state (Yoon et al., 2019) and career engagement (Hirschi et al., 2014) were associated with positive career and well-being outcomes.

The study examined both the direct and indirect effect of social support on well-being. Regarding indirect effects, potential mediating roles of hopeful career state and career engagement in the relationship between social support and well-being were examined. The findings of the study helped illuminate important protective factors that contribute to international students' well-being, which then inform preventions and interventions to support international students' holistic well-being.

Hypotheses

Through Structural Equation Modeling (SEM), the study was to examine 1) the direct effect of social support on international students' well-being, 2) the indirect effect of social support on well-being through hopeful career state and career engagement, guided by Feeney and Collins' (2015) conceptual framework on thriving through relational support. The following hypotheses were investigated in the study (see Figure 1-1):

Hypothesis 1: Perceived social support is positively associated with well-being.

Hypothesis 2: The relationship between perceived social support and well-being is mediated by hopeful career state.

Hypothesis 3: The relationship between perceived social support and well-being is mediated by career engagement.

Hypothesis 4: The relationship between perceived social support and well-being is mediated by hopeful career state and career engagement in a serial order.

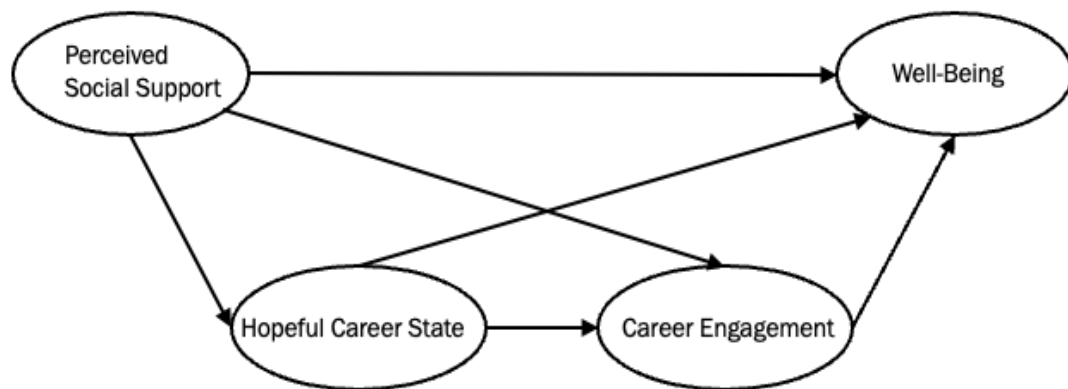


Figure 1-1: Conceptual Theoretical Model

Significance of the Study

The results of this study provided several contributions to both literature and practice. First, limited research has focused on the well-being or career development of international students (Pendse & Inman, 2017), despite the evident needs for this population. In addition, existing literature often examined well-being and career development separately. However, individuals' career development can affect their overall levels of well-being, and vice versa. Through the mediators that focus on the cognitive and behavioral aspects of positive career development, this study explored the impact of career development on international students'

well-being. Such investigation was especially appropriate for the international student population, as a major reason for international students to study abroad is to pursue their academic and career goals.

In addition, the results of this study provided additional evidence to Feeney and Collins' (2015) conceptual framework on thriving through relational support by examining the mechanisms through which perceived social support contributes to international students' well-being. While this conceptual framework has gained much attention, there is still a lack of empirical research to test this framework (Wilson et al., 2020).

Limitations of the Study

The limitations of the study are outlined as follows:

First, data was collected using convenience sampling to reach international students, which might decrease the representativeness of the international student population in the United States. For example, international students who respond to survey request might have certain characteristics than those who do not. Because the survey is in English, it is possible that international students who have lower levels of English language proficiency tend not to respond.

Second, a cross-sectional design was used, which collects data from international students only once. Therefore, results of this study did not show casual relationships among variables.

Third, this study used self-report surveys in English, which might introduce potential biases. For example, participants might have responded in a more socially acceptable way, or the accuracy of their responses might have been affected depended on their English language proficiency.

Definitions of Terms

The terms used in this study are defined as follows to increase clarity:

International Students

International students in this study refer to individuals pursuing a bachelor, master's, or/and a doctoral degree at a U.S. higher education institution on a temporary student visa (e.g., F-1, J-1).

Well-Being

Well-Being in this study consists of individuals' own evaluation on how pleasant their lives are in terms of life satisfaction (cognitive aspect), positive and negative feelings (affective aspect) (Diener, 1984, 2009; Diener et al., 2018), as well as psychosocial flourishing (psychosocial aspect), which focuses on one's positive social-psychological functioning in their lives (Diener et al., 2010).

Perceived Social Support

Perceived social support is defined as “the social resources that persons perceive to be available by nonprofessionals in the context of both formal support groups and informal helping relationships” (Cohen et al., 2000, p. 4).

Hopeful Career State

Hopeful career state is defined as the overall degree of hopefulness one has about their future careers (Yoon et al., 2019).

Career Engagement

Career engagement is defined as “the degree to which somebody is proactively developing his or her career as expressed by diverse career behaviors” (Hirschi et al., 2014, p. 577).

Chapter 2

Literature Review

The literature is reviewed in this chapter related to key components of the study. First, I describe the statistics of international students in the United States and salient issues that international students experience, with a focus on their well-being and career development issues. Then I explain variables used in the study, which were well-being, social support, hopeful career state, and career engagement. I also present the theoretical framework for the study, followed by a summary on important findings from literature that guided the study, as well as gaps of current literature the study was designed to address.

International Students in the United States

International students are defined as students who come to the United States from another country on temporary visas to pursue their academic degrees at accredited higher education institutions. According to the annual report by the Institute of International Education (IIE, 2021), there were a total of 914,095 international students in U.S. higher education in the year of 2020-2021, representing 4.6% of the total U.S. higher education enrollment. These international students were enrolled in U.S. higher education institutions for undergraduate, graduate, or non-degree studies, or completing their optional practical training (OPT), temporary work directly associated with their academic studies. International students studied at universities in every U.S. state, and the top 10 institutions for hosting international students had over 10,000 international students at their campuses (IIE, 2021). Among the international student population, their leading places of origin are China (34.7%), India (18.3%), South Korea (4.3%), Saudi Arabia (2.8%), and Canada (2.8%) (IIE, 2021).

International students make huge contributions to the U.S. economy and higher education. According to NAFSA: Association of International Educators' economic analysis, during the academic year of 2020-2021, international students contributed a total of \$28.4 billion to the U.S. economy and supported more than 300 thousand jobs in the United States. (NAFSA, 2021). In addition, international students bring academic and cultural diversity to U.S. higher education and workplace.

Key Characteristics of International Students

International students face unique challenges as they pursue their academic and career goals in a new social and cultural environment. Extensive research has highlighted the sociocultural adjustment that international students go through (Alharbi & Smith, 2018; Jing et al., 2020; Pendse & Inman, 2017; Smith & Khawaja, 2011; Zhang & Goodson, 2011). Some of the common challenges that international students experience in their transition and adaptation process include language barriers (Alharbi & Smith, 2018; McLachlan & Justice, 2009; Smith & Khawaja, 2011), acculturative stress (Brunsting et al., 2018; Smith & Khawaja, 2011; Sullivan & Kashubeck-West, 2015; Wang et al., 2021), loneliness and lack of social support (Chavajay & Skowronek, 2008; McLachlan & Justice, 2009; Poyrazli & Lopez, 2007), and perceived discrimination (Chavajay & Skowronek, 2008; Poyrazli & Lopez, 2007). Researchers have found that these challenges related to sociocultural adjustment negatively impact different aspects of international students' lives and their overall well-being (Jing et al., 2020; Zhang & Goodson, 2011).

In addition to sociocultural adjustment, academic concerns (Alharbi & Smith, 2018; Chavajay & Skowronek, 2008) and financial concerns (Hyun et al., 2007) are also salient issues for international students. International students' language barriers impact their ability to fully

understand lectures, ask questions, as well as complete assignments and exams (Poyrazli & Kavanaugh, 2006). Also, international students need to adjust to the U.S. educational system that differs in many ways compared to their home country, such as the different teaching styles and expectations (Smith & Khawaja, 2011). Regarding financial burdens, international students usually pay twice as much as domestic students' tuition rate, without the ability to apply for student loans or financial aid in the United States and with limitations for them to work while attending school due to their visa status.

Though there is still sparse research studying international students' mental health concerns (Cao et al., 2021; Pérez-Rojas et al., 2021), existing studies have well demonstrated the need to attend to their mental health issues due to their multiple layers of life stressors (Hyun et al., 2007; Mori, 2000; Poyrazli, 2015; Zhou et al., 2021). A recent study using a secondary data analysis from a large national survey on mental health concerns of students from 233 U.S. universities during 2014-2018 showed that depression, anxiety, and eating disorders are most common mental health symptoms among international students (Zhou et al., 2021). In another study with a sample of international students attending a specific U.S. university, the researcher found that international students experienced psychological concerns mostly pertaining to academics, career, and stress, and that international students also had concerns related to depression and anxiety (Poyrazli, 2015). However, despite these mental health concerns, research has consistently shown that international students underutilize counseling services (Hyun et al., 2007; Nilsson et al., 2004; Smith & Khawaja, 2011; Yakushko et al., 2008; Zhou et al., 2021). Even when international students do seek counseling, they tend to drop out of counseling after the initial sessions (Yakushko et al., 2008).

Career development issues of international students have received very little attention in the literature, compared to international students' cultural adjustment and mental health issues (Pendse & Inman, 2017). However, because one of the top motivations for international students

to study abroad in the United States is to accomplish their academic and career goals, it is crucial to pay attention to their career development needs. Moreover, studies have shown that international students' career concerns contributed to their overall psychological distress (Daga et al., 2020; Poyrazli, 2015). Existing research has indicated that international students' sociocultural adjustment has a great impact on their career development (Crockett & Hays, 2011; Franco et al., 2019; In, 2016; Nadermann & Eissenstat, 2018; Reynolds & Constantine, 2007; Sangganjanavanich et al., 2011). For example, international students with higher levels of acculturative stress had lower career outcome expectations (Franco et al., 2019; Reynolds & Constantine, 2007). In another study with a sample of Korean international students, their higher levels of acculturation directly predicted their levels of career decision self-efficacy and levels of comfort, skills, and engagement in their networking, which could then in turn positively affect their career decision self-efficacy (Nadermann & Eissenstat, 2018). In addition, existing research also pointed out unique issues that international students face in their job search process and employment, such as work authorization options and navigating different cultural expectations (Balin et al., 2016; Sangganjanavanich et al., 2011). A survey conducted by National Career Development Association's International Student Services Committee revealed that international students, employers, and career development professionals all lack knowledge on work authorization options, which may lead to employers ruling out international student job applicants (Balin et al., 2016) In addition, employers pointed out that some international students' interviewing and communication skills were not as effective in areas of highlighting their strengths through stories, which may be resulting from different cultural expectations (Balin et al., 2016).

While international students face several challenges in their time studying abroad in the United States, they also demonstrate unique personal and multicultural strengths, such as resilience, adaptability, multilingual ability, appreciation for diversity, cross-cultural and global

perspectives, strong motivation for growth, and hardiness (Mostafa & Lim, 2020; Sangganjanavanich et al., 2011; Yakunina et al., 2013). In a study with a sample of 336 international students, researchers demonstrated that international students' personal and multicultural strengths could help reduce their acculturative stress and increase their adjustment (Yakunina et al., 2013). Specifically, the study revealed that international students' high levels of personal growth initiative directly predicted better adjustment; higher levels of hardiness predicted greater adjustment both directly and indirectly through decreasing acculturative stress; higher levels of universal-diverse orientation, which is an appreciation for cultural diversity, also helped international students achieve better adjustment through decreasing their acculturative stress (Yakunina et al., 2013).

In summary, there is a large number of international students studying abroad in the United States, who face unique challenges as they pursue their academic and career dreams while adapting to the new culture. Despite the challenges, international students also possess unique strengths that help them to stay resilient and motivated. Identifying and addressing challenges of international students is important; however, it can leave us only focusing on the deficits while not paying more attention to the positives (Pendse & Inman, 2017). Therefore, in this study, strength-based constructs were used to shed light on the relationships among those positive psychosocial factors and desired well-being and career outcomes among international students.

Well-Being

Definition of Well-Being

In recent years, there has been increased attention on the concept of well-being in the health, psychology, counseling, and related fields, with the mindset shift that health does not

equate to the absence of illness and mental health issues (Cooke et al., 2016; Lent, 2004). The World Health Organization (WHO), back in 1948, already defined health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (WHO, 1948, p. 1). Especially in the counseling field, the aim of counselors is to support clients in achieving their personal and career goals in life, and achieving the optimal well-being, through a strength-based and wellness approach.

Well-being can generally be categorized into two types, hedonic and eudaimonic, in the literature based on different theories or views on well-being. Hedonic well-being focuses more on subjective happiness and satisfaction with life. A widely studied hedonic well-being (subjective well-being) is defined as individuals’ subjective evaluation on how desirable and pleasant their lives are in both cognitive and affective aspects (Diener, 1984, 2009; Diener et al., 2018). Specifically, the cognitive aspect of subjective well-being is often captured by individuals’ evaluation on their life satisfaction; the affective aspect is often assessed by individuals’ self-report of both positive and negative feelings. In evaluating their subjective well-being, individuals are allowed to use their own standards based on their sociocultural backgrounds. In a study with a sample of 123 countries, researchers found that need fulfillment was consistently related to subjective well-being across different sociocultural regions (Tay & Diener, 2011). While most research studies used subjective well-being as an end outcome, subjective well-being also has been shown to lead to many positive outcomes in recent research, such as supportive social relationships, job satisfaction, better health, and better functioning society with people who show more prosocial behaviors (Diener & Ryan, 2009).

Eudaimonic well-being, on the other hand, focuses more on one’s psychosocial needs and positive functioning, such as having a purpose in life, continuing to grow personally and professionally, and fostering a good relationship with others (Diener et al., 2010; Ryff, 1989). One widely used concept under the umbrella of eudaimonic well-being is psychological well-

being (Ryff, 1989). Specifically, psychological well-being consists of six salient domains, including personal growth, positive relations with others, purpose in life, autonomy, self-acceptance, and environmental mastery (Ryff, 1989). Another growing concept built upon the work of psychological and social well-being is psychosocial flourishing, which highlights one's social-psychological functioning (Diener et al., 2010).

It is important to acknowledge the multiple aspects of well-being, such as life satisfaction, happiness, and psychosocial thriving when we assess and promote individuals' holistic well-being. Therefore, in the present study, well-being was conceptualized by the cognitive, affective, and psychosocial components of well-being.

Well-Being of International Students

International students face unique challenges to well-being as they navigate the transition to a new culture and societal system, advance their education and careers, as well as deal with life stressors. Previous literature has paid more attention to mental health issues of international students (Jing et al., 2020; Mori, 2000; Poyrazli, 2015; Zhou et al., 2021). For example, Zhou and colleagues (2021) analyzed data from a national survey and found that common mental health symptoms that international students have include depression, anxiety, eating disorders, non-suicidal self-injury, as well as suicidal ideation. More importantly, research has consistently demonstrated that despite the need for mental health services, international students tend to underutilize the counseling services (Yakushko et al., 2008; Zhou et al., 2021).

Many studies used deficit-oriented outcome variables, such as stress and mental health symptoms to examine international students' well-being. However, well-being is not the absence of mental health issues or stress but more concerned about optimal state of living and thriving, so it is crucial to directly focus on international students' well-being (Alharbi & Smith, 2018; Tseng

& Newton, 2002). A study used grounded theory to understand how international students define and build their well-being (Tseng & Newton, 2002). Regarding the definition of well-being, the researcher indicated that international students' responses could be categorized into overall life satisfaction and positive affect, which resonates with the definition of subjective well-being (Tseng & Newton, 2002). In another qualitative study using grounded theory aiming to understand Asian international students' conceptualization of well-being and contributing factors, researchers found several strategies that international students used to survive and thrive, including building a new social support locally, developing independence, confidence, and openness to different cultures, as well as using university services (McLachlan & Justice, 2009).

Existing studies that focus on international students' well-being tend to use a specific category of well-being construct, such as subjective well-being or psychological well-being, and often examine the relationship between issues pertaining sociocultural adjustment and well-being (Can et al., 2021; O'Reilly et al., 2010; Yan, 2020). The sociocultural adjustment certainly is a large component of the study abroad experience and can create challenges for international students to maintain their well-being. However, it is important to also explore other aspects of international students' lives that also impact their well-being. For example, Poyrazli (2015) found that most salient reasons for international students to experience psychological concerns are stress, as well as academic and career concerns. With academic and career goals being a big piece of international students' decision to study abroad, more studies need to further explore the impact of their academic and career experiences, such as their perception of their experiences and related stress on their well-being.

Among the studies specifically examined international students' protective factors that contribute to their well-being, one protective factor that stands out is social support (Brunsting et al., 2021; Cho & Yu, 2015; Du & Wei, 2015; Katsumoto & Bowman, 2021; Luo et al., 2019). Studies have explored the impact of different sources of social support or the general level of

social connectedness on international students' subjective well-being or psychological well-being. However, fewer studies examined how social support contributes to international students' well-being, indicating a gap for researchers to fill.

Social Support

Definition of Social Support

Social support, a salient protective factor, is defined as “the social resources that persons perceive to be available or that are actually provided to them by nonprofessionals in the context of both formal support groups and informal helping relationships” (Cohen et al., 2000, p. 4). Social support has been discussed in literature based on perceived or received social support, as well as different aspects of social support, such as emotional, informational, and instrumental (Uchino, 2009). Perceived social support, as opposed to received social support, has been shown to be associated with greater positive mental health outcomes (Feeney & Collins, 2015). A meta-analysis revealed that subjective social support, which emphasizes on the perceived social support and satisfaction with the social support, has a stronger relationship with international students' psychological adjustment, compared to objective social support, often measured by the actual number of social network or social interactions, or received social support (Bender et al., 2019).

Sources of Social Support for International Students

Many sources of social support for international students in the United States have been examined in research. Commonly studied sources of social support include international students' family, friends, conational and international friends in the United States, American friends, and

significant others (Bertram et al., 2014; Chavajay, 2013; Smith & Khawaja, 2011). However, the level of social support that international students perceive or receive from different sources and the impact of those different social support sources vary. For example, many studies have shown that international students perceive more social support from family and friends back home, compared to domestic people (Bhochhibhoya et al., 2017; Chavajay, 2013). International friends in the United States are also a more common source of social support than domestic friends (Chavajay, 2013). A meta-analysis indicated that international students who had social support from a mix of sources, including conational, international, and domestic support, had better psychological adjustment (Bender et al., 2019).

Compared to other sources of social support, faculty social support has been examined less with international students. A possible reason might be that a commonly used measure for social support, the Multidimensional Scale of Perceived Social Support, does not include faculty as a source. Academic and career pursuits, however, are one of the most important motivations for international students to study abroad. Faculty, who disseminate knowledge and guide students to make academic and career progress, could potentially serve as a crucial social support for international students (McLachlan & Justice, 2009). In a general college student sample, cumulative social support from teachers, advisors, and other staff on campus significantly predicted students' level of general hope, academic hope, and perceived ability for academic persistence (D'Amico Guthrie & Fruht, 2020). Moreover, social support from teachers, among these three sources of on-campus support, predicted hope and perceived ability for academic persistence most strongly (D'Amico Guthrie & Fruht, 2020). A recent study has shown that perceived faculty social support helped international students enhance psychological well-being through lowering their levels of loneliness (Brunsting et al., 2021).

Social Support and Well-Being

Social support has shown to be a predictor of positive mental health, academic and career outcomes, and a buffer between adverse experiences and harmful physical and psychological outcomes (Bareket-Bojmel et al., 2021; Lee et al., 2004; Mishra, 2020; Öztemel & Yıldız-Akyol, 2021; Szkody & McKinney, 2020; Wang et al., 2021). Similarly, lack of social support is associated with poor physical and mental health (Feeney & Collins, 2015). For example, a systematic review has reported that lower perceived social support is associated with poorer depression outcomes (Wang et al., 2018).

Social support has shown to be an important protective factor as international students navigate their acculturation process and deal with the stress in the process. Many studies showed that international students with more social support have lower levels of acculturative stress, better sociocultural adjustment, and fewer depressive symptoms (Jackson et al., 2019; Poyrazli et al., 2004; Sullivan & Kashubeck-West, 2015; Wang et al., 2021; Yeh & Inose, 2003). For example, in a study with a sample of international students in Massachusetts, those who had less social support reported more depressive symptoms and more difficulty in their sociocultural adjustment (Jackson et al., 2019). Ra and Trusty's (2017) study showed that social support partially mediated the relationship between East Asian international students' levels of acculturation and their acculturative stress.

Research has also shown the buffering effect of social support between international students' acculturative stress and their mental health issues and overall well-being (Smith & Khawaja, 2011). A study with a sample of Korean international students showed that those who had higher levels of social support reported less mental health symptoms when faced with acculturative stress (Lee et al., 2004). Similarly, another study showed that international students

who reported more perceived faculty social support had higher levels of psychological well-being (Brunsting et al., 2021).

In sum, social support has been shown to be a strong protective factor that contribute to international students' well-being by reducing their stress level or mental health symptoms or by increasing their level of subjective or psychological well-being. However, little is known about the mechanisms through which social support contributes to international students' well-being, which leaves a research gap to fill. Further exploration of the mechanisms could give researchers and practitioners better understanding of important components that facilitate the process of achieving well-being.

Theoretical Framework on Thriving through Social Support

Feeney and Collins (2015) proposed a conceptual framework explaining how social support promotes long-term well-being and thriving. Specifically, social support can serve as a source of strength when people are facing life adversity or can serve as a relational catalyst when people are facing life opportunities. Through both routes, social support is proposed to provide immediate outcomes, which then promote individuals' long-term well-being and thriving (Feeney & Collins, 2015). Feeney and Collins (2015) proposed eight different areas of immediate outcomes including 1) emotional state, 2) self-evaluations and self-perceptions, 3) appraisals of the situation or event, 4) motivational state, 5) situation-relevant behaviors, resources, and outcomes, 6) relational outcomes, attitudes, and expectations, 7) neural activation and physiological functioning, and 8) health and lifestyle behaviors. While this conceptual framework is relatively new and still needs more empirical support (Wilson et al., 2020), it serves as a framework that allows researchers to examine the mechanism of how social support leads to positive outcomes. Wilson and colleagues (2020) applied this framework and showed that

perceived social support promoted well-being through increasing mindfulness, self-compassion, and savoring, three components that represent several immediate outcomes outlined in the framework. Similarly, Zhou and colleagues (2022) found that self-compassion and professional self-concept as immediate outcomes of perceiving social support that promoted well-being among nursing students in China.

Although the eight areas of immediate outcomes depicted in Feeney and Collins' (2015) theoretical framework seem to imply general contexts, it makes sense to adjust the contexts based on the specific populations studied. For example, Zhou and colleagues (2022) specifically considered nurse self-concept as an important immediate outcome for nursing students. With the international student population in the United States, career development serves as a salient factor that allow them to design their futures or create stress that might reduce their level of well-being. Therefore, in the present study, two specific career variables, hopeful career state and career engagement, are considered as immediate outcomes of perceived social support of international students, which are hypothesized to promote their well-being.

Hopeful Career State

Definition of Hope and Hopeful Career State

Hope is a strength-based construct from positive psychology. According to Snyder's hope theory, hope is defined as "a cognitive set that is composed of a reciprocally derived sense of successful (a) agency (goal-directed determination) and (b) pathways (planning of ways to meet goals)" (Snyder et al., 1991, p. 571). Snyder highlighted three salient elements in the hope theory- goals, pathways, and agency. Goals, reflecting that people's actions are goal-directed, are the essential element that builds the cognitive foundation of hope theory (Snyder, 1995, 2002; Snyder

et al., 1991). Goals can be short-term or long-term, and can aim for pursuing a positive goal outcome or avoiding a negative goal outcome (Snyder, 1995, 2002; Snyder et al., 1991). The two components of pathways and agency are different but interrelated. Pathway thinking refers to individuals' perceived capability to produce several strategies that will help them achieve their desired goals. Agency thinking, on the other hand, refers to individuals' perceived capability to use their pathways to achieve their desired goals (Snyder, 1995, 2002; Snyder et al., 1991).

Hopeful career state is defined as the overall level of hopefulness that an individual has about their future careers (Yoon et al., 2019). Individuals who have a high level of hopeful career state may believe that what they are doing in their current education or work experience is helping them to build a better future. While both hope and hopeful career state capture the hopefulness, there are several differences between the two concepts. Hope is considered as a personal trait or a psychological characteristic of an individual. An example from the Hope Scale is "even when others get discouraged, I know I can find a way to solve the problem" (Snyder et al., 1991), which highlights this trait. However, hopeful career state is viewed as a psychological state, which can be subjected to the context and time. For example, an item from the Hopeful Career State Scale, "I am hopeful that what I am doing now will help me in my career journey" (Yoon et al., 2019), demonstrates the time and context sensitiveness of hopeful career state. In addition, unlike hope, which is used in general contexts, hopeful career state, as its name suggests, focuses on the hopefulness in a career context specifically.

Hope and Well-Being

Hope has shown to be a strong direct predictor of well-being (Hirschi, 2014; Muyan-Yılık & Demir, 2020; Rand et al., 2020), as well as a mediator between other variables and well-being (Cui, 2020; Lu & Hsu, 2013; Satıcı, 2016; Yalçın & Malkoç, 2015). For example, a one-

semester longitudinal study involving a sample of 334 undergraduate students revealed that hope significantly predicted the change of students' levels of subjective well-being across the semester. To be more specific, hope significantly increased students' levels of positive affect and their life satisfaction, but did not influence their levels of negative affect (Rand et al., 2020). Higher levels of hope were shown to be significantly correlated to fewer depressive symptoms in a sample of international students in Massachusetts (Jackson et al., 2019).

To my best knowledge as I did a thorough literature review, no study has specifically examined the relationship between hopeful career state and well-being. However, based on the literature related to hope and well-being, I hypothesized that individuals who have more hopefulness towards their career futures might have better well-being.

Hope and Career Development

Hope has also been associated with many positive academic and career outcomes, such as academic persistence, proactive career behaviors, career development skills, career decision self-efficacy, career adaptability, and job satisfaction (Buyukgoze-Kavas, 2016; D'Amico Guthrie & Fruiht, 2020; Hirschi, 2014; Hirschi et al., 2015; In, 2016; Rand et al., 2020; Smith et al., 2014; Sung et al., 2013). For example, hope uniquely predicted perceived ability for academic persistence in a general sample of 994 college students in the United States (D'Amico Guthrie & Fruiht, 2020). In a one-semester longitudinal study, college students who reported higher levels of hope had better academic performance, measured by their final course grades, through increasing their grade expectancies (Rand et al., 2020).

In terms of career outcomes, a study conducted with a Turkish undergraduate student sample showed that while hope, resilience, and optimism each significantly predicted students' levels of career adaptability, hope appeared to be the strongest predictor among the three,

uniquely explaining 11% of the variance in career adaptability, compared to 7% and 2% for resilience and optimism respectively (Buyukgoze-Kavas, 2016). In addition, in a Korean international student sample, hope was confirmed to strongly predict their levels of career decision self-efficacy, controlling for their levels of acculturation (In, 2016).

Hopeful career state has been shown to be associated with positive career outcomes with employees, such as work engagement and job satisfaction (Yoon et al., 2019; Yoon et al., 2021). The hopefulness that individuals have may work as a catalyst for higher levels of engagement and satisfaction at work.

Hope and Social Support

Many studies have shown that social support significantly predicts hope (Bareket-Bojmel et al., 2021; Fruiht, 2015; Smith et al., 2014; Xiang et al., 2020). For example, a study involving general college students showed that those students who reported having more social support also reported higher levels of hope, both in agency thinking and pathway thinking (Fruiht, 2015). Another study with a general undergraduate student sample showed a similar result that students who reported having social support on campus scored significantly higher in their levels of hope, compared to those without any social support (D'Amico Guthrie & Fruiht, 2020). In the same study, when examining the impact of on-campus social support, trait hope, and academic hope on students' perceived ability for academic persistence, researchers found that all three factors significantly perceived ability for academic persistence. Worth noting is that both trait hope and academic hope better predicted perceived ability for academic persistence than on-campus social support did, which led to authors suggesting a potential mediating effect of hope between social support and academic persistence for future research (D'Amico Guthrie & Fruiht, 2020).

While hope has often been seen as a stable trait across time, there is also research showing that the levels of hope can change (Xiang et al., 2020). In a one-year longitudinal study involving a sample of 1283 first-year college students in China, perceived social support not only significantly predicted students' levels of hope across one year, but also significantly impacted the development of hope. Specifically, the trajectory of perceived social support was examined to significantly predict the trajectory of hope (Xiang et al., 2020).

Social support has also shown to have a positive impact on hopeful career state in an organizational context (Yoon, in press). For example, support from the organization and supervisors can increase employees' hopeful career state, which then leads to more work engagement, better performance, and higher levels of job satisfaction. Based on literature examining the relationship between social support and hope, as well as hopeful career state in a work setting, it is reasonable to hypothesize that social support may also predict hopeful career state in an educational setting.

Career Engagement

Definition of Career Engagement

The world of work has been changing rapidly due to the new technology and changing environment due to COVID 19, so the ability to manage one's career over the life span is becoming more crucial (Hirschi, 2018). In order to manage their careers, individuals need to proactively engage in career activities, such as career planning, career exploration, and networking. Because of the need for self-directed career management, the construct of career engagement has shown high relevancy and received more attention from both practitioners and researchers (Hirschi & Freund, 2014). Career engagement is defined as "the degree to which

somebody is proactively developing his or her career as expressed by diverse career behaviors” (Hirschi et al., 2014, p. 577). Unlike existing constructs that focus on the specific career behaviors, career engagement concerns more about the overall level of engagement in various career activities.

For international students studying in the United States, the concept of career engagement is highly relevant and crucial. The study abroad experience itself is an important career goal-oriented activity for international students. International students choose to come to the United States because they hope to obtain quality education and potentially practical experiences to advance their careers (Loo et al., 2017). In addition, many international students consider the study abroad experience as a way to further explore who are- their interests, strengths and areas of improvement, and personal values, as well as to design their personal and professional life in the future. International students also have to proactively engage in and adjust career behaviors as they navigate the impact of COVID 19 and constantly changing socio-political environment on their academic and career aspirations. For example, due to COVID 19 and rapidly changing immigration policies, international students may need to adjust their post-graduation career plans in terms of staying in the United States, moving back to their home country, or moving to another country. To make such career decisions, international students may need to consult with important people in their life and professional mentors, research on expectations in different job markets, and participate in career activities that would help them succeed in their chosen job markets. While existing studies have explored international students’ career decision-making, career outcome expectations, and expectations for career counseling (Franco et al., 2019; In, 2016; Li et al., 2021; Nadermann & Eissenstat, 2018; Singaravelu et al., 2005), there is lack of research on international students’ career engagement, which indicates a gap in the literature.

Career Engagement and Well-Being

Often in the literature, career development and well-being are investigated separately. However, there has long been a call for the integration of career development and mental health, especially in recent years (Tang et al., 2021). While only few studies examined the relationship between career engagement and well-being, results of those studies suggested that higher levels of engagement in career activities predict higher levels of well-being (Harrison, 2022; Le et al., 2018; Ochoco & Ty, 2021). For example, Harrison (2022) found that career engagement predicted professional athletes' mental well-being. Le and colleagues (2018) found that career engagement predicted life satisfaction among migrant workers in Australia. Similarly, Ochoco and Ty (2021) also showed the same impact of career engagement on life satisfaction with Filipino senior high school students. Therefore, it is hypothesized that career engagement would have a positive impact on international students' well-being as well.

Career Engagement, Social Support, and Hopeful Career State

Previous studies have shown that both personal and environmental factors contribute to individuals' engagement in career activities (Hirschi & Freund, 2014; Rogers et al., 2008). Hope and hopeful career state are considered personal factors, and social support is considered an environmental factor.

Social support has shown to positively correlate with career engagement, as well as other more specific forms of career engagement, such as career exploration (Hirschi & Freund, 2014; Sou et al., 2022). For example, Hirschi and Freund (2014) found that a higher level of perceived social support was related to more engagement in career behaviors in a sample of 67 college students in Germany. Similarly, Sou and colleagues (2022) found that social capital, a close

concept with social support, significantly predicted career engagement among 610 undergraduate students in Macao.

Psychological capital, which consists of hope, optimism, resilience, and self-efficacy, has shown to positively predict career engagement (Baluku et al., 2021; Daswati et al., 2022). More specifically, Hirschi (2014) also found hope to be significantly related to career engagement. Although no study has specifically examined the relationship between hopeful career state and career engagement, it can be hypothesized that a positive correlation exists because hopeful career state concerns levels of hopefulness, which can be seen as similar to psychological capital.

In general, there is a lack of research on exploring factors that facilitates career engagement, specifically with an international student population. To my best knowledge based on extensive literature review, no study has examined social support, hopeful career state, career engagement, and well-being in one model.

Summary

Review of literature indicated that international students face unique challenges in areas of sociocultural adjustment, mental health, and career development that need to be addressed. Most of the literature related to international students focus on their sociocultural adjustment, and literature attending to international students' well-being and career development remains limited. In recent years, there has been more attention to strength-based constructs both as outcomes like well-being, and as predictors, such as social support, hopeful career state, and career engagement, although few articles studied these constructs, especially relationships between these constructs among the international student population. Below are some key findings from the literature that guide the proposed study:

1. Life satisfaction, positive feelings, and flourishing represent the cognitive, affective, and psychosocial aspects of well-being, which serve as good strength-based outcome variables for international students' overall well-being.
 2. Social support is a strong protective factor for international students regarding their adjustment, mental health, and career development. Because of the evidence showing the stronger effect of perceived social support over received social support, the multidimensional scale of perceived social support seems to be an appropriate measure.
 3. Hope serves as a strong predictor and mediator of positive well-being and career outcomes. Very few studies have examined the role of hope or hopeful career state for international students' well-being.
 4. Career engagement is a highly relevant construct for international students and associated with positive career and well-being outcomes. Based on my significant literature review no study was found to date that examined the career engagement of international students in the United States, indicating the need for more research.
 5. Very few studies have explored how social support predicts positive well-being through the mediating role of career variables, such as hopeful career state and career engagement.
 6. International students' career development issues impact their well-being, but limited studies have included both well-being and career variables in the same study to see the relationship between them.
 7. No study has examined all the variables, social support, hopeful career state, career engagement, and well-being in one study, let alone with an international student sample.
- Therefore, based on Feeney and Collins's (2015) framework, hopeful career state and career engagement are used as potential pathways through which social support promotes well-being. Hopeful career state aligns with the appraisals of the situation or event, and career

engagement aligns with situation-relevant behaviors. The conceptual framework for the present study is shown in Figure 2-1.

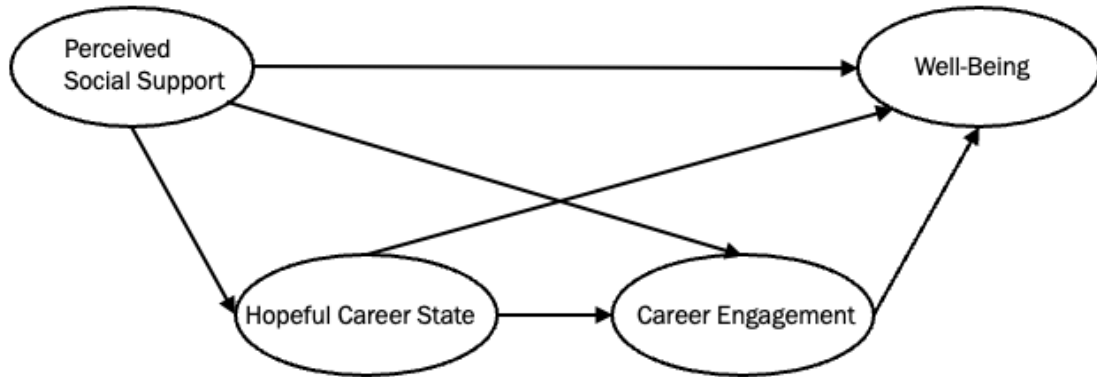


Figure 2-1: Conceptual Framework for the Present Study.

Chapter 3

Method

The focus of this chapter is on the research method used in the study. The purpose for the study was to examine the relationships among perceived social support, hopeful career state, career engagement, and well-being among international students in the United States. In addition, the relationships between specific international student demographics and these variables were explored. The specific hypotheses investigated in the study are listed below:

Hypothesis 1: Perceived social support is positively associated with well-being.

Hypothesis 2: The relationship between perceived social support and well-being is mediated by hopeful career state.

Hypothesis 3: The relationship between perceived social support and well-being is mediated by career engagement.

Hypothesis 4: The relationship between perceived social support and well-being is mediated by hopeful career state and career engagement in a serial order.

Research Design

The study was a cross-sectional quantitative research design without experimental control, to explore the variables in the proposed study in a natural setting. Structural Equation Modeling (SEM) was used to investigate the relationships among perceived social support, hopeful career state, career engagement, and well-being. SEM is a collection of statistical

techniques for “determining the extent to which the theoretical model is supported by sample data” (Schumacker & Lomax, 2010, p. 2). SEM has received more attention in the counseling field in recent years, as the use of SEM can help deepen our understanding and advance counseling research through the following ways: examining relationships among multiple observed and latent variables simultaneously, testing and improving complex theoretical models, and confirming the factor structure of instruments (Crockett, 2012). SEM provides great flexibility for researchers to run their desired analyses and provides great control over the analyses (Trusty, 2011). The use of SEM increases validity and reliability, compared to multiple regression analysis, because SEM accounts for measurement error that exists in observed variables in the model (Crockett, 2012; Schumacker & Lomax, 2010). One disadvantage of SEM is that despite its ability to confirm a priori theoretical model, it does not serve as a great tool for exploring the unknown relationships among variables (Crockett, 2012).

Variables

The variables, included in the study, are described in Table 3-1 by the categories of exogenous (independent) and endogenous (dependent) variables, and in the conceptual theoretical model (see Figure 3-1).

Table 3-1: Variables in SEM

Exogenous Variable	Endogenous variable
Perceived social support (measured by the Multidimensional Scale of Perceived Social Support)	Hopeful career state (measured by the Hopeful Career State Scale) Career engagement (measured by the Career Engagement Scale) Well-being

	(measured by the Satisfaction With Life Scale, the Scale of Positive and Negative Experience, and the Flourishing Scale)
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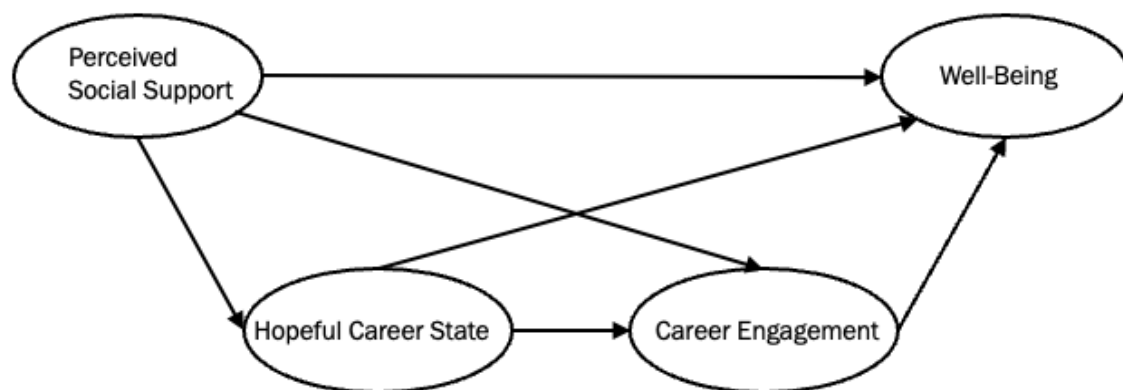


Figure 3-1: Conceptual Theoretical Model.

Participants

The population targeted in the study was international students currently enrolled at U.S. higher education institutions with a temporary student visa (e.g., F-1, J-1) pursuing their bachelor's, master's, or doctoral degrees. To be eligible for the study, participants must have been at least 18 years old and have not graduated during the time when they completed the questionnaires for the study.

A convenience sampling method was used to recruit participants. To be specific, I contacted international student services offices and other campus offices that provide services tailored for international students across the nation. In addition, reached out to international student organizations, international churches, as well as faculty of courses with many international students. Social media platforms, such as Facebook groups (e.g., "Out-of-State and

International Students” group), and WeChat, were also used to recruit international student participants.

Instruments

The instruments used in the study included 1) Demographic Questionnaire, 2) Multidimensional Scale of Perceived Social Support, 3) The Satisfaction with Life Scale, 4) The Scale of Positive and Negative Experience, 5) The Flourishing Scale, 6) The Hopeful Career State Scale, and 7) The Career Engagement Scale. The instruments 3, 4, and 5 collectively measured well-being in cognitive, affective, and psychosocial aspects.

Demographic Questionnaire

Participants were asked to complete a demographic questionnaire with demographic information relevant to the study. The following demographic information was included: age, gender, country of origin, relationship status, self-rated financial concern, academic status, academic major field, length of stay in the United States, region of their universities, self-rated English language proficiency, self-rated overall adjustment to U.S. culture, post-graduation plan, and self-rated decidedness about their career path.

Multidimensional Scale of Perceived Social Support

The Multidimensional Scale of Perceived Social Support (MSPSS) is a 12-item measure used to assess perceived social support from three sources: family, friends, and significant other (Zimet et al., 1988). The MSPSS has 4 items for each social support source subscale and uses a 7-

point Likert scale ranging from 1 (very strongly disagree) to 7 (very strongly agree). Sample items for each subscale include, “I can talk about my problems with my family,” “I can count on my friends when things go wrong,” and “There is a special person in my life who cares about my feelings.” All items are described in Table 3-2. Mean scores are calculated to assess the levels of perceived social support by adding up all scores and then divided by 12. Mean scores for each subscale are calculated by adding up scores for 4 items in each subscale and then divided by 4.

The MSPSS has good validity and reliability for both three subscales and the scale as a whole. Regarding internal consistency, Zimet et al. (1988) reported a Cronbach’s coefficient alpha of .88 for the total scale, as well as .87, .85, and .91 for the family, friends, and significant other subscale respectively with a sample of 275 university undergraduate students in an introductory psychology course. In the same study, Zimet et al. (1988) also showed that the coefficient for test-retest reliability for the total scale was .85, as well as .85, .75, and .72 for the family, friends, and significant other subscale respectively with a sample of 69 out of 275 university undergraduate students after they took the assessment 2 to 3 months ago. Zimet et al. (1990) showed good validity and reliability in three different sample groups. For the present study, internal consistency reliability of the MSPSS was .91.

Table 3-2: The Multidimensional Scale of Perceived Social Support (MSPSS)

Subscale	Item
Family	My family really tries to help me.
	I get the emotional help & support I need from my family.
	I can talk about my problems with my family.
	My family is willing to help me make decisions.
Friends	My friends really try to help me.

	I can count on my friends when things go wrong.
	I have friends with whom I can share my joys and sorrows.
	I can talk about my problems with my friends.
Significant Other	There is a special person who is around when I am in need.
	There is a special person with whom I can share joys and sorrows.
	I have a special person who is a real source of comfort to me.
	There is a special person in my life who cares about my feelings.

Satisfaction with Life Scale

The cognitive aspect of subjective well-being is measured by the Satisfaction with Life Scale (SWLS). The SWLS is a 5-item self-report measure to assess individuals' satisfaction with their lives as a whole (Diener et al., 1985). The SWLS uses a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). A sample item for scale includes "So far I have gotten the important things I want in life" (Diener et al., 1985). All items are listed in Table 3-3.

Diener et al. (1985) reported that Cronbach's alpha for internal consistency of the scale was .87, and the test-retest reliability coefficient was .82 over a 2-month interval with a sample of 176 undergraduate students in introductory psychology courses. The SWLS has consistently shown good validity and reliability with diverse samples in terms of nationality, age, disability status and more (Pavot & Diener, 2009). For example, a study with a sample of 304 international undergraduate students in Norway showed a Cronbach's alpha of .84 for this scale was 0.84 (Sam, 2001). For the present study, internal consistency reliability of the SWLS was .86.

Table 3-3: Satisfaction with Life Scale (SWLS)

Item
In most ways my life is close to my ideal.
The conditions of my life are excellent.
I am satisfied with my life.
So far I have gotten the important things I want in life.
If I could live my life over, I would change almost nothing.

Scale of Positive and Negative Experience

The affective aspect of subjective well-being is measured by the Scale of Positive and Negative Experience (SPANE). The SPANE is a 12-item scale measuring individuals' positive and negative feelings during the past four weeks (Diener et al., 2010). The SPANE consists of 6 items for positive emotions (e.g., happy) and 6 items for negative emotions (e.g., sad), and uses a 5-point Likert scale (1 = very rarely or never; 2 = rarely; 3 = sometimes; 4 = often; 5 = very often or always). Higher scores for each subscale show higher levels of positive affect or negative affect. All items are listed in the Table 3-4.

The SPANE showed great validity and reliability for both subscales. Using samples of 689 college students from 6 universities across the nation and internationally, Diener et al. (2010) reported that Cronbach's alpha for internal consistency of the positive emotion scale (SPANE-P) and negative emotion scale (SPANE-N) was .87 and .81 respectively. For the present study, internal consistency reliability of SPANE-P and SPANE-N was .83 and .84 respectively.

Table 3-4: Scale of Positive and Negative Experience (SPANE)

Items for Positive Feeling	Items for Negative Feeling
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Positive	Negative
Good	Bad
Pleasant	Unpleasant
Happy	Sad
Joyful	Afraid
Contented	Angry

Flourishing Scale

The Flourishing Scale is an 8-item self-report measure used to measure the social-psychological well-being, including aspects of meaning and purpose in life, positive relationships, and competence (Diener et al., 2010). The Flourishing Scale uses a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). A sample item for scale includes “I lead a purposeful and meaningful life” (Diener et al., 2010). All items are described in Table 3-5.

Diener et al. (2010) reported that Cronbach’s alpha for internal consistency of the scale was .87 with samples of 689 college students from 6 universities across the nation and internationally, and the test-retest reliability coefficient was .71 over a 1-month interval with samples of about 260 college students. For the present study, internal consistency reliability of the Flourishing Scale was .91.

Table 3-5: Flourishing Scale

Item
I lead a purposeful and meaningful life.
My social relationships are supportive and rewarding.
I am engaged and interested in my daily activities.
I actively contribute to the happiness and well-being of others.

I am competent and capable in the activities that are important to me.
I am a good person and live a good life.
I am optimistic about my future.
People respect me.

Hopeful Career State Scale

Participants' level of hopefulness regarding their future career is measured through the Hopeful Career State (HCS) Scale (Yoon et al., 2019). The HCS scale consists of 9-items, with a 4-point Likert scale ranging from 1 (definitely false) to 4 (definitely true). A sample item for the HCS scale is "My current job (and/or education) provides resources (e.g., skill development, network, finances) for next steps in my career journey." (Yoon et al., 2019). All items are listed in Table 3-6.

The HCS scale has been shown to have good internal validity. Yoon and colleagues (2019) reported a Cronbach's alpha of .958 with a sample of 61 refugees in Canada who are actively seeking employment. For the present study, internal consistency reliability of the HCS was .88.

Table 3-6: Hopeful Career State (HCS) Scale

Item
My current work (and/or education) will be helpful for my future career.
My current work (and/or education) will enable me to be a better worker in the future.
I feel that I am getting closer to better career opportunities.
I can think of new employment options because of my current job (and/or program of study).
My current job (and/or education) provides resources (e.g., skill development, network, finances) for next steps in my career journey.
What I am doing now will help me to build a better career future.

What I am doing now is helping me to build skills and experience for the future.
What I am doing now is an important step in my career journey.
I am hopeful that what I am doing now will help me in my career journey.

Career Engagement Scale

Participants' overall degree of proactive engagement in career behaviors is measured by the Career Engagement Scale (Hirschi et al., 2014). The Career Engagement Scale has 9 items and uses a 5-point Likert scale ranging from 1 (not much) to 5 (a great deal). Participants are asked to rate their career engagement in the past six months. A sample item for the Career Engagement Scale is "Voluntarily participated in further education, training, or other events to support your career" (Hirschi et al., 2014). All items are listed in Table 3-7.

Hirschi et al (2014) reported good internal validity for the Career Engagement Scale with a Cronbach's alpha of .88 in a sample of 2,091 university students in Germany with different areas of study. In another study with a sample of 516 university students in their final year of studies in East Africa, the Cronbach's alpha for the scale was .84 (Baluku et al., 2021). For the present study, internal consistency reliability of the Career Engagement Scale was .89.

Table 3-7: Career Engagement Scale

Item
Actively sought to design your professional future
Undertook things to achieve your career goals
Cared for the development of your career
Developed plans and goals for your future career
Sincerely thought about personal values, interests, abilities, and weaknesses

Collected information about employers, professional development opportunities, or the job market in your desired area
Established or maintained contacts with people who can help you professionally
Voluntarily participated in further education, training, or other events to support your career
Assumed duties or positions that will help you progress professionally

Procedures

Once I received IRB approval, I used a web-based survey via Qualtrics to collect data. Data were collected from the winter break to late Spring semester. The survey was distributed to international students across the nation through the email listserv from the universities' international student service centers, and through international student organizations, and social media. This survey took approximately 10-15 minutes to complete. Participants were able to voluntarily participate in this study and decide if they want to stop participating at any time as they are completing the survey.

The survey included an informed consent that discussed the purpose of the study, potential benefits and risks, confidentiality, and participants' rights, as well as the demographic questionnaire and instruments for this study, including the Multidimensional Scale of Perceived Social Support, Satisfaction with Life Scale, Scale of Positive and Negative Experience, Flourishing Scale, Hopeful Career State Scale, and Career Engagement Scale. Participants who completed the survey then decided if they wanted to leave their email addresses to enter a lottery to win one of the five \$20 Amazon gift cards as an incentive. The email addresses were not associated with their answers.

Data Analysis

I used IBM Statistical Package for the Social Sciences (SPSS) and Mplus to perform data analysis for the proposed study. I followed the five steps for conducting SEM analysis: model specification, model identification, model estimation, model testing, and model modification (Crockett, 2012). Specifically, first, I developed a theoretical model that showed my hypotheses based on relevant literature. Second, I assessed if the proposed model could be identified to generate unique parameter estimates. Third, data were processed to generate the covariance matrix. Fourth, Mplus was used to analyze the fit of the whole model as well as individual parameters. Last, I modified the parameters in the model, when needed, to increase the model's fit to the data (Crockett, 2012).

Regarding specific analyses, descriptive data and correlation coefficients among variables of interest were generated in SPSS. Then, confirmatory factor analysis (CFA) was conducted for each variable in Mplus, and SEM analysis for the proposed model was also conducted in Mplus.

Preliminary Analyses

Data Cleaning

The raw data set from the Qualtrics platform was downloaded and saved in an SPSS file. The raw data set contains 625 responses collected between December 26, 2021 to April 17, 2022. First, I removed 125 responses that had no information completed and 16 responses that only had demographic information. Then, based on the eligibility criteria of this study, I removed 26 responses that indicated the United States as their country of origin; 2 responses that indicated not on a F-1, J-1, or M-1 visa (one with green card and one on H-4 visa); and 2 responses that

indicated not seeking an academic degree (one as a postdoc and one graduated). A total of 28 responses were eliminated because those respondents only answered less than 70% of each and/or all instruments. Finally, one response was considered non-engaging and removed due to having the same extreme score for each instrument. As a result, a total of 425 responses were included for missing data analysis.

Missing Data

Missing data analysis was conducted with 425 responses in SPSS. Based on the analysis result, 10 respondents reported one missing value, resulting in a total of 10 missing values. This represents 0.04% missing data within the 55 survey instrument items, and the missing amount was 1.8% for each of the ten items.

In order to decide how to address the missing data, it is important to first identify the missingness mechanism (Little & Rubin, 2020). Little's Missing Completely at Random (MCAR) was conducted to examine whether or not the missingness is MCAR (Little, 1988). The statistically significant result ($\chi^2(486) = 570.67, p < .01$) indicated that the missingness is not MCAR. Research has shown that there is no specific test to decide whether the missingness is missing at random (MAR) or missing not at random (MNAR) (McKnight et al., 2007). Based on the small missing percentage and the missing patterns, I concluded that the missingness of this study was not dependent on any unobserved variables, and therefore is MAR.

I then used multiple imputation (MI) to impute the missing data in SPSS. MI is an appropriate and highly recommended strategy to address missingness that is MAR (Cook, 2021; Little & Rubin, 2020; van Ginkel et al., 2020). There are two main advantages of using MI over other methods, such as deletion or single imputation. First, MI allows researchers to keep the

whole data set for analysis. Second, MI produces more accurate parameter estimates because it uses multiple estimates for the missing value (McKnight et al., 2007, Rubin, 1987).

Outliers

Both univariate and multivariate outliers were examined in SPSS. To check univariate outliers, Z-scores of continuous variables in the study were calculated. When a case has an absolute value of a Z-score larger than 3.29, then the case is considered as a potential univariate outlier (Tabachnick & Fidell, 2007). Specifically, I examined the univariate outliers for age, length of stay in the United States, as well as each item of the scales used in the study. As a result, I detected and removed 7 outliers for age and 2 outliers for length of stay in the United States, as they had Z-scores above 3.29. Additional 5 cases were removed due to having at least one Z-score above 3.29 for the scale items used in this study.

Multivariate outlier was examined using Mahalanobis distance analysis. One multivariate outlier was detected and removed ($p < .001$). As a result, a total of 410 valid responses were retained for further analyses.

Parceling

After I obtained the final data set, I computed values for each observed variable (indicators of the corresponding latent variable) using parceling. Parceling is a technique to group individual items into several parcels and then use the parcels, instead of individual items, as indicators for the latent variable (Little et al., 2002; Matsunaga, 2008). Parceling is a common technique in SEM because of its several benefits. First, parceling reduces parameter numbers in the model, which is especially helpful when the sample size is not large. Second, parceling helps

reduce biases in parameter estimates, which then provides more accurate estimates (Little et al., 2002; Matsunaga, 2008).

Before building parcels, it is recommended to first determine if the scale is unidimensional, and then to apply appropriate parceling strategies (Little et al., 2002). There are several ways to create parcels, such as random assignment and item-to-construct balance for unidimensional constructs, as well as internal-consistency approach and domain-representative approach for multidimensional constructs (Little et al., 2002). In this study, perceived social support and well-being are multidimensional constructs. For perceived social support, the Multidimensional Scale of Perceived Social Support includes three subscales to measure perceived social from significant other, family, and friends. Based on the internal-consistency approach (Kishton & Widaman, 1994), I used the average score of each subscale as a parcel to represent each facet of the construct. Similarly, for well-being, I used the Satisfaction with Life Scale, The Scale of Positive and Negative Experience- Positive Affect, and Flourishing Scale as parcels to capture the cognitive, affective, and psychosocial aspects of well-being respectively. The scales for hopeful career state and career engagement have 9 items each and are theoretically designed to be unidimensional. Exploratory factor analysis also confirmed the unidimensionality of the scales. Therefore, it is acceptable to use the item-to-construct balancing strategy to create parcels within each scale (Little et al., 2002). Specifically, for each scale, I listed the 9 items from highest factor loading to lowest factor loading. I then assigned the 3 items with highest factor loadings to parcel 1, parcel 2, and parcel 3. The 3 items with the next highest factor loadings were added to each parcel in a countervailing order. Finally, the 3 items with lowest factor loadings were added to parcel 1, parcel 2, and parcel 3 respectively to ensure each parcel having approximately balanced factor loadings. The Average score of the 3 items in each of the 3 parcels was calculated for hopeful career state and career engagement. Table 3-8 shows the latent variable, observed variables (parcels), instruments, and survey items.

Table 3-8: Observed Variables.

Latent Variable	Observed Variable (Parcel)	Instrument	Survey Item
Perceived Social Support	Family Support	MSPSS	<ul style="list-style-type: none"> • My family really tries to help me. • I get the emotional help & support I need from my family. • I can talk about my problems with my family. • My family is willing to help me make decisions.
	Friends Support		<ul style="list-style-type: none"> • My friends really try to help me. • I can count on my friends when things go wrong. • I have friends with whom I can share my joys and sorrows. • I can talk about my problems with my friends.
	Significant Other Support		<ul style="list-style-type: none"> • There is a special person who is around when I am in need. • There is a special person with whom I can share joys and sorrows. • I have a special person who is a real source of comfort to me. • There is a special person in my life who cares about my feelings.
Well-Being	Cognitive Aspect	SWLS	<ul style="list-style-type: none"> • In most ways my life is close to my ideal. • The conditions of my life are excellent. • I am satisfied with my life. • So far I have gotten the important things I want in life. • If I could live my life over, I would change almost nothing.
	Affective Aspect	SPANE-Positive Affect	<ul style="list-style-type: none"> • Positive • Good • Pleasant • Happy • Joyful • Contented

	Psychosocial Aspect	Flourishing Scale	<ul style="list-style-type: none"> • I lead a purposeful and meaningful life. • My social relationships are supportive and rewarding. • I am engaged and interested in my daily activities. • I actively contribute to the happiness and well-being of others. • I am competent and capable in the activities that are important to me. • I am a good person and live a good life. • I am optimistic about my future. • People respect me.
Hopeful Career State	HCS Parcel 1	HCS	<ul style="list-style-type: none"> • My current work (and/or education) will enable me to be a better worker in the future. • I can think of new employment options because of my current job (and/or program of study). • What I am doing now will help me to build a better career future.
	HCS Parcel 2		<ul style="list-style-type: none"> • My current work (and/or education) will be helpful for my future career. • I feel that I am getting closer to better career opportunities. • What I am doing now is helping me to build skills and experience for the future.
	HCS Parcel 3		<ul style="list-style-type: none"> • My current job (and/or education) provides resources (e.g., skill development, network, finances) for next steps in my career journey. • What I am doing now is an important step in my career journey. • I am hopeful that what I am doing now will help me in my career journey.
Career Engagement	CE Parcel 1	Career Engagement Scale	<ul style="list-style-type: none"> • Actively sought to design your professional future • Sincerely thought about personal values, interests, abilities, and weaknesses • Assumed duties or positions that will help you progress professionally

	CE Parcel 2		<ul style="list-style-type: none"> • Developed plans and goals for your future career • Collected information about employers, professional development opportunities, or the job market in your desired area • Established or maintained contacts with people who can help you professionally
	CE Parcel 3		<ul style="list-style-type: none"> • Undertook things to achieve your career goals • Cared for the development of your career • Voluntarily participated in further education, training, or other events to support your career

Normality

To test the univariate normality, skewness and kurtosis of each observed variable (parcel) were examined in SPSS. An absolute value smaller than 3 for skewness and smaller than 10 for kurtosis is considered within an accepted range for SEM analysis (Kline, 2016). Results showed that the skewness of each observed variable ranges from .03 to .97, and that the kurtosis of each observed variable ranges from .26 to .96, which were both within accepted ranges.

Multicollinearity

To examine multicollinearity, I examined the correlation matrix for observed variables in this study, and no correlation coefficient exceeded .9, which is the criteria for determining if variables are highly correlated (Tabachnick & Fidell, 2007). In addition, I checked variance inflation factor (VIF) and tolerance values for the observed variables. If VIF is smaller than 10 and tolerance value is larger than .1, then we can conclude that there is no severe multicollinearity

problem (Miles, 2005). Results showed that the VIF ranges from 1.49 to 3.22 and the tolerance value ranges from .31 to .67 among the observed variables in this study. Therefore, I concluded that there is no severe multicollinearity problem.

Sample Size

In order to run SEM analyses, it is recommended that a sample size of at least 200 is obtained (Kline, 2016). Even though the rule of thumb is a minimum of 200 for sample size, the necessary sample size varies depending on the complexity of the model. There are other more precise ways to decide the sample size based on the specific model that is being analyzed. For example, Bentler & Chou (1987) recommended that 10 observations per estimated parameter are necessary. According to Bentler & Chou's criteria, the model proposed in this study has 18 parameters, and therefore needs at least a sample size of 180. Soper (2022) also provided an online calculator for calculating sample size required for a structural equation model with its specific characteristics. The study had 4 latent variables and 12 observed variables, with an anticipated effect size of .2, desired statistical power level of .8, and probability level of .05. The recommended minimum sample size based on this A-priori sample size calculator is 342. This study has a sample of 410, which is sufficient for the SEM analyses.

Demographics

A total of 410 international students ($N = 410$) participated in this study. Participants' demographic characteristics by continuous variables (e.g., age) are described in the paragraph, and their categorical characteristics (e.g., gender) are presented in the Table 3-9. Participant's age ranges from 18 to 43 years old ($M = 24.75$, $SD = 4.39$). The total length of stay in the United

States ranges from 0 to 152 months ($M = 39.98$, $SD = 32.90$). The average score of participants' self-reported English language ability is 3.90 ($SD = .91$), on a scale of 1-5 (1 = Poor, 5 = Excellent). The average score of participants' self-reported overall adjustment to U.S. culture is 3.64 ($SD = .88$) on the same scale of 1-5. The average score of participants' self-reported financial worries is 2.96 ($SD = 1.07$), on a on a scale of 1-5 (1 = Very rarely or never, 5 = Very often or always).

Table 3-9: Participant Categorical Characteristics ($N = 410$).

Characteristics	<i>N</i>	%
Gender		
Man	180	43.9
Woman	221	53.9
Transgender man	1	0.2
Transgender woman	1	0.2
Non-binary / third gender	2	0.5
Prefer not to say	5	1.2
Academic status		
1st year	44	10.7
2nd year	56	13.7
3rd year	41	10.0
4th year	30	7.3
5th year or above (undergraduate)	23	5.6
Undergraduate	194	47.3
Master's student	109	26.6
Doctoral student	107	26.1
Graduate student (master's/doctoral)	216	52.7

Career stage		
No idea on career path	31	7.6
Some idea	233	56.8
Clear idea	146	35.6
Visa type		
F-1	359	87.5
J-1	48	11.7
M-1	3	0.7
Place of origin by world region		
Africa & Sub-Saharan	6	1.5
Asia	289	70.5
Europe	48	11.7
Latin America & Caribbean	15	3.7
Middle East & North Africa	13	3.2
North America	17	4.1
Oceania	12	2.9
Missing	10	2.4
Relationship status		
Not in a committed relationship	244	59.5
In a committed relationship	164	40.0
Other	2	0.5

Age was tested as a potential control variable. However, no significant impact was found between age and the dependent variables (e.g., hopeful career state, career engagement, and well-being). Therefore, age was not included in the final structural model.

Chapter 4

Results

The results section describes the descriptive statistics, measurement model, and structural model to answer the research questions outlined in Chapter 3.

Descriptive Statistics

The mean score for perceived social support from significant other, family, and friends, as measured by the MSPSS, was 5.18 ($SD = 1.32$), 5.48 ($SD = 1.22$), and 5.33 ($SD = 1.16$) respectively. The mean score for each of the three parcels for hopeful career state was 3.31 ($SD = .56$), 3.39 ($SD = .53$), and 3.35 ($SD = .55$) respectively. The mean score for each of the three parcels for career engagement was 3.70 ($SD = .74$), 3.51 ($SD = .86$), and 3.68 ($SD = .79$) respectively. The mean score for satisfaction with life (cognitive aspect of well-being), as measured by SWLS, was 4.78 ($SD = 1.18$). The mean score for positive affect (affective aspect of well-being), as measured by SPANE-P, was 3.58 ($SD = .65$). The mean score for psychosocial flourishing (psychosocial aspect of well-being), as measured by the Flourishing Scale, was 5.52 ($SD = .99$). Table 4-2 shows zero-order correlations among the observed variables.

Table 4-2: Zero-order Correlations among Observed Variables.

	1	2	3	4	5	6	7	8	9	10	11	12
1. Significant other support	-											
2. Family support	.48	-										
3. Friends support	.62	.51	-									
4. HCS parcel 1	.35	.31	.32	-								
5. HCS parcel 2	.37	.30	.26	.77	-							
6. HCS parcel 3	.36	.33	.33	.75	.72	-						
7. CE parcel 1	.27	.29	.28	.39	.42	.41	-					
8. CE parcel 2	.20	.25	.23	.38	.38	.39	.72	-				
9. CE parcel 3	.27	.25	.25	.44	.42	.43	.79	.73	-			
10. SWLS	.44	.27	.38	.33	.37	.33	.37	.37	.34	-		
11. SPANE- PA	.42	.41	.38	.34	.35	.36	.41	.35	.38	.51	-	
12. FS	.51	.49	.50	.49	.52	.55	.54	.48	.52	.63	.62	-

Note: All correlations are significant at the .01 level (2-tailed).

Structural Equation Modeling

Measurement Model

Before analyzing the hypothesized structural model, I first conducted the confirmatory factor analysis (CFA) of the measurement model to examine the goodness of the fit. The measurement model describes how well the observed variables explain the latent variables. To assess the goodness of the model fit, several model fit indices are typically used, such as the chi-square test, comparative fit index (CFI), Tucker-Lewis index (TLI), root mean squared error of approximation (RMSEA), and the standardized root mean square residual (SRMR). Table 4-4 shows the recommended criteria for a good fit with maximization likelihood methods (Hu & Bentler, 1999).

Table 4-4: Recommended Good Fit Criteria.

Fit Index	Criteria
χ^2	χ^2 value small; $p > .05$
χ^2 / df	< 3
CFI	$> .95$
TLI	$> .95$
RMSEA	$\leq .06$
SRMR	$\leq .08$

I conducted CFA with the 4 latent variables and 12 observed variables through maximum likelihood methods in Mplus. The results indicated that the measurement model showed a good fit to the data: $\chi^2 (48) = 70.908, p = .02, \chi^2/df = 1.48, CFI = .99, TLI = .99, RMSEA = .03$ (90% confidence interval [CI] [.02, .05]), $SRMR = .02$. While the chi-square test was statistically significant, it could be overly sensitive due to the large sample size (Kline, 2016). The χ^2 / df value could be used as a global fit indicator, which was below 3. The other fit indices were all within acceptable ranges. Therefore, I concluded that the model data fit the measurement model well. In addition, the factor loadings of all indicators were statistically significant ($p < .001$), with standardized factor loading ranging from .65 to .91, which suggests that the instruments measured the factors in the study well. Figure 4-1 shows the factor loadings for the measurement model.

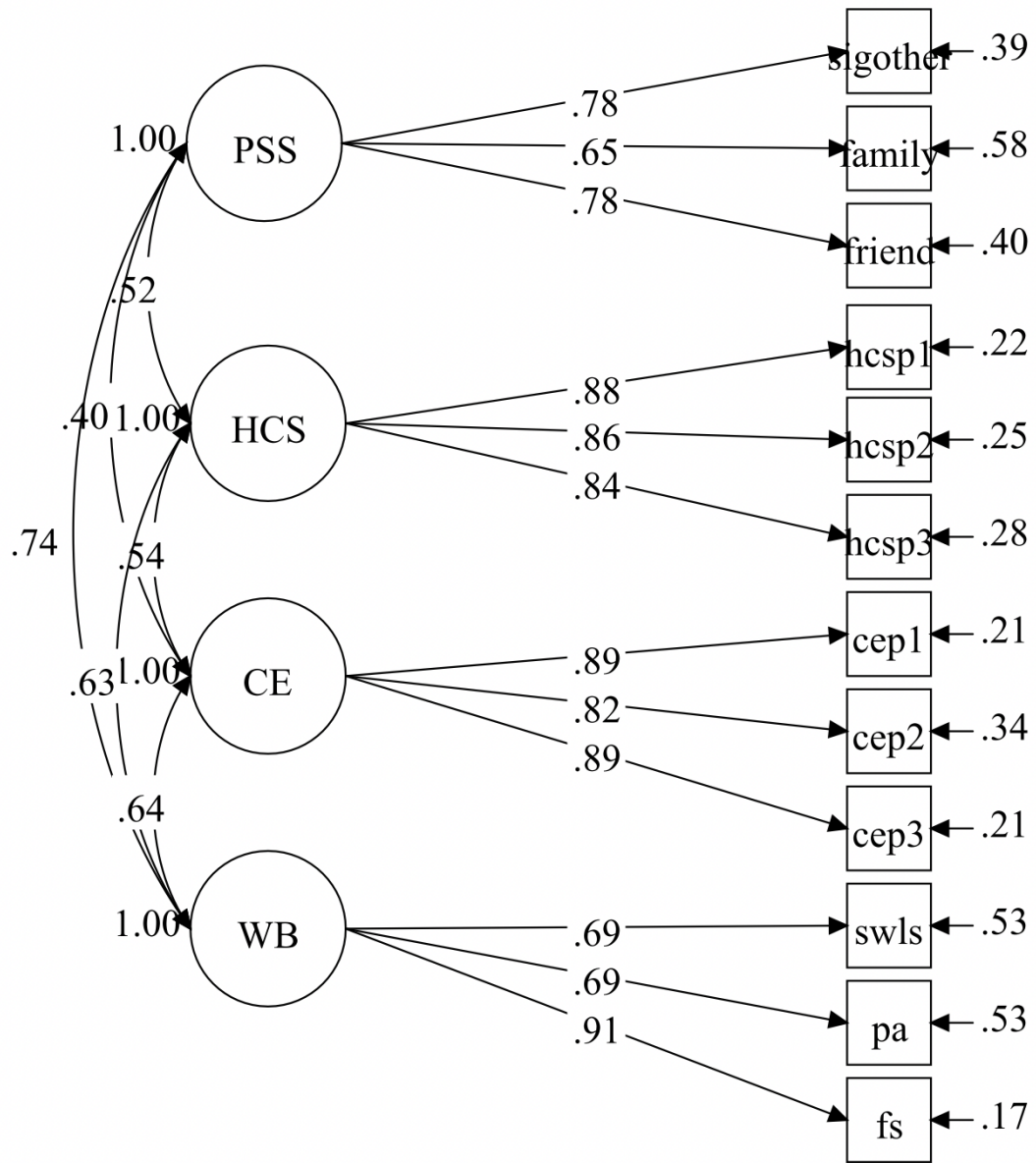


Figure 4-1: Factor Loadings for the Measurement Model. PSS = perceived social support; HCS = hopeful career state; CE = career engagement; WB = well-being.

Structural Model

I conducted SEM to test the hypothesized structural model (Figure 4-2). I first examined the overall model fit using the same fit index criteria as that for the measurement model. The

structural model fit indices ($\chi^2(48) = 70.908, p = .02, \chi^2/df = 1.48, CFI = .99, TLI = .99, RMSEA = .03$ (90% confidence interval [CI] [.02, .05]), SRMR = .02) were the same as those of the measurement model, because the hypothesized model is a saturated model. The model data, again, showed a good fit. Results showed that the direct effect of perceived social support on well-being was statistically significant ($\beta = .51, p < .001$). Perceived social support positively predicted hopeful career state ($\beta = .52, p < .001$) and career engagement ($\beta = .15, p < .05$) respectively. In turn, hopeful career state ($\beta = .18, p < .01$) and career engagement ($\beta = .34, p < .001$) also positively predicted well-being. Lastly, results also showed that the direct effect of hopeful career state on career engagement was statistically significant ($\beta = .46, p < .001$). The hypothesized model explained 71% of the variance in well-being ($R^2 = .71$), suggesting a large effect size (Cohen, 1992).

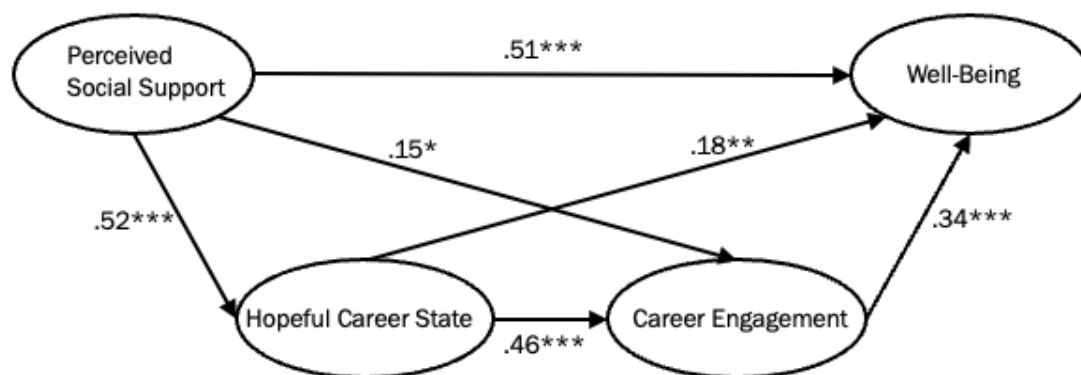


Figure 4-2: Hypothesized Structural Model with Standardized Regression Coefficients. * $p < .05$, ** $p < .01$, *** $p < .001$.

I conducted bias-corrected bootstrapping to examine the significance of mediation effects of hopeful career state and career engagement on the relationship between perceived social support and well-being. Specifically, I generated 5000 bootstrap data samples with random resampling of the original data set in Mplus. The 95% CI were examined. If the 95% CI does not

include zero, then the indirect effect is statistically significant. The results from 5000 bootstrap samples showed that the 95% CI for each indirect path in the hypothesized model does not include zero, suggesting that each indirect path was statistically significant. Specifically, hopeful career state significantly mediated the relationship between perceived social support and well-being ($\beta = .10, p < .01, 95\% \text{ CI } [.04, .16]$). Similarly, career engagement also significantly mediated the relationship between perceived social support and well-being ($\beta = .05, p < .05, 95\% \text{ CI } [.01, .10]$). In addition, hopeful career state and career engagement had a significant serial mediating effect on the relationship between perceived social support and well-being ($\beta = .08, p < .001, 95\% \text{ CI } [.05, .13]$). Table 4-3 shows standardized parameter estimates of the direct, indirect, and total effects in the hypothesized model.

Table 4-3. Standardized Total, Direct, and Indirect Effects with Bootstrapping Results.

Paths		Direct Effect	Indirect Effect [95% CI]	Total Effect
Well-Being	Perceived Social Support (via Hopeful Career State)	.51***	.10** [.04, .16]	.61
Well-Being	Perceived Social Support (via Career Engagement)	.51***	.05* [.01, .10]	.56
Well-Being	Perceived Social Support (via Hopeful Career State and Career Engagement)	.51***	.08*** [.05, .13]	.60
Career Engagement	Perceived Social Support (via Hopeful Career State)	.15*	.24*** [.17, .33]	.40

Note: * $p < .05$, ** $p < .01$, *** $p < .001$.

Chapter 5

Discussion

In this chapter, I discuss the key findings of the present study, followed by implications of this study for practitioners working with international students, as well as counselor educators. Strengths and limitations of the study are also discussed. Recommendations for future research are provided.

Discussion of the Findings

The purpose of the study was to investigate the direct relationship between social support and well-being among international students, as well as the mechanisms through which social support contributes to international students' well-being. Feeney and Collins' (2015) conceptual framework for thriving through relationships was used to identify potential pathways between social support and well-being. Hopeful career state aligns with a proposed pathway that focuses on the appraisals of the situation or event, and career engagement aligns with another pathway highlighting situation-relevant behaviors as immediate outcomes of receiving social support. Specifically, I examined the mediating effects of hopeful career state and career engagement respectively, and hopeful career state and career engagement in a serial order, on the relationship between social support and well-being among 410 international students in U.S. universities. The broad sample consists of international students with a wide range of characteristics. Participants were 18-43 years old, and most of the participants identified as man (43.9%) or woman (53.9%). They were across different academic level, with 47.3% at the undergraduate level, and 52.7% at the graduate level. Participants came from different parts of the world (e.g., Europe, Latin

American and Caribbean, Middle East and North Africa), while 70.5% of them came from Asia, which is representative of the international student population in the United States. The total length of participants' stay in the United States ranged from 0 to 152 months. Most participants self-rated their English language ability and overall adjustment to U.S. culture between average and above average.

The study tested the four proposed hypotheses:

Hypothesis 1: Perceived social support is positively related to well-being.

Hypothesis 2: The relationship between perceived social support and well-being is mediated by hopeful career state.

Hypothesis 3: The relationship between perceived social support and well-being is mediated by career engagement.

Hypothesis 4: The relationship between perceived social support and well-being is mediated by hopeful career state and career engagement in a serial order.

Social Support and Well-Being

Consistent with the first hypothesis, the results showed that perceived social support significantly and positively predicted well-being among international students. This result means that international students who thought they had more social support from family, friends, and their significant other tend to have higher levels of well-being in cognitive, affective, and psychosocial aspects. In the present model, the direct effect of social support on international students' well-being ($\beta = .51, p < .001$) is the largest effect among all paths. This result is consistent with the ample previous literature demonstrating the importance of social support for well-being, such as reducing stress and psychological and physiological symptoms, as well as

increasing subjective or psychological well-being (Szkody & McKinney, 2020; Wang et al., 2018). Moreover, social support serves as an important protective factor for international students as they deal with additional layers of stress when they study abroad, besides the stress of adjusting to college or graduate student life (Wang et al., 2021). While other studies have examined specific effect of social support from different sources (Bhochhibhoya et al., 2017; Brunsting et al., 2021), the present study used international students' overall perception of social support available to them. Future studies could further examine the specific role of social support from significant other, friends, and family on international students' well-being.

Mechanisms through which Social Support Leads to Well-Being

The second, third, and fourth hypotheses aimed to explain the mechanisms through which social support contributes to international students' well-being. Advancing education and careers is an important reason for international students to decide to study abroad (Loo et al., 2017). Therefore, hopeful career state and career engagement, were examined, as they represented the two pathways, the appraisals of the situation or event and situation-relevant behaviors, of their proposed eight pathways in Feeney and Collins' (2015) conceptual framework on thriving through social support.

Hopeful Career State as a Pathway

As explained in Feeney and Collins' (2015) theoretical framework, appraisals of the situation or event is one of the immediate outcomes of receiving social support. Appraisals of the situation means that individuals would expect positive outcomes and would expect to see the experience as meaningful. In the present study, hopeful career state aligns with this pathway.

Results indicated that hopeful career state significantly and partially mediated the relationship between perceived social support and well-being among international students. Specifically, 16.4% of the effect of perceived social support on well-being was through hopeful career state. Such results suggested that international students who perceived having more social support may have higher levels of hopefulness towards their career futures, which then leads to higher levels of well-being. This finding is consistent with previous literature that highlights that hope or hopefulness as a salient psychological resource for promoting well-being (Jackson et al., 2019; Rand et al., 2020). For international students, they would be more hopeful that they would be able to achieve their career goals when they believe they have support if they need help. While being hopeful itself can help increase levels of well-being, being hopeful about career futures is especially relevant to international students' well-being, considering their initial purpose for studying abroad.

Career Engagement as a Pathway

Another pathway from Feeney and Collins' (2015) conceptual framework that was tested was situation-relevant behaviors, represented by career engagement in the present study. Results showed that career engagement is also a significant mediator that partially mediated the relationship between perceived social support and well-being among international students. That is, when international students perceive that they have more social support available to them, they may engage in more proactive career behaviors, which in turn may help them increase their well-being. Specifically, 8.9% of the effect of perceived social support on well-being was through career engagement. Consistent with previous literature (Hirschi & Freund, 2014; Sou et al., 2022), this finding suggests that social support could serve as an important resource that help individuals feel that they are not facing the challenges all by themselves and that they can attain

useful information or strategies, which then encouraged them to engage in more career behaviors. These proactive career behaviors that helped them further explore themselves personally and professionally, design what an ideal future looks like, and create actionable plans to achieve their career goals, then promoted their overall well-being (Ochoco & Ty, 2021). Thinking about and working towards a better career future is especially relevant to the psychological aspect of well-being, as psychological well-being focuses on meaning in life, optimism about the future, capability to do activities important to the individual, and contributions to others and the community.

Hopeful Career State and Career Engagement as Serial Mediators

The serial mediation effect of hopeful career state and career engagement was tested, responding to Feeney and Collins' (2015) future research recommendation on examining the inter-relations among different immediate outcomes of social support as well as the combined effect of those immediate outcomes on well-being. Results also suggested that hopeful career state and career engagement, in a serial order, significantly and partially mediated the relationship between perceived social support and well-being among international students. This result showed that international students who perceive to have more available social support may be more helpful about their career aspirations, which helps them engage in more proactive career activities to achieve their career goals, which in turn promote their well-being. Specifically, 13.3% of the effect of perceived social support on well-being was mediated by hopeful career state and career engagement in a serial order. While not the focus of the hypotheses of the present study, the results also showed that 60% of the total effect of perceived social support on career engagement was through hopeful career state. This finding, aligned with social cognitive theories (Bandura, 1986), highlights the importance of social-cognitive factors, such as social support and

hopeful career state, for facilitating behaviors that lead to better career development and well-being.

Implications

The findings of the present study have several implications for practitioners working directly with international students and for higher education institutions. The implications for counselor education programs for training future counselors are also discussed.

Implications for Practitioners and Higher Education Institutions

Social Support

As the study results showed, perceived social support is a strong predictor for international students' well-being. Therefore, higher education practitioners, such as college counselors, career counselors, and student affairs professionals, need to pay close attention to international students' social support systems when working with them. It is crucial to understand international students' existing social support systems, including the sources and quality of the social support, and help them continue to strengthen those relationships. At the same time, practitioners can encourage international students to build more social support systems in the United States, such as peers in their classes, student organizations, or research labs, faculty or staff to whom they feel comfortable talking, or members in local churches or communities that they are involved in. These conversations may also include specific guidance on how to find and join those student groups or reach out to peers or mentors for support in a strategic and genuine way. Actively building social support systems is especially important when international students' existing social support mainly comes from family or friends in their home countries. As

practitioners help international students further develop social support systems, they can facilitate a conversation in which international students reflect on what kind of social support they are hoping to get, from whom, as well as how to build and maintain their relationships. These reflections can help international students be more strategic with promoting their well-being through relational support.

Practitioners may also create opportunities to facilitate the process of building and strengthening social support systems for international students. For example, support groups or counseling groups tailored for international students could be a helpful resource. Such groups allow international students to get social support from group members and leaders, share their experiences as an international student, and know that they are not the only one having those experiences. To reach international students who might have more reluctance to use mental health services (Zhou et al., 2021), outreach programs or mentoring programs that highlight the social, cultural, and educational components might contain less stigma. For example, outreach programs or program series tailored to international students could be provided to help international students meet each other and learn about topics, such as adjustment to U.S. culture and how to succeed in college while maintaining well-being. In addition, mentoring programs, especially those that use a cohort model, could pair a small group of international students with peer mentors. Peer mentors could also be international students who have had more experience in the United States and might understand what international students are going through. They could also be domestic students who are eager to support international students by sharing U.S. culture.

Hopeful Career State and Career Engagement

As the findings suggested, it is important for international students to be hopeful about their career futures and actively engage in career activities to work towards their desired career

futures. Such career development process contributes to international students' overall well-being. This finding provides important implications for mental health counselors, career counselors, as well as other student affairs practitioners.

For mental health counselors, when assessing international students' well-being, it is crucial to also inquire about their perceptions about their areas of studies and career prospects to evaluate their hopefulness about achieving their educational and career goals. Counselors should also get a better understanding of how important the academic and career aspects play a role in international students' life. Counselors may inquire about how international students have been engaging in educational and career activities that help them move towards their goals, any challenges that they are having, as well as resources and social support that they are aware of. Depending on the scope of the mental health counselors, they may not directly provide career services, but still help process any feelings and thoughts that come up for international students, as well as brainstorm different resources that international students could consider.

Career counselors have a unique position in promoting international students' well-being through helping them think about and work towards a better future. An important reason is that there is less stigma with career services, compared to mental health services for international students from certain cultural backgrounds. It is important to assess international students' social cognitive resources, such as social support and hopeful career state. In addition to social support in international students' personal lives, career counselors could inquire about any social support that international students use when it comes to career development issues. Career counselor could also assist international students with build more professional social support, such as faculty, professional mentors, international alumni, and members in their relevant professional organizations. Informational interviewing could be a helpful strategy to start building such relationships. However, it is important to first assess international students' attitude towards and understanding of building social support through informational interviewing, as well as provide

guidance on how to go about the process. Career counselors should also assess international students' hopefulness of the career futures and what helped or hindered their hopefulness. After understanding and facilitating these social cognitive factors, career counselors could help international students with career engagement and any challenges that may arise in the process, such as work authorization and job search.

Holistic Well-Being

The present study confirmed the importance of hopeful career state and career engagement in international students' well-being. While most higher education institutions separate the mental health services and career services, the findings of the study advocate for holistic well-being through integrating career development issues. Such integration could be applied at multiple levels. At the individual level, counselors could acknowledge and evaluate the role of career development in international students' well-being and help international students envision and design a future that incorporate important aspects of their lives. At the institutional level, it is critical that multiple student services offices, such as international student services office, counseling centers, and career services, collaborate with each other to provide more tailored and holistic services for international students. For example, staff in these offices could have cross-training opportunities to gain a broader and deeper understanding of international student issues. Moreover, staff in these offices can collaborate on programming for international students' holistic well-being by incorporating the key elements shown in the present study. For example, a wellness-focused outreach program series could be designed to have a small cohort of international students taking seminar-style classes to connect with fellow international students, learn about different aspects of holistic well-being, and important facilitators of well-being. In addition, staff could facilitate activities on designing a desired future and building personal and

professional social support. For example, student could be assigned homework to talk to international student upperclassman or alumni, or other professional mentors currently in their fields to build the relationship and learn from them.

Implications for Counselor Education

The findings of present study showed the importance of integrating career development and mental health to ensure clients' holistic well-being. While the counseling field started with guidance counseling, there has been an artificial separation of career counseling and mental health counseling (Lindo et al., 2020; Tang et al., 2021). The Council for Accreditation of Counseling and Related Educational Programs (CACREP) creates the standard curriculum for counselor education programs. In the CACREP master's level curriculum, even though career development is one of the eight core courses that all students need to take, it would be the only course in which counseling students learn about career counseling, unless the students are in the career counseling emphasis. Often counseling students are not interested in career development, nor do they feel competent to work with clients who bring career concerns into their practice (Hartung, 2005). It is crucial that counselor educators deliberately integrate career development and well-being to raise students' awareness of the roles that career and work play in one's life, as well as the interconnection between career development and wellness. Such intentional integration should be implemented not only in the career development course, but also other counseling courses. The counseling field emphasizes the need to support and advocate for underserved and underprivileged clients. Career and work are a key component to help those clients achieve more equity and wellness. For example, for those who are unemployed or in poverty, having better career and work situations means that they can gain more resource and educational opportunities, as well as better physical health and psychological well-being

(Blustein, 2011). Seeking and nurturing social support, often highlighted as an effective strategy in counseling courses when discussing wellness, continues to be an important factor that facilitates career development. Counselor educators could integrate social support, career development, and well-being so that counseling students could later provide a more holistic service for their clients.

In addition to more awareness, it would be helpful for counseling students to have more opportunities to practice counseling skills when working with clients with both career and mental health issues. One way to facilitate the skill development is to infuse career concerns into other counseling courses, such as the individual skills course and human development course. Specifically, it would be helpful for counseling students to have in-class case studies that include career concerns, so they could practice conceptualize the cases with career development in mind, as well as role play counseling skills to work with clients who have career concerns.

Strengths of the Study

The present study has several strengths. First, the study provided empirical evidence to Feeney and Collins' (2015) theoretical framework on thriving through relational support by testing two pathways through which social support can lead to well-being, appraisals of the situation and situation-relevant behaviors. Moreover, this study also examined the inter-relations among these pathways, as well as how the inter-relations of pathways explain the relationship between social support and well-being. Findings of this study confirmed that the immediate outcomes from social support can impact each other, which then leads to well-being.

Second, this study contributes to the literature that examines the role of career development in one's overall well-being. Specifically, for international students, being hopeful about their career futures and actively engaging in career activities plays an important role in their

well-being as they study in the United States. Such findings provided additional ways to help international students achieve their well-being. As suggested by previous literature, international students tend not to seek professional counseling services due to stigma around mental health (Zhou et al., 2021). However, career counseling could be a less stigmatized service to help international students envision about their futures and engage in proactive career activities to pursue their career goals. As the findings of this study showed, when international students' hopefulness towards career futures and career engagement level increases, their well-being level also increases.

Third, the findings of the present study also advocate for the interconnection between career development and well-being, consistent with more call for the integration of career counseling and mental health counseling in the field (Blustein, 2008; Tang et al., 2021). While there seems to be an artificial separation between career counseling and mental health counseling, the results of this study suggest that clients' career development do impact their overall well-being.

Limitations of the Study

The present study has several limitations. First, a convenience sampling method was used to recruit participants. Therefore, participants who decided to respond to this research request may have certain characteristics compared to those did not. For example, they might be more comfortable with completing a survey in English or more interested in the topic of well-being. Second, the study used a cross-sectional study design, so no causal inference could be made from the results. Future studies could use a longitudinal study design to examine the causal effects. Third, the international students were considered as one group in this study. Even though the current sample represented the current international student population in the United States in

terms of countries of origin, it is important to acknowledge the diversity within the international students due to their social and cultural identities as well as life experiences. Future research could study different groups of the large international student population so that specific social or cultural characteristics of the group could be considered.

Recommendations for Future Research

The current study examined the effect of perceived social support on international students' well-being, as well as the mediating effects of hopeful career state and career engagement on the relationship between perceived social support and well-being. Regarding perceived social support, this study used it to assess overall level of social support. However, researchers might want to investigate how each of the social support sources, such as significant other, family, and friends from the Multidimensional Scale of Perceived Social Support, contributes to international students' hopeful career state, career engagement, and well-being. In addition, the Multidimensional Scale of Perceived Social Support did not include faculty or staff, or specific categories of friends, such as friends from home country, international friends, or domestic friends. Further research that explores these different sources of social support could help practitioners understand most helpful social support sources in different situations and create programs accordingly. For example, qualitative studies could be designed to understand how international students draw on different social support systems as they navigate the overall U.S. adjustment, academic and career experiences, as well as overall wellness. Future research could also develop a social support instrument that is tailored for international students that include sources of social support that are most salient to them, such as support systems from both home country and the host country.

The results of the present study highlighted the important role of social support and career development in international students' well-being. Future research could create wellness interventions that incorporate building social support and furthering career development specifically for international students, and then investigate the effectiveness of such interventions on their holistic well-being.

Although the current study focused on international students specifically, the present model is also worth being tested with other populations, such as first-generation college students. The reason is that the key components of the present model, social support as a strong predictor of well-being and the interconnection between career development and well-being, could be relevant to first-generation college students who pursue higher education for better future aspirations, or college students in general. Unique characteristics of the chosen populations (e.g., socioeconomic status) could be included to better understand the model.

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Appendix A

IRB Approval



Office for Research Protections
 Human Research Protection Program
 Office of The Senior Vice President for Research
 The Pennsylvania State University
 205 The 330 Building
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APPROVAL OF SUBMISSION

Date: December 14, 2021

From: Michelle Huerbin, IRB Analyst

To: Yangyang Liu

Type of Submission:	Initial Study
Short Title:	Relationships between social support and well-being
Full Title of Study:	Investigating the direct and indirect relationships between perceived social support and well-being among international students in the United States
Principal Investigator:	Yangyang Liu
Study ID:	STUDY00019305
Submission ID:	STUDY00019305
Funding:	Not Applicable
IND,IDE, or HDE:	Not Applicable
Documents Approved:	<ul style="list-style-type: none"> • Finalized Demographic Form and Instruments_Yangyang Liu_12082021.docx (0.01), Category: Data Collection Instrument • HRP-591_Yangyang Liu_Revised 12132021.pdf (0.03), Category: IRB Protocol
Review Level:	Exempt

On 12/14/2021, the IRB approved the above-referenced Initial Study. This approval is effective through inclusive. You must submit a continuing review form with all required explanations for this study at least 45 days before the study's approval end date. You can submit a continuing review by navigating to the active study and clicking 'Create Modification / CR'.

If continuing review approval is not granted before , approval of this study expires on that date.

In conducting this study, you are required to follow the requirements listed in the Investigator Manual ([HRP-103](#)), which can be found by navigating to the IRB Library within CATS IRB (<http://irb.psu.edu>). These requirements include, but are not limited to:



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Human Research Protection Program
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- Documenting consent
- Posting a consent form to a federal website, if applicable
- Requesting modification(s)
- Requesting continuing review
- Closing a study
- Reporting new information about a study
- Registering an applicable clinical trial
- Maintaining research records

Investigators are responsible for reviewing the History tab of their STUDY in CATS to ensure that any administrative HRPP requests are addressed in a timely manner.

This correspondence should be maintained with your records.

Appendix B

Informed Consent Statement

Title of Research Project: “Exploring the Relationships between Social Support and Well-Being among International Students in the United States”

Principal Investigator:

Yangyang Liu, MEd, NCC

Doctoral Candidate

Counselor Education and Supervision

Department of Educational Psychology, Counseling and Special Education

319 CEDAR Building

University Park, PA 16802

Email: yzl317@psu.edu

Faculty Advisor:

JoLynn Carney, PhD, LPC (PA) LPCC-S (OH)

Professor and Doctoral Coordinator

Counselor Education and Supervision

Department of Educational Psychology, Counseling and Special Education

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The purpose of this study is to explore how social support influences international students' well-being. The relationships between international students' social support, career development, and well-being will also be examined in this study.

To participate in this study, you must be:

- (1) an international student on a temporary student visa (eg. F-1, J-1, etc) enrolled in a U.S. higher education institution
- (2) 18 years of age or older
- (3) completing the survey while in the United States

Participation in the study involves completing a brief questionnaire online, which will take approximately 10-15 minutes to complete. Participation in this study is voluntary and there are no consequences for refusing to participate. You may skip any questions that you do not wish to answer. Additionally, you can choose to withdraw from the study at any point in time without consequence. Your participation is anonymous; no identifying information will be associated with your responses on the survey. Upon completion of the survey, you will have the opportunity to enter into a raffle to win one of five \$20 Amazon gift cards (please select the link at the end of the survey to enter a preferred email address for notification of the results of the raffle).

If you have any questions about this study or about your participation, you may contact Yangyang Liu via email detailed above.

Please note that: continuing implies your consent to participate.

Appendix C

Participant Recruitment Email

Dear fellow international students,

My name is Yangyang Liu, and I am a doctoral candidate in the Counselor Education program at Penn State University. I am inviting you to participate in my dissertation research study that explores the relationships between social support and well-being among international students in the United States. Your participation is highly valued, as the study results will help higher education professionals better understand your experiences as well as how to better support you and future international students!

If you fit the following criteria, please consider participating in this study:

You must be: (1) an international student on a temporary student visa (e.g. F-1, J-1), (2) currently enrolled in a U.S. university, (3) 18 years of age or older

If you agree to participate, you will respond to survey instruments and a short demographic questionnaire that will take approximately 10-15 minutes to complete. Your participation in this study is completely voluntary and you have the right to stop your participation and leave the study at any time without any consequences.

Your participation in this study is anonymous and responses will remain completely confidential. Upon completion of the survey, you will have the opportunity to enter into a raffle to win one of five \$20 Amazon gift cards (note: you will be provided with a new link at the end of the survey that leads to a separate page for entering your email in order to protect your anonymity).

If you are interested in participating, please click on the link below:

https://pennstate.qualtrics.com/jfe/form/SV_cFRiCVE2MmGnRJQ or <https://bit.ly/340et9Z>

Or you can scan the QR code to the complete the survey:



Please feel free to share this study with anyone who may be eligible and interested in participating. If you have any questions or need more information about this research, please

contact me, Yangyang Liu (yzl317@psu.edu), or my advisor, Dr. JoLynn Carney (jcarney@psu.edu).

Thank you very much for your help!

Warmly,
Yangyang

Yangyang Liu, M.Ed., NCC
Doctoral Candidate
Counselor Education and Supervision
Department of Educational Psychology, Counseling, and Special Education
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VITA

Yangyang Liu

EDUCATION

Ph.D. in Counselor Education and Supervision	Aug 2022
The Pennsylvania State University, University Park, PA	
M.Ed. in Counselor Education	May 2019
The Pennsylvania State University, University Park, PA	
B.S. in Psychology	June 2017
University of California, San Diego, La Jolla, CA	

PROFESSIONAL CREDENTIALS

Certified Career Counselor # CCC20-6790417380, National Career Development Association
National Certified Counselor #1233222, National Board of Certified Counselors

PROFESSIONAL EXPERIENCE

Career Counseling Graduate Assistant , Penn State Career Services	Aug 2020-May 2022
Mental Health Counselor , Centre Volunteers in Medicine	Aug 2021-April 2022
Co-Instructor (CNED 506: Individual Counseling Skills)	Aug 2021-Dec 2021
Clinical Supervisor , Dr. Edwin L. Herr Clinic	Oct 2020-Dec 2021

SELECTED PUBLICATIONS

Liu, Y., Jackson, E., & Balin, E. (In press). Managing countertransference. In C. P. Zalaquett (Ed.), *Moments of Excellence in Counseling and Psychotherapy: Learning What Works for Relationship Building and Increased Effectiveness*. Coherent Digital, LLC.

SELECTED PROFESSIONAL PRESENTATIONS

Liu, Y., Xu, X., Shao, H., Balin, E., Zhang, X., Hepburn-Richardson, L., & Garrett, A. (2022, July). *Cultivating Career Adaptability and Resilience: Cross-Cultural and Global Justice Perspectives*. Presented at the annual National Career Development Association (NCDA) Conference. Virtual.

Zhao, F., Shao, H., & **Liu, Y.** (2021, October). *Development of Racial Justice Advocacy in Asian International Counselor Trainees*. Presented at the annual Association for Counselor Education and Supervision (ACES) Conference. Atlanta, GA.

Kim, I., & **Liu, Y.** (2021, October). *Adverse Childhood Experiences, Training-Related Retraumatization, and Traumatic Stress among Counselor Trainees*. Presented at the annual Association for Counselor Education and Supervision (ACES) Conference. Atlanta, GA.