THE ROLE OF HUMAN AGENCY AND HOPEFUL CAREER STATE IN THE
RELATIONSHIP BETWEEN FAMILY INFLUENCE AND CAREER DECISION
MAKING AMONG ASIAN INTERNATIONAL STUDENTS

A Dissertation in
Counselor Education

by

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ABSTRACT

This study examined the effects of family influence, hopeful career state, and human agency on career decision self-efficacy among Asian international students in the United States. A sample of 206 Asian international students across 17 countries and regions was recruited and used for further data analysis. They have completed the demographic form, family influence scale, assessment of human agency, hopeful career state, acculturation index, and career decision self-efficacy short form via an online platform, Qualtrics. This study used preliminary analysis, descriptive analysis, FIS confirmatory factor analysis, and two-step structural equation modeling to answer the research questions and test the hypotheses.

The results indicated that family financial support was a significant predictor of career decision self-efficacy. Hopeful career state mediated the indirect effects between family influence on career decision self-efficacy among Asian international students. The results of the alternative model analysis supported that hopeful career state weakly mediated the relationship between family financial support and career decision self-efficacy. Hopeful career state mediated the positive relationship between human agency and career decision self-efficacy. The effect of human agency was stronger than the effect of family financial support on career decision self-efficacy via hopeful career state. Strengths and limitations of the study were discussed. The implication for practice and recommendations for future research were provided.
# TABLE OF CONTENTS

LIST OF TABLES .................................................................................................................. vii

LIST OF FIGURES ................................................................................................................. viii

ACKNOWLEDGEMENT ......................................................................................................... ix

Chapter 1 Introduction .......................................................................................................... 1
  
  Statement of the Problem ................................................................................................. 1
  Purpose of the Study .......................................................................................................... 7
  Research Design ............................................................................................................... 8
    Research Questions ........................................................................................................ 8
  Significance of the Study .................................................................................................. 8
  Definition of Terms .......................................................................................................... 9
  Summary .......................................................................................................................... 10

Chapter 2 Literature Review ............................................................................................... 12
  
  Introduction ..................................................................................................................... 12
    Unique Career Challenges and Needs of Asian International Students ...................... 12
    Asian Cultures and Values ............................................................................................. 16
  Family influence ............................................................................................................... 17
    Family influence and career development .................................................................... 18
  Acculturation .................................................................................................................. 20
    Acculturation and career development ........................................................................ 21
  Human agency .................................................................................................................. 22
  Hope ................................................................................................................................. 22
  Hopeful Career State ........................................................................................................ 24
  Career decision self-efficacy ............................................................................................. 25
    Career decision self-efficacy and contextual factors ..................................................... 25
  Theoretical Framework .................................................................................................... 26
    Roe’s Personality Development Theory ......................................................................... 27
    Social Cognitive Theory (SCT) ...................................................................................... 28
    Social Cognitive Career Theory (SCCT) ...................................................................... 29
    Human Agency Theory .................................................................................................. 31
    Hope-Action Theory ...................................................................................................... 31
  Summary .......................................................................................................................... 32

Chapter 3 Methodology ..................................................................................................... 34
  
  Research Design ............................................................................................................. 35
  Variables .......................................................................................................................... 37
Counseling Professionals
Counselor Educators
Recommendation for Future Research
Summary
References
Appendix A Demographic Forms
Appendix B Family Influence Questionnaire
Appendix C The Assessment of Human Agency
Appendix D Hopeful Career State Scale
Appendix E Career Decision Self-Efficacy-Short Form
Appendix F Acculturation Index
Appendix G Recruitment Email
Appendix H Informed Consent
Appendix I IRB Approval letter

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counseling Professionals</td>
<td></td>
<td>82</td>
</tr>
<tr>
<td>Counselor Educators</td>
<td></td>
<td>84</td>
</tr>
<tr>
<td>Recommendation for Future Research</td>
<td></td>
<td>85</td>
</tr>
<tr>
<td>Summary</td>
<td></td>
<td>86</td>
</tr>
<tr>
<td>References</td>
<td></td>
<td>87</td>
</tr>
<tr>
<td>Appendix A</td>
<td>Demographic Forms</td>
<td></td>
</tr>
<tr>
<td>Appendix B</td>
<td>Family Influence Questionnaire</td>
<td></td>
</tr>
<tr>
<td>Appendix C</td>
<td>The Assessment of Human Agency</td>
<td></td>
</tr>
<tr>
<td>Appendix D</td>
<td>Hopeful Career State Scale</td>
<td></td>
</tr>
<tr>
<td>Appendix E</td>
<td>Career Decision Self-Efficacy-Short Form</td>
<td></td>
</tr>
<tr>
<td>Appendix F</td>
<td>Acculturation Index</td>
<td></td>
</tr>
<tr>
<td>Appendix G</td>
<td>Recruitment Email</td>
<td></td>
</tr>
<tr>
<td>Appendix H</td>
<td>Informed Consent</td>
<td></td>
</tr>
<tr>
<td>Appendix I</td>
<td>IRB Approval letter</td>
<td></td>
</tr>
</tbody>
</table>
LIST OF TABLES

Table 1 Association Between Variables and Items .................................................... 38
Table 2 Demographic Information of Participants .................................................... 40
Table 3 Descriptive Statistics for Variables .............................................................. 49
Table 4 Correlations for Each Variable .................................................................... 51
Table 5 Model Summary for the CFA of the FIS ...................................................... 60
Table 6 Standardized Direct and Indirect Effect of the Primary Structural Mediation Model 65
Table 7 Moderated Mediation Effect ..................................................................... 67
Table 8 Standardized Direct and Indirect Effect of the Alternative Structural Mediation Model 69
LIST OF FIGURES

Figure 1 Conceptual Research Model ............................................................................. 7
Figure 2 International Students Enrollment in the U.S. .................................................... 13
Figure 3 Bandura’s (1989) Triadic Reciprocal Determinism .......................................... 28
Figure 4 Conceptual Research Model ............................................................................. 34
Figure 5 Scatterplot for Each Pair of Predictor Variable and Outcome Variable .......... 56
Figure 6 Scatterplot for Assumption of Homoscedasticity .............................................. 57
Figure 7 CFA of the Measurement Model ..................................................................... 63
Figure 8 CFA of the Modified Measurement Model ....................................................... 64
Figure 9 Primary Structural Mediation Model ................................................................. 66
Figure 10 Primary Moderated Mediation Model ............................................................. 67
Figure 11 Alternative Structural Mediation Model .......................................................... 69
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Chapter 1 Introduction

In the United States, 914,095 international students enrolled in academic programs and on Optional Practical Training (CPT) in the 2020-2021 academic year (Institution of International Education [IIE], 2021). Although the number of international students significantly decreased in the past two years because of the COVID-19 global pandemic and sociopolitical environment, international students still account for 4.6% of the total student enrollment in higher education (IIE, 2021). More than half of the international students are from Asian countries: China (34.7%), India (18.3%), and South Korea (4.3%; IIE, 2021). International students significantly contribute to the U.S. economy since they pay twice tuition fees and other expenses in public and private institutions (Admissionsly, 2021). The economic impact of international students exceeded $40 billion in 2019, which means they gained around 460,000 jobs in 2018-2019 (Admissionsly, 2021).

Many Asian international students had various career concerns and challenges, such as language barriers (Young, 2017), adjustment concerns (Linkeš et al., 2018), and lack of social support (Cao et al., 2021). During the pandemic, the primary concerns of international students were health, safety, travel restrictions, managing visa status, and future employment opportunities (Chirikov & Soria, 2020). The uncertainty of changing visa policy negatively affected the career paths of international student participants (Gesing et al., 2021).

With the significant enrollment number of Asian international students and unique challenges, it is crucial to understand the challenges and influencing factors of their career development and facilitate positive coping strategies to increase career decision self-efficacy.

Statement of the Problem

For most young adults, launching a vocational life is an important developmental task
Consistent with the significant enrollment of Asian international students, the demands for career services and career professionals are increasing. However, only 41% of international students used career services (Loo et al., 2007). Being aware of the unique career concerns and challenges of Asian international students helps counseling professionals understand their unique demands and promote career development. Asian international students have struggled with language barriers, cross-cultural adjustment, lack of support, and restricted employment opportunities.

English was the second language for many Asian international students, which created notable career barriers to their development (Arthur & Popadiuk, 2010; Balin et al., 2016). Asian international students struggled with cross-cultural adjustment, including cultural shock, homesickness, isolation, and loneliness (Kronholz, 2014, Linkeš, et al., 2018, Dao et al., 2007). Furthermore, lacking support from family and friends is faced by Asian international students since most of them study abroad isolated from their natural support system. Since 2019, the travel restriction also limited international students’ mobility and connection with families due to the spread of COVID-19.

The global crisis, COVID-19, was recognized as a career shock, which was a highly disruptive extraordinary event (Akkermans et al., 2020). The research showed that negative effects of international students were influenced by where they live and their lifestyle associated with challenges during the COVID-19 pandemic (Mbous et al., 2022). International students expressed concern that visa status could disrupt their studies in the United States and presented high levels of stress related to COVID-19 (Gao et al., 2022).

International students have limited opportunities to work in the United States compared to American students. They are limited to one year of employment in the United States, which is
Optional Practical Training (OPT). Students in STEM majors have a two-year OPT extension (U.S. Citizenship and Immigration Services, 2020). The changing visa-related policy also created uncertainty and extra concerns for the career development of international students. These limited working opportunities increase career concerns.

Due to employment restrictions, there is a high demand for international students to learn about potential career opportunities, gather job market information, and receive culturally sensitive career services in their career decision-making process. Asian international students experienced a wide range of unique challenges in their career development, including academic stress, mental health, and career concerns. Previous research on international students has explored career challenges (Balin et al., 2016), adjustment issues (Kronholz, 2014), career planning (Li et al., 2019), job searching (Lertora & Sullivan, 2019), and career preparation (Arthur & Flynn, 2013). However, limited research that has explored the influencing factors on international students’ career decision-making.

Social cognitive career theory investigated the interaction of three factors: (a) the environment, (b) personal factors, and (c) actual behavior (Lent et al., 1994; Brown & Lent, 1996). It emphasized the interaction between environment and personal factors. Researcher provided several paths to stimulate research on contextual variables and hypotheses with theory-derived suggestions (Lent et al., 2000). One of the paths was that individual’s belief to pursing a particular choice encountering barriers and supports (Lent et al., 2000), which provided strong theoretical framework for current study.

Within the framework of SCCT (Lent et al., 1994), career decision-making played an important role in connecting contextual factors and personal factors in the career decision-making process. Asian international students may be different from non-Asian international
students according to their cultural and collectivistic backgrounds. Family structure is very clear and strict in Asian culture, and people respect authority (Castillo & Phoummarath, 2006; Kim, et al. 2001). Most Asian countries are in a collectivistic-oriented culture, which may significantly affect the career choices of Asian international students through traditional family dynamics.

It is not possible to consider the career decision-making process of Asian international students without considering their background and environment in the United States. In Asian culture, family and community are highly involved in one’s decision-making process (Pope, 2015). Thus, career decision-making is usually a family decision rather than a personal decision in collectivist culture (Pope et al., 1998). After moving to the United States, Asian international students have begun the acculturation process and may increase personal values in the career decision-making process. However, the degree of family influence is unclear in their career-decision-making process while they are physically in the United States.

Limited research has explored the influencing factors of career decision-making of Asian international students. Few studies that focused on the influencing factors of Asian Americans highlighted parental influence was the main factor in career decision-making, and Asian Americans were the only group that considered parental pressure as one of the top five factors that affect their career choices (Singaravelu et al., 2005). Family influence was a key factor in career decision-making and important for developing effective career interventions for diverse populations (Fouad et al., 2016). Researchers found that family influence among non-Asian international students was greater than among Asian international students (Singaravelu et al., 2005), which was inconsistent with existing studies. Further research is needed in this area since current research was conducted either in qualitative methods or through literature review, meanwhile, the results were vague. Based on the literature, it is vital to understand the role of
family influence, a contextual factor, on career decision-making of Asian international students and the interaction with personal factors in the career decision making process.

Researchers explored the relationship between acculturation and career decision self-efficacy among international students (Hou et al., 2018; In, 2016; Nadermann & Eissenstat, 2018). The relationship between acculturation and career decision self-efficacy among Korean international undergraduate students is weak (In, 2016). A high level of acculturation was associated with high career decision self-efficacy through the mediating role of networking among 172 Korean international students (Nadermann & Eissenstat, 2018). Acculturation to the host country significantly predicted the career decision self-efficacy among East Asian international students (Ai, 2021). There is a need to verify this relationship among large populations and groups.

SSCT highlight the interaction between contextual variables and personal variables, specifically, environmental variables directly or indirectly affect career-related choices (Lent et al., 2000). Contextual variable (family involvement and acculturation) and self-efficacy were stronger predictor than personal interests on career choices among Asian American (Tang et al., 1999). Asian international students are in a unique situation that lack of natural support system in the United States. Therefore, it is important to explore the role of personal variables and the interaction with environmental variables in career decision-making process.

Human agency is the capacity to control the nature and quality of one’s life (Bandura, 2001a), which is an important personal factor according to social cognitive career theory. It has four core features: internality, forethought, self-reactiveness, and self-reflectiveness. Human agency has been used to predict career decision self-efficacy. In this study, this construct was used to explore its role in the relationship between family influence and career decision self-
efficacy. In other words, the extent to which contextual and personal factors interact in career decision-making process.

Hope is a positive personal factor that can improve career decision self-efficacy among international students. However, only two studies explored the direct effects between hope and career decision self-efficacy. In (2016) found that hope positively predicted career decision self-efficacy among 213 Korean international students. Hope was the strongest predictor of career decision self-efficacy compared to acculturation to home/host culture (Ai, 2020). Hope was also a significant mediator demonstrated by previous research (Marks et al., 2018). The Hopeful Career State is specifically used for the current degree of hopefulness towards careers (Yoon et al., 2017).

With the great number of Asian international students’ recruitment, there is a growing need to explore family influence on their career decision-making and career development. Considering the background and cultural differences, it was significant to facilitate their career development by integrating positive family influence factors into this process. Few studies explored the effect of family influence on career development for Asian American, Asian, or Chinese students. The relationship of existing studies on international students was vague and unclear, which was significantly different from the research on other populations. The social cognitive career theory described the contextual factors that interact with the career decision-making process. Therefore, this study was also interested in exploring the role of personal factors in the career development of international students. In summary, the study was to explore the family influence on career decision-making among Asian international students, along with mediator (hopeful career state) and moderator (human agency) through a quantitative method, structural equation modeling. It aimed to provide evidence-based support to counselor educators,
Purpose of the Study

This study was to examine the direct and indirect effects of family influence on career decision self-efficacy among Asian international students in the United States. Adopting a structural equation modeling analysis, human agency, and hopeful career state were used as the moderator and mediator. The researcher hopes to gain a deeper understanding of family influence, human agency, and hope as predictors of career decision self-efficacy while controlling acculturation covariate by examining this relationship. The primary goal of the present study was to explore the relationship between family influence and career decision-making among Asian international students in the United States. The secondary goal of this study was to investigate the moderating roles of human agency, the mediating role of hopeful career state, and a moderated mediation effect between family influence and career decision self-efficacy (See Figure 1).

Figure 1

Conceptual Research Model
Research Design

This study used a structural equation modeling analysis to investigate the relationship between predictors (family influence, human agency, acculturation, and hopeful career state) and an outcome variable (career decision self-efficacy) among Asian international students, as well as mediation and moderation effects.

The proposed research questions were as follows:

Research Questions

Research Question 1: To what extent does family influence affect Asian international students’ career decision self-efficacy?

Research Question 2: Does the hopeful career state mediate the effects of family influence on Asian international students’ career decision self-efficacy?

Research Question 3: Does human agency moderate the relationship between family influence and hopeful career state?

Significance of the Study

This study presented a unique contribution to current literature in the field of career development, which explored the interaction of contextual factors and personal factors affecting the career decision self-efficacy of Asian international students. First, there are only a few studies that explored the career concerns of international students, and most of them are addressing career concerns (Reynolds & Constantine, 2007) and the job market (Arthur, & Popadiuk, 2010). The number of research that explored influencing factors on career decision-making is limited (Singaravelu et al., 2005). This study aimed to fill this gap in the literature. Second, this study examined the interaction between family influence and acculturation on career decision-making among Asian international students. Previous studies explored the relationship
between acculturation and career decision self-efficacy (Ai, 2020; In, 2016; Nadermann & Eissenstat, 2018). There was limited qualitative research done to examine the environmental factors of Chinese international national students (Lee et al., 2018). This study contributes to the research with large participation, which offers reliable and repeatable information.

Third, the present study adopted two personal factors human agency, and hopeful career state to examine the role of personal action from a positive psychology perspective within the framework of Hope-Action Theory (HAT). HAT focused on the reciprocal relationships between the agent and the environment (Yoon et al., 2021), which is expressed as the interaction between contextual factors (family and acculturation) and personal factors (human agency and hope) in the present study. It explored the personal initiatives beyond the contextual factors. Overall, this study aims to increase the awareness of the impact of family influence and acculturation (contextual factors) on career development among Asian international students. Meanwhile, career professionals can utilize an action-oriented approach to facilitate Asian international students’ career development through the function of human agency and instill hope.

Definition of Terms

For the present study, the key terms are defined as follows:

*Asian International Students* refer to undergraduate and graduate students who originally come from Asian countries and are currently enrolled in U.S. universities on a temporary visa including F-1, J-1, or M-1 visa types.

*Family Influence* refers to the impact of an individual’s family of origin on career development (Whiston & Keller, 2004). It represents the degree of influence of family of origin and current family on a person’s career values, meanings, and decision-making (Fouad et al., 2008).
**Human Agency** is defined as “the capacity to exercise control over the nature and quality of one’s life”, which has four core features: internality, forethought, self-reactiveness, and self-reflectiveness (Bandura, 2001a, 2006).

*Acculturation* describes “the dual process of cultural and psychological change that takes place as a result of contact between two or more cultural groups and their individual members” (Berry, 2005, p. 698).

*Hope* is defined as “a positive motivational state that is based on the derived sense of successful (a) agency (goal-directed determination), and (b) pathways (planning to meet goals)” (Snyder, 2002, p. 250). It consists of three main components: pathways, agency, and goals (Snyder et al., 1991).

*Hopeful Career State* refers to a hopeful state about one’s future (Yoon et al., 2021, p 206).

*Career Decision Making* refers to individuals’ process of making career choices according to their personality, interests, ability, skills, and values. It is a lifelong exploring process.

*Self-Efficacy* is defined as individuals’ beliefs that they have a perceived capability to perform a behavior—causally influences expected outcomes of behavior (Bandura, 1977).

*Career Decision Self-Efficacy* describes one’ belief that one can make career decisions through successfully completing necessary tasks (Betz & Hackett, 2006). It represents an individual’s belief to perform necessary tasks in the career decision-making process (Taylor & Betz, 1983).

**Summary**
More than half of the international students in the United States were from three Asian countries: China, South Korea, and India (IIE, 2021), which significantly contributed to the U.S. economy. It is important to understand the career needs of Asian international students and facilitate their career development. Therefore, this study was to investigate the effects of contextual and personal factors on career decision self-efficacy via hopeful career state. This chapter outlined the problem statement, purpose statement, significance of the study, research design and research questions to guide this study.
Chapter 2 Literature Review

Introduction

There are 914,095 international students enrolled in academic programs and on Optional Practical Training (CPT) in the United States, which account for 4.6% of higher education students (Institution of International Education (IIE), 2021). As seen in Figure 2, the number of international students increases every year except in 2019/2020 due to the pandemic. COVID-19, a global crisis, significantly affected many students studying abroad plan to the economic impact and travel restrictions (Gesing et al., 2021). But there are still more than fifty percent of international students from Asian countries (IIE, 2021). Higher education institutions obtain financial benefits through recruiting international students since they pay a significantly higher tuition fee. In 2018, international students contributed more than $ 45 billion to the U.S. economy (Admissionsly, 2021). In addition, international students bring cultural diversity and international perspectives (Arthur & Flynn, 2013; Young, 2017). With the significant number of Asian international students enrolled, there has been a growing demand for facilitating career development, understanding the influencing factors, and meeting their career needs (Balin et al., 2016; Luo, 2013; Shen & Herr, 2004).

Unique Career Challenges and Needs of Asian International Students

Asian international students face unique challenges in their career development, including language barriers (Balin et al., 2016; Reynolds & Constantine, 2007; Young, 2017), adjustment issues (Dao et al., 2007; Kim et al., 2001; Kroholz, 2014; Linkeš, et, al., 2018), lacking social supports (Cao et al., 2021; Popadiuk & Arthur, 2014; Sangganjanavanich et al., 2011), discrimination (Charles-Toussaint & Crowson, 2010; Wu et al., 2015), and limited working opportunities due to visa restrictions.
English is the second language for most international students from Asian countries, which is a barrier to their career development (Arthur & Popadiuk, 2010; Balin et al., 2016; Choi, 2006). Some Asian international students may feel inconsistency between English-speaking capacity and confidence to speak English (Linkeš, et al., 2018). They may hesitate in their career choices for pursuing careers that necessitated communicating in English, instead of low requirements in English speaking or writing, such as STEM field (Reynolds & Constantine, 2007). Asian international students with a strong native accent may be more vulnerable to experience discrimination and prejudice (Linkeš et al., 2018). Domestic participants self-reported
negative attitudes towards international students when they perceived symbolic realistic threats, right-wing authoritarianism, and social dominance orientation among 188 American students at a Southwestern University (Charles-Toussaint & Crowson, 2010).

Adjustment issues are unique challenges for Asian international students. They experienced various challenges, including cultural shock, homesickness, isolation, and loneliness, role expectation from themselves and family (Kronholz, 2014, Linkeš, et al., 2018, Dao et al., 2007). The difficulties reflected academic, psychological, cultural, social, and financial concerns of Asian international students (Choi, 2006; Sato & Hodge, 2009; Yan & Berliner, 2001). In these issues, lacking cultural knowledge of the host country and cultural learning factors stood out for Asian international students, which may result in misunderstanding (Choi, 2006; Lee & Carrasquillo, 2006).

Furthermore, Poyrazli and colleagues (2011) found that Asian international students experienced more acculturative stress when they were primarily social with non-domestic students. Lacking support from family and friends is faced by Asian international students since most of them study abroad lonely without support (Choi, 2006). For instance, Chinese international students tend to seek support from families and friends facing difficulties (Bertram et al., 2014). Lertora and Sullivan (2019) found there were six primary themes when Chinese international students prepare for jobs, including hard-working, stress, uncertainty about the transition, family connections, and the importance of social support.

The global crisis, COVID-19, significantly affects the career development and life of international students. Asian students were significantly affected by intersectional racism and Asian hate crime, which may have longstanding negative effects intertwine with COVID-19-related discrimination Asian population in the United States (Zhang et al., 2020). Asian
experience higher levels of mental disorders than White tackling hate, violence, and discrimination since the COVID-19 pandemic (Wu et al., 2020). International students were negatively influenced by where they lived and their lifestyles associated with challenges during the COVID-19 pandemic (Mbous et al., 2022). They expressed concern that visa status could disrupt their studies in the United States and presented high levels of stress related to COVID-19 (Gao et al., 2022).

International students have limited opportunities to work in the United States compared to American students. They revealed a lack of knowledge of work authorization in a survey (Balin et al., 2016). International students are allowed to work in the United States for one year after graduation via optional practical training (OPT), and students in STEM majors have a two-year OPT extension (U.S. Citizenship and Immigration Services, 2020). International students are required to leave the United States within sixty days if they cannot receive a working visa (H1-B) during OPT (extension). The limited working opportunities increase their career concerns. Managing visa status and future employment opportunities are the primary concerns of international students during the pandemic (Chirikov & Soria, 2020). The unstable visa policy negatively impacted the career path of international students (Gesing et al., 2021) and created more uncertainty for their career development.

Sixty-four percent of Asian international student participants indicated their need to select academic majors and careers in a study. However, they did not use career services provided by the university. (Singaravelu et al., 2005). Fifty-one percent of current East Asian international students had not used career services, which is more than the number of total international students (41%) in a Work Education Services (WES) report (Loo et al., 2017). There was a divergence of perceptions between international students and career professionals, such as
inconsistent expectations, knowledge of work permission, and immigration legislation (Balin et al., 2016; Shen & Herr, 2004). The low utilization of career services may result from unfamiliarity (Loo et al., 2017), negative perceptions (Shen & Herr, 2004), negative attitudes and expectations (Li et al., 2021) toward career services. Through this gap, it is important to gain a better understanding of career decision self-efficacy, and the role it played in the career development of Asian international students.

**Asian Cultures and Values**

Asian international students have similar physical characteristics and come from collectivist-oriented countries. Culture and values are important elements in the counseling process. Asian international students share similar cultural and collectivistic backgrounds. Their career development is influenced by similar cultures, values, and beliefs. The researcher demonstrated that 1) human-heartedness, benevolence; 2) politeness, rites, and correct behavior; 3) filial piety are three highlighted virtues in Confucian values (Young, 2017). It highly stresses one’s relationship and roles in family and society, in the other world, the importance of interdependency and social/family obligation (Brewer & Chen, 2007).

Confucian values prefer individuals to be humble and behave well, which also explains the negative attitude towards counseling (Kim et al., 2001). They tend to seek help from family, friends, or academic fields rather than career professionals. In a collectivistic culture, individuals rely on group decisions, value social harmony, and respect authority, and the elder (Kim et al., 2001). Asian international students hold back to utilize mental health and career counseling because of the suppression of emotions, high expectation of achievement, and family connections (Castillo & Phoummarath, 2006; Singaravelu et al., 2005).

Thus, Asian international students may tend to choose their careers according to their
parents’ opinions. They would experience stress if there were a disagreement. Tang (2002) found that the career choices of Asian American and Chinese college students were significantly associated with their parents’ expectations. It is important for career professionals to understand and consider these cultural values when working with Asian international students. It also provided the cultural context to this study.

Asian international students experience unique challenges when they make their career choices. Previous research on the career development of international students mainly focused on career expectations (Li & Whiston, 2021), job searching (Lertora, & Sullivan, 2019; Lin & Flores, 2013), career decision-making difficulties (Zhou & Santos, 2007), and preparing them for the job market (Arthur, & Flynn, 2013). There was limited literature had explored the influencing factors on international students’ career decision-making.

Social cognitive theory displayed the reciprocal interaction of the person among three factors: (a) the environment, (b) personal factors, and (c) actual behavior (Bandura, 1989, 2006). Social cognitive career theory (SCCT) also emphasized the importance of contextual variables and self-efficacy (Lent et al., 1994, 2000). Contextual factors including family, school counselors, teachers, friends, and government impacted the career choices of international students (Singaravelu et al., 2005). Family influence is a key factor in career decision-making and various effective career interventions were developed for diverse populations. Exploring the family influence on career decision-making helps counselors to understand the impact factors of their career choices and provide effective career counseling for this population.

Family influence

Family influence described the influence of an individual’s family of origin on career development (Whiston & Keller, 2004). It was the extent to which a person’s family of origin
and current family affected career values, meanings, and decision-making (Fouad et al., 2008). Family influence is divided into four distinct types of family support, including informational, financial, and emotional support, as well as the perceptions of family expectations towards career choices (Fouad et al., 2016). The Family Influence Scale (FIS) assesses how one’s family influence has impacted work and career choices, which was created by Fouad and her colleagues (Fouad et al., 2016).

Many Asian parents agreed to send their children to overseas study, however, it increased the conflicts between family obligations and students’ expected pathways (Chung, et al. 2018). Family influence was considered an influencing factor in many aspects of Asian international students’ life overseas, such as mental health (Choy & Alon, 2019), school or college choices (Tan, 2015; Wang, 2012), acculturation stress (Zhang & Jung, 2017), and career decision-making (Singaravelu et al., 2005; Xing & Rojewski, 2018).

**Family influence and career development**

Parental influence was the main factor in career decision-making, and Asian Americans were the only group that considered parental pressure as one of the top five factors that affected their career choices (Singaravelu et al., 2005). The research demonstrated that family influence was a key factor in career decision-making and important for developing effective career interventions for diverse populations (Fouad et al., 2016).

Additionally, it is valuable to explore the family influence on career development since individuals tend to seek help from family members (Bertram et al., 2014). Parents had a strong influence on students’ choices of educational institutions in higher education, and the authors called for further research to understand the role of cultural values in the decision-making process (Lee & Morrish, 2012). Furthermore, facilitating family involvement to produce a
positive influence on career development played an essential role in the career decision-making process (Whiston & Keller, 2004). A significant amount of literature showed that family influence had a remarkable impact on career decision-making for students of different ages and majors (Ozdemir & Hacifazlioglu, 2008; Workman, 2015; Xing & Rojewski, 2015). The family influence positively predicted career decision self-efficacy among South Korean and Turkey undergraduate students (Kim et al., 2016; Koçak et al., 2021).

The research mentioned that numbers of Asian American students are first-generation college within their families which are not familiar with how higher education in the United States looks like and lack available resources in college to help their children (Chang et al., 2007). For example, some elders in families who were refugees or immigrants, tend to encourage their children to choose major and career paths that they are familiar with and could bring economic and social status benefits to their families (Poon, 2014). As a result, it is important for researchers to pay attention to Asian American students’ family backgrounds and expectations to study their career choices which may reflect more on their families’ ideas rather than their true preferences (Tang et al., 1999). To be specific, when talking about career choice in the United States culture, it was viewed as a personal choice of self-actualization. Asian Americans may view their career choices as the chance to help and benefit their families and themselves (Tang et al., 1999). The family role was not significant to one’s self-efficacy, but obvious impact on the career choice of Asian Americans (Tang et al., 1999).

Despite the acknowledgment of its significance, the research on measurements to explore the overarching influence of the family was limited, as well as the instruments for diverse populations. Family influence on career decision-making for Asian international students has been less studied compared to other aspects, such as mental health (Kawamoto et al., 2018) and
academic stress (Chavajay & Sknowronek, 2008). Few empirical studies have been conducted in this field (i.e., Lee et al., 2018), which have identified most doctoral participants took the opinions of original families and future families into consideration when making career decisions. Choi and Nieminen (2013) stated that international students from East Asian countries shared common Confucian values, which had a big impact on their family expectations, indirectly via family responsibility and directly on educational experience.

The authors found that family influence was surprisingly more prominent in non-Asian international students than Asian international students, specifically father’s role, compared to Asian international students and domestic students. (Singaravelu et al., 2005). It was inconsistent with previous studies. These studies called for further investigation in this area with larger participants since they were conducted in qualitative methods or the literature review, and the results are vague. With the recruitment of international students growing and more than half of international students are from Asian countries in the United State, the need of exploring influencing factors on their career development also increases. Family influence is a significant contextual factor in this study.

**Acculturation**

Acculturation was a complex process and had been described in various ways. In this study, we adopted the conceptualization from Berry’s (2005) definition: Acculturation was “the dual process of cultural and psychological change that takes place as a result of contact between two or more cultural groups and their individual members” (p. 698). It was the interaction between two groups, which resulted in one or the other of the groups changing (Berry, 1980). Berry (1980) proposed four adaptation strategies or outcomes for the process of acculturation: (a) integration, (b) assimilation, (c) separation, and (d) marginalization. Separation occurs when
individuals only adhere to their cultures of origin and reject the host culture. (Berry, 1980).

Assimilation is the process in which individuals adopt the dominant culture over their cultures of origin (Berry, 1980). Marginalization occurs when individuals reject both their cultures of origin and the dominant culture (Berry, 1980). Integration means that individuals maintain their cultures of origin, but also adopt the cultural norms of the host culture (Berry, 1980).

**Acculturation and career development**

Acculturation plays an essential role in the adjustment and adaptation of Asian international students. Most Asian international students come from collectivist cultures. Therefore, they experienced a distinguished individualism culture from their culture of origin. A variety of studies explored the adjustment issues of international students (Arthur, 2004; Choi, 2006; Poyrazli et al., 2004; Reynolds & Constantine, 2007; Wu et al., 2015; Yan & Berlinear, 2011). Also, a great amount of literature examined the relationship between acculturation and career development, including vocational identity (Hou et al., 2018; Shih & Brown, 2000); career services (Balin et al., 2016; Luo, 2013; Yang et al., 2002); career beliefs (Mahadevan 2010), and career decision-making (Liu, 2009; Nadermann & Eissenstat, 2018).

Specifically, Liu (2009) found that acculturation significantly predicted international students’ career decision self-efficacy. Acculturation to the host country significantly predicted the career decision self-efficacy among East Asian international students (Ai, 2020). In (2016) found a weak relationship between acculturation and career decision self-efficacy among Korean international undergraduate students. A sample of 172 Korean international students showed that acculturation affected career decision-making through the mediating role of networking (Nadermann & Eissenstat, 2018). Acculturation plays a significant role for Asian international students in their career development and life in the United States. Thus, the current study
planned to use acculturation as a control variable.

**Human agency**

Human agency was defined as “the capacity to exercise control over the nature and quality of one’s life” (Bandura, 2001a). The human agency has four core features: internality, forethought, self-reactiveness, and self-reflectiveness (Bandura, 2001a, 2006). The four features make people control a part of their development, adaptation, and self-reflection. (Bandura, 2001b). Social cognitive theory identified three modes of human agency: personal, proxy, and collective (Bandura, 2001a, 2006), but research was centered on the directly personal agency. The personal agency was at the individual level that one can direct the situation and achieve their goal. The proxy agency relied on the perceived goals of the entity (Yoon, 2011). The collective agency was within a collective entity, such as a group, team, or organization (Yoon, 2011).

Based on the four features and three models, the human agency can increase individual opportunities and move them forward in the job market. This study considered human agency as an important personal variable from its conceptualization situated within Bandura’s social cognitive theory (1986, 1997).

Although the concept of human agency has been discussed in career counseling (Chen, 2006; Lent 2005), limited research has explored human agency with qualitative or quantitative measures. Human agency is the actual capacity to control the tasks (Yoon, 2011). It was used to predict career decision self-efficacy, which refers to one’s capacity to control life.

**Hope**

Hope was identified as a positive cognitive state that was based on the derived sense of successful agency (goal-directed determination) and pathways (planning) (Snyder, et al., 1991; Snyder, 2002), which can be conceptualized as “the capacity to derive pathways to desired goals
and motive oneself via agency thinking to use the pathways” (Snyder, 2002). It consists of three main components: pathways, agency, and goals (Snyder et al., 1991). Pathways thinking is one’s perceived capacity to create successful paths to achieve the goals. (Snyder, 2002). Agency thinking was one’s motivation or willingness to reach desired goals (Snyder et al., 1991; Snyder, 2002). When experiencing obstacles, the agency helped with the necessary motivations to choose an alternative pathway (Snyder, 1994). Thus, hope provided the agency, also termed willpower, and the pathway, also termed way power, to help an individual to achieve desired goals.

Individuals were willing and positively generated pathways to pursuing their goals (Bailey et al., 2007). Hope has been conceptualized both a trait-like construct (fixed) and state-like construct (changeable) according to the situation (Snyder et al., 1991; Snyder et al., 1996). The Hope Scale is used to measure the level of hope (Snyder et al., 1991).

Literature found that hope was positively associated with various fields, including academic achievement (Gilman et al., 2006; Snyder et al., 2002), psychological adjustment (Feldman & Snyder, 2005), and work (Othman & Nasurdin, 2011). Hope was proved to be a significant mediator in different studies. A sample of college students in Turkey found that hope fully mediated the relationship between resilience and subjective well-being and partially mediated the relationship between psychological vulnerability and subjective well-being (Satici, 2016). Yang et al. (2016) demonstrated that the effect of self-compassion on life satisfaction was fully mediated by hope.

Hope is also a significant predictor of career development as a personal strength. Research showed the association between acculturation and work hope in international college students in the United States, which indicates the importance of instilling work hope in their development (Marks et al., 2018). Previous research demonstrated the positive role of hope on
the career development of international students. In (2016) found that hope and acculturation to
the host culture positively and uniquely predicted the career decision self-efficacy in a sample of
213 Korean international students in the United States. Hope significantly predicted career
decision self-efficacy among East Asian international students (Ai, 2021).

**Hopeful Career State**

Hopeful career state was conceptualized as a positive outlook on one’s career
opportunities and the hopeful belief about one’s current situation for long-term career
development (Yoon et al., 2019). Hopeful career state is an important concept, specifically an
action-oriented hopeful state about one’s future according to Hope Action Theory (HAT, Nile et
al., 2011) and represents a positive approach to facilitating career development. This construct
was viewed as an outcome measurement of the training intervention and a psychological state
(Yoon et al., 2019). Hopeful career state is used to specifically test the current degree of
hopefulness towards careers (Yoon et al., 2017), according to the Hope-Action Theory.

Hope was recognized as a strong mediator as a human strength in previous studies among
college students (Satici, 2016; Yang et al., 2016). Similarly, hopeful career state is recognized as
a significant predictor and mediator. Hopeful career state predicted both vocational identity and
academic performance (GPA) via student engagement (Yoon et al., 2015). Individuals attending
the HAT training program showed a hopeful career state, which is important for their long-term
career visioning (Amundson et al., 2018). Action-oriented hope serves as a significant factor to
predict positive career outcomes for employees (Amundson et al., 2018; Clarke et al., 2018).
Researchers also found that a higher level of hope was associated with greater work engagement
(Yoon et al., 2015; 2019). Hopeful career state was a significant mediator between HAT-based
interventions and job satisfaction for refugees in British Columbia (Yoon et al., 2019).
Career decision self-efficacy

Career decision-making refers to individuals’ process of making career choices according to their personality, interests, ability, skills, and values. It is a lifelong exploring process for career development. Career decision self-efficacy described the one’s belief that one can make career decisions through successfully completing necessary tasks (Betz & Hackett, 2006). Career decision self-efficacy represented an individual’s belief to perform necessary tasks in the career decision-making process (Taylor & Betz, 1983). Due to the importance of self-efficacy, a range of studies has explored career decision self-efficacy, which was linked with various aspects of career development.

Career decision self-efficacy and contextual factors

Existing literature indicated that career decision self-efficacy was related to vocational outcome expectations (Baglama & Uzunboylu 2017), career maturity (Harlow & Bowman, 2016), and perceived career barriers (Pulliam et al., 2017). There were a few studies that explored the influencing contextual factors on career decision self-efficacy among Asian populations or Asian international students. In (2016) examined that the career decision self-efficacy of Korean international undergraduate students was positively predicted by hope and acculturation to the host culture. Nadermann and Eissenstat (2018) demonstrated that acculturation affected career decision self-efficacy via networking for Korean international students. Researchers showed that parental general psychosocial support was a statistically significant factor of family influence in predicting career decision-making self-efficacy for Chinese secondary vocational students (Xing & Rojewski, 2018).

Based on the Social Cognitive Career Theory (SCCT), family influence, as one of the contextual factors, played an essential role in individuals’ career decision-making. There was
still a problem distinguishing the potential effect of race on the link between family factors and career development due to the uneven sample representation, which was consistent with the previous research from Schulenberg et al. (Whiston & Keller, 2004). The study demonstrated that family influence was a key factor in career decision-making, which was vital for developing effective career interventions applied to culturally diverse populations. Specifically, work values, work volition, and occupational engagement were correlated with family influence (Fouad et al., 2016).

However, there are only a few studies that explored this relationship for international students overall or Asian international students. Tan (2015) conducted a study to explore the college choice behaviors of international students. Results showed that their selections were mainly based on the recommendations of family and friends (Tan, 2015). Perceived parental influences had effects on the career choices intention of hospitality and tourism management students in China (Wong & Liu, 2010).

Research demonstrated that parental influence was a major factor in career decision-making. Asian Americans were the only group that considered parental pressure as one of the top five factors that affect their career choices (Singaravelu et al., 2005). Father played the most important role in career decision-making among non-Asian international student groups including Middle Eastern, African, and South American, compared to Asian international students (Singaravelu et al., 2005). It was inconsistent with previous studies (Choi & Nieminen, 2013; Lee, McMahon & Watson, 2018; Xing & Rojewski, 2018). Thus, it was significant to explore this relationship between family influence and career decision self-efficacy among Asian international students, also considering other contextual and personal factors.

Theoretical Framework
This section reviewed Roe’s Personality Theory, Social Cognitive Career Theory, and Hope-Action Theory as the theoretical framework for this study. Roe was the first researcher who proposed parents’ style played an essential role in the career choices of their children in her career theory (Roe & Lunneborg, 1990). It encourages current researchers to continue to investigate the parents and family influence on career development. This study is proposed based on her idea of career choices.

The main construct of career decision self-efficacy used in this research is developed within the social cognitive career theory. The social cognitive career theory emphasizes the role of cognition in career development within contextual factors (Scharf, 2013). This theory stresses the interaction between personal factors and the environment. Career decision self-efficacy is a significant variable in the career development of international students. The research found that acculturation influenced career decision self-efficacy via networking in Korean international students (Nadermann & Eissenstat, 2018). Hope-Action Theory focused on personal willingness and action.

In summary, all three theories provided strong theoretical support to explore the family influence on career decision self-efficacy among Asian international students through hopeful career state, as moderated by acculturation and human agency.

**Roe’s Personality Development Theory**

Roe was the first researcher that developed a career development theory that emphasized the importance of parental influence on the career development of individuals (Roe, 1957; Roe & Lunneborg, 1990). The three types of early parent-child relationships were the earliest to narrate the parent influence on individuals’ career development. This classification system focused on dealing with parental attitudes toward the child, and each of the classifications had two
subclassifications. The three classification includes (1) emotional concentration on the child; (2) emotional avoidance of the child; and (3) Acceptance of the child.

Roe (1957) proposed that parent styles played a significant role in individuals’ career choices. Although current research results could not support her theory (Lunneborg, 1997; Osipow & Fitzgerald, 1996), researchers have continued to explore the influence of family on career development. Roe’s theory provided a perspective of parental influence on career choices, which supported this study as a theoretical framework.

**Figure 3**

*Bandura’s (1989) Triadic Reciprocal Determinism*

![Diagram of Bandura's Triadic Reciprocal Determinism]

**Social Cognitive Theory (SCT)**

Social Cognitive Theory (SCT) started as the Social Learning Theory (SLT) in the 1960s by Albert Bandura and was developed into the SCT in 1986. SCT believes that learning occurs in
a social context with a dynamic and reciprocal interaction of the person, environment, and behavior (Bandura, 1986, 1989). Social cognitive theory investigated the interaction of three factors: (a) the environment, (b) personal factors, and (c) actual behavior (Figure 3, Bandura, 1989, 2006). Based on the interaction between personal factors and contextual factors, the social cognitive career theory provides significant theoretical support to this study. Bandura (1986) defines self-efficacy as individuals’ perceived capacities to take necessary action to achieve performance. According to the important role of self-efficacy in career development, it was significant to explore the role of career self-efficacy, one of the indicators of career development, and its influencing factors.

**Social Cognitive Career Theory (SCCT)**

Social cognitive career theory is proposed by Lent, Brown, and Hackett (1994) based on Bandura’s social cognitive theory (Bandura, 1986, 1997). Social cognitive theory investigated the interaction of three factors: (a) the environment, (b) personal factors, and (c) actual behavior. (Bandura, 1986) (See Figure 3). Based on the interaction between personal factors and contextual factors, the social cognitive career theory provides significant theoretical support to this study. The unique feature of SCT is the emphasis on social influence and its emphasis on external and internal social reinforcement.

SCCT emphasizes the proactive cognitive process of career development and career decision-making (Scharf, 2013). In other words, individual characteristics, including race, gender, and socioeconomic status, and contextual factors, such as cultural rules and values and family expectations, have a significant influence on a person's learning experiences which shape the career decisions (Cooc & Kim, 2021). Take the example of AAPIs, research highlighted their face and language identities work intersectionality to limit they choose certain majors (Kim,
Also, English learner students may think they do not qualify for some majors instead of considering them as possible future careers, such as some non-STEM fields requiring a certain level and fluency in English ability (Cooc & Kim, 2021).

The social cognitive career theory has three main concepts: self-efficacy, outcome expectations, and personal goals. Some studies have examined their research questions based on social cognitive career theory for a range of diverse cultural populations, which indicates future applications. Ann-Yi (2010) discovered that social cognitive career theory was the predictor of career decision-making for Asian American college students. The authors demonstrated that career decision self-efficacy mediated the relationship between the career commitment process and the Five-Factor personality model in Chinese graduate students (Jin et al., 2009).

Bandura (1986) defines self-efficacy as individuals’ perceived capacities to take necessary action to achieve performance. A person with low self-efficacy may avoid tough tasks or not persist in them. An individual with high self-efficacy is confident and comfortable completing challenging tasks. People’s beliefs may be shaped by contextual factors, including culture and environment. Researchers identified that self-efficacy beliefs are closer to career interests and choices than their ability (Brown et al., 2000).

According to the important role of self-efficacy in career development, it was significant to explore the factors that affect career decision self-efficacy (In, 2014). Career decision self-efficacy is described as one’s belief that he or she can complete the required tasks in the career decision-making process (Taylor & Betz, 1983). As mentioned before, contextual factors may change an individual’s beliefs, which include ages, settings, significant others, and so on. The social cognitive career theory serves as a strong framework to support the exploration of career decision-making among Asian international students under their unique context and cultural
Human Agency Theory

Social cognitive theory is “an agentic perspective towards human development, change, and adaption” (Bandura, 1986, 2001a, 2006). A human being is an agent to affect one’s life circumstances and intentionality of function (Bandura, 2006). Human agency is “the capacity to exercise control over the nature and quality of one’s life” (Bandura, 2001a, p. 1). There are four core properties of human agency: intentionality, forethought, self-reactiveness, and self-reflectiveness within the social cognitive theory. Bandura (2016) further explained each property: 1) the intentions include action plans and strategies to achieve goals. Most humans achieve their plans with other participating agents, which may reach collective intentionality. 2) Forethought is the extension of agency, which may be more than future-directed plans. In this form, behaviors are guided by visioning futures and expected outcomes, which may provide directions and meaning to one’s life. 3) Self-reactiveness means that agents are both planners and fore thinkers. The agency not only has the capacity to plan and take action but is also enabled to construct appropriate action plans to motivate and self-regulate. 4) Human being is a self-examiner of one’s functioning and can adjust actions and thoughts to pursue meanings, which is the core of the properties of human agency.

Career human agency is defined as “the human intention and human action to make things happen and to make things better toward optimal outcomes in vocational life and career construction” (Chen, 2015, p. 80). Guided by Bandura (2016), Chen summarized a rationale for Career human agency consisting of four dimensions: career intentionality, career forethought, career self-reactiveness, and career self-reflectiveness.

Hope-Action Theory
Hope-action theory (HAT) was developed by Niles, Yoon, and Amundson, which provided a competencies framework to address challenges and planning in careers (Niles et al., 2011). It consisted of five competencies: hope, self-reflection, self-clarity, visioning, goal setting/planning, and implementing/adapting. These competencies were adapted or founded from Bandura’s (2001) Human Agency Theory, Snyder’s (2002) Hope Theory, and Hall’s (1996) self-clarity and adaptability. HAT was framed from a positive psychology perspective, so the model was strength-based and integrated creative approaches. It also was action-oriented and applicable beyond career development (Yoon, 2020). HAT focused on the reciprocal relationships between the agent and the environment (Yoon et al., 2021), which supported the interaction between contextual factors (family & acculturation) and personal factors (Human agency & hope) in this study.

Individuals attending the HAT training program showed a hopeful career state, which is important for their long-term career visioning (Amundson et al., 2018). HAT, an emerging career theory, showed positive outcomes with various populations, including unemployed adults (Amundson et al., 2018), refugees (Yoon et al., 2019), international educated health professionals (Clarke et al., 2018), and college students (Yoon et al., 2015).

Summary

This section provided a discussion of the literature on the career development of Asian international students including Asian values, hope, human agency, acculturation, and career theories. Also, an overview of the Asian international students’ common cultural characteristics and values, and unique challenges. This study examined contextual factors and personal factors. This study adopts family and acculturation as the contextual factor to explore the career decision self-efficacy of Asian international students based on existing studies. Meanwhile, the researcher
explores the role of personal factors (human agency and hopeful career state) in this process. A conceptual model is proposed based on the existing literature and career needs of Asian international students (See Figure 4).
Chapter 3 Methodology

This chapter presented the methodology for this study, including research design, target population, instruments, research variables, procedures for data collection, and data analysis. The purpose of this study aimed to explore the effect of family influence on career decision self-efficacy through a mediating role of hopeful career state, as moderated by human agency among Asian international students while controlling acculturation. The various causal relationships under exploration were depicted in the conceptual research model (see Figure 4). A quantitative research method was adopted to explore the relationship between family influence and career decision self-efficacy, also a moderated mediation in the model (Hayes, 2017).

Figure 4
Conceptual Research Model

This study used a structural equation modeling (SEM) to assess the relationship between exogenous variables (family influence, human agency, and hopeful career state) and an endogenous variable (career decision self-efficacy) among Asian international students with controlling variable (acculturation). The proposed research questions were investigated in SEM
as follows:

Research Question 1: To what extent does family influence affect Asian international students’ career decision self-efficacy?

Research Question 2: Does the hopeful career state mediate the effects of family influence on Asian international students’ career decision self-efficacy?

Research Question 3: Does human agency moderate the relationship between family influence and hopeful career state?

Research Design

This study used a cross-sectional design and Structural Equation Modeling (SEM) to measure the relationship among variables, including family influence, human agency, hopeful career state, and career decision self-efficacy among Asian international students. The SEM is an inference technique used to analyze causal, direct, and indirect effects among the relationship relating to latent variables (Meyer et al., 2017; Peral, 2012). According to Kline (2016), SEM refers to a family of procedures instead of one single statistical technique.

This study is based on theory-based causal hypotheses to test the proposed model including observed variables and latent variables. Observed variables refer to the data, which is directly collected from participants and entered into a data file (Kline, 2016). They can be either categorical or continuous variables. Latent variables represent the hypothetical constructs to reflect the continuum, and all latent variables are continuous (Kline, 2016). For example, constructs about family influence, human agency, hopeful career state, and career decision self-efficacy are represented as latent variables in SEM, and instrument items of each construct are represented as observed variables in this study.

SEM is an advanced statistical method to calculate complex relationships among
hypothetical constructs with strong psychometric characteristics, such as good reliability and validity (Crockett, 2012; Kline, 2016). The theoretical models are used to explain the complexity. It can measure simultaneous direct and indirect pathways based on a theoretical-driven causal diagram, provide multiple indictors for model fit, and account for measurement error (Crockett, 2012). The SEM analysis includes five sequential steps in this study: model specification, model identification, model estimation, model testing, and model modification, according to Crockett (2012).

Model specification is the first and the most important step of SEM analysis. Researchers usually present their theoretical model with a conceptual model, which represents the variables of interest and expected relationships among them (Kline, 2016). Model identification helps the researcher to recognize if the statistical model is true to a particular theory in SEM, and the proposed model should be identified and be able to derive estimates of model parameters (Crockett, 2012; Kline, 2016). Model estimation adopts a fitting function, an iterative procedure to estimate the parameters of the conceptual model and minimize the differences between the hypothetical covariance matrix and the observed covariance matrix (Crockett, 2012; Powell, 2020). This study used Maximum Likelihood Fitting (ML) Function in Mplus software to perform the analysis.

Model testing typically adopts a two-step approach: measurement model and structural model. The measurement model is tested by Confirmatory Factor Analysis (CFA) to ensure the chosen observed variables measure the theoretical constructs. Researchers need to consider both overall and individual model fits, including global measures of model fit, absolute fit, comparative fit, and parsimonious fit. In this study, Chi-square, Comparative Fit Index (CFI), Root Mean Squared Error of Approximation (RMSEA), and Standardized Root Mean Square
Residual (SRMR) were used as model indicators. The structural model is to test the theoretical model with direct and indirect pathways between predictors and outcome variables in SEM (Powell, 2020). Model modification is an exploratory step to remove nonsignificant parameters from the model or add additional parameters based on previous theory and research to generate a better fit for the data (Crockett, 2012). The dependent variables refer to endogenous variables, and the independent variables are called exogenous variables in SEM. The proposed model for this study includes three exogenous variables: family influence, hopeful career state, and human agency, one endogenous variable: career decision self-efficacy, and one control variable: acculturation. The associations between the variables and instrument items are shown below in Table 1.

Variables

Exogenous Variables

Family influence. Family influence was a predictor variable that was used to measure the influence of one’s family origin on career decision-making by the Family Influence Scale (FIS). Higher scores indicated a higher level of family influence on career development.

Hopeful career state. Hopeful career state was a mediator variable that was measured by the Hopeful Career State (HCS). Higher scores correspond to higher levels of hope for a career.

Human agency. Human agency was a moderator variable that was measured by the Assessment of Human Agency (AHA). Higher scores correspond to a higher level of human agency.

Endogenous Variables

Career decision self-efficacy. Career decision self-efficacy is an outcome variable that was measured by Career Decision Self-Efficacy Short Form (CDSE-SF). Higher scores reflected
a higher level of career decision self-efficacy.

**Control variable**

**Acculturation.** Acculturation was a controlling variable to assess the level of acculturation in this study. It was measured by Acculturation Index (AI). Higher scores reflected higher levels of acculturation.

**Table 1**  
*Association Between Variables and Instrument Items*

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>INSTRUMENT ITEMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Influence</td>
<td>Item 1-20</td>
</tr>
<tr>
<td>Human Agency</td>
<td>Item 20-32</td>
</tr>
<tr>
<td>Hopeful Career State</td>
<td>Item 33-41</td>
</tr>
<tr>
<td>Career Decision Self-efficacy</td>
<td>Item 42-66</td>
</tr>
<tr>
<td>Acculturation</td>
<td>Item 67-87</td>
</tr>
</tbody>
</table>

**Participants**

Participants were international students who are originally from Asian countries and enrolled in undergraduate or graduate programs in the United States. Those students were eligible to participate in this study when they are 18 and older, currently living in the U.S., holding an F-1 or J-1 visa (student visa), and currently enrolled in U.S. universities for pursuing degree purposes, completing the survey while in the United States. Students who are U.S. citizens or residents, younger than 18, and not enrolled in a university were excluded from the study. The survey took approximately 15-20 minutes to complete. All participation was voluntary, and participants could withdraw from the survey at any time. Participants were voluntary to enter into a raffle to gain one of six $20 Amazon gift cards.
SEM techniques are built based on a large sample size (Kelloway, 1998). A sample size of 200 and more is considered adequate in SEM (Crockett, 2012; Kline, 2016). Convenience sampling was used to recruit participants via an online survey link. The study initially had 263 participants. Twenty-six participants were ineligible because they were born/raised in the United States. 30 participants with incomplete responses were removed. The final sample size of this study was 207 participants. Table 2 described the demographic information of the participants of this study. A total sample of 206 Asian international students was included in the data analysis after removing ineligible responses. 120 (58.5%) participants were female, 79 (38.2%) participants were male, and 3 participants (1.5%) were transgender. Participants were originally from China (n = 137, 66.2%), South Korean (n = 15, 5.8%), Japan (n = 13, 6.3%), India (n = 11, 5.3%), and Singapore (n = 7, 3.4%). Other countries and regions of origin were East Asian (Taiwan), Central Asia (Uzbekistan), Western Asia (Oman, Turkey), South Asia (Bangladesh, Nepal), and Southeast Asia (Indonesia, Malaysia, Myanmar, Vietnam, Thailand), North Asia (Russia). Academic status among Asian international participants were undergraduate students (n = 74, 35.8%), master’s students (n = 48, 23.2%), and doctoral students (n = 77, 37.2%).

The participants ranged in age from 19 to 42 years with a mean age of 25.57 (SD = 4.14). The participants’ length of residency ranged from 3 months to 144 months (M = 56.24, SD = 34.54). Most of the participants (n = 171, 82.6%) were on F-1 student visas, followed by J-1 visa (n = 27, 13%), M-1 visa (n=5, 2.4%), and other visas (n=4, 1.9%). Participants reported that they were affiliation with 65 higher education institutions across the United States. For the socioeconomic status of the birth family, 19 (9.2%) participants reported upper income, 56 (27.1%) participants reported upper-middle income, 92 (44.4%) participants were from middle-income families, 34 (16.4%) participants were from working income families, and only 5 (2.4%)
participants were from lower-income families. In terms of the post-graduation plan, 69 (33.3%) participants planned to work in the United less than 5 years, 114 (55.5%) participants planned to work in the United States for more than 5 years, and 16 (8%) participants reported either no plan or not sure yet.

**Table 2**

*Demographic Information of Participants (N = 207)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>19-24</td>
<td>76</td>
<td>36.7</td>
</tr>
<tr>
<td></td>
<td>24-29</td>
<td>86</td>
<td>41.4</td>
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<tr>
<td></td>
<td>29-34</td>
<td>36</td>
<td>17.5</td>
</tr>
<tr>
<td></td>
<td>34-39</td>
<td>7</td>
<td>3.4</td>
</tr>
<tr>
<td></td>
<td>39-44</td>
<td>2</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td>Male</td>
<td>79</td>
<td>38.5</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>120</td>
<td>58.5</td>
</tr>
<tr>
<td></td>
<td>Trans Male</td>
<td>2</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>Trans Female</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>Prefer not to say</td>
<td>3</td>
<td>1.5</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td>Asian</td>
<td>195</td>
<td>94.2</td>
</tr>
<tr>
<td></td>
<td>Native American or Alaska Native</td>
<td>2</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>White</td>
<td>8</td>
<td>3.9</td>
</tr>
<tr>
<td><strong>Race - Hispanic/Latino</strong></td>
<td>Yes</td>
<td>13</td>
<td>6.3</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>194</td>
<td>93.7</td>
</tr>
<tr>
<td><strong>Visa Status</strong></td>
<td>F-1 Visa</td>
<td>171</td>
<td>82.6</td>
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<tr>
<td></td>
<td>J-1 Visa</td>
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<tr>
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<td>M-1 Visa</td>
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<td>2.4</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>4</td>
<td>1.9</td>
</tr>
<tr>
<td><strong>Country of Origin</strong></td>
<td>Bangladesh</td>
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<td>1.9</td>
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<tr>
<td></td>
<td>China</td>
<td>137</td>
<td>66.2</td>
</tr>
<tr>
<td></td>
<td>India</td>
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<td>5.3</td>
</tr>
<tr>
<td></td>
<td>Indonesia</td>
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<td>0.5</td>
</tr>
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<td></td>
<td>Japan</td>
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<td>6.3</td>
</tr>
<tr>
<td></td>
<td>Malaysia</td>
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<td>0.5</td>
</tr>
<tr>
<td></td>
<td>Myanmar</td>
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<td>0.5</td>
</tr>
<tr>
<td></td>
<td>Nepal</td>
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<td>0.5</td>
</tr>
<tr>
<td></td>
<td>Oman</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>Country</td>
<td>Count</td>
<td>GPA</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>-------</td>
<td>-----</td>
<td></td>
</tr>
<tr>
<td>Russia</td>
<td>1</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>Singapore</td>
<td>7</td>
<td>3.4</td>
<td></td>
</tr>
<tr>
<td>South Korean</td>
<td>15</td>
<td>5.8</td>
<td></td>
</tr>
<tr>
<td>Taiwan</td>
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<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Thailand</td>
<td>1</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>Turkey</td>
<td>2</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Uzbekistan</td>
<td>2</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Vietnam</td>
<td>6</td>
<td>2.9</td>
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</table>

<table>
<thead>
<tr>
<th>Academic Status</th>
<th>Count</th>
<th>GPA</th>
</tr>
</thead>
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<td>Freshman</td>
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</tr>
<tr>
<td>Sophomore</td>
<td>14</td>
<td>6.8</td>
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<tr>
<td>Junior</td>
<td>16</td>
<td>7.7</td>
</tr>
<tr>
<td>Senior</td>
<td>16</td>
<td>7.7</td>
</tr>
<tr>
<td>5th year or above undergraduate</td>
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<td>9.7</td>
</tr>
<tr>
<td>Master’s student</td>
<td>48</td>
<td>23.2</td>
</tr>
<tr>
<td>Doctoral student</td>
<td>77</td>
<td>37.2</td>
</tr>
<tr>
<td>Other</td>
<td>8</td>
<td>3.9</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Post-graduation Plan to Work in the U.S.</th>
<th>Count</th>
<th>GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5 years</td>
<td>69</td>
<td>33.5</td>
</tr>
<tr>
<td>More than 5 years</td>
<td>114</td>
<td>55.3</td>
</tr>
<tr>
<td>Other</td>
<td>23</td>
<td>11.2</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>SES of Birth Family</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper income</td>
<td>19</td>
<td>9.2%</td>
</tr>
<tr>
<td>Upper-middle income</td>
<td>56</td>
<td>27.1%</td>
</tr>
<tr>
<td>Middle income</td>
<td>92</td>
<td>44.4%</td>
</tr>
<tr>
<td>Working income</td>
<td>34</td>
<td>16.4%</td>
</tr>
<tr>
<td>Lower income</td>
<td>5</td>
<td>2.4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Father’s Educational Level</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No school completed</td>
<td>1</td>
<td>0.5%</td>
</tr>
<tr>
<td>Elementary school</td>
<td>10</td>
<td>4.8%</td>
</tr>
<tr>
<td>Junior high school</td>
<td>12</td>
<td>5.8%</td>
</tr>
<tr>
<td>High school</td>
<td>21</td>
<td>10.1%</td>
</tr>
<tr>
<td>Some college</td>
<td>19</td>
<td>9.2%</td>
</tr>
<tr>
<td>Associate degree</td>
<td>11</td>
<td>5.3%</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>80</td>
<td>38.6%</td>
</tr>
<tr>
<td>Master’s degree</td>
<td>39</td>
<td>18.8%</td>
</tr>
<tr>
<td>Doctoral degree</td>
<td>12</td>
<td>5.8%</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mother’s Educational Level</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No school completed</td>
<td>3</td>
<td>1.4%</td>
</tr>
<tr>
<td>Elementary school</td>
<td>4</td>
<td>1.9%</td>
</tr>
<tr>
<td>Junior high school</td>
<td>15</td>
<td>7.2%</td>
</tr>
<tr>
<td>High school</td>
<td>20</td>
<td>9.7%</td>
</tr>
<tr>
<td>Some college</td>
<td>17</td>
<td>8.2%</td>
</tr>
<tr>
<td>Degree Level</td>
<td>Count</td>
<td>Percentage</td>
</tr>
<tr>
<td>---------------</td>
<td>-------</td>
<td>------------</td>
</tr>
<tr>
<td>Associate degree</td>
<td>21</td>
<td>10.1</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>85</td>
<td>41.1</td>
</tr>
<tr>
<td>Master’s degree</td>
<td>36</td>
<td>17.4</td>
</tr>
<tr>
<td>Doctoral degree</td>
<td>5</td>
<td>2.4</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>0.5</td>
</tr>
</tbody>
</table>

*Note.* The total number of each variable may be less than the sample size (N = 207) due to the missing responses of participants.

**Instruments**

The self-reported questionnaire consisted of a personal demographic form and five standardized measures: The *Family Influence Scale* (FIS; Fouad et al., 2010), the *Hopeful Career State Scale* (HCS; Yoon et al., 2017), the *Assessment of Human Agency* (AHA; Yoon, 2011), the *Acculturation Index* (AI; Ward & Kennedy, 1994), and the *Career Decision Self-Efficacy Scale Short-Form* (CDSE-SF; Betz et al., 1996). It was used to identify family influence, and career decision-making of Asian international students through various recruiting methods. All the instruments demonstrated good reliability and validity in existing research and literature.

**Demographic Form**

The demographic questionnaire was provided by the researcher to collect relevant demographic information from participants. The form included identifying questions: age, gender, country of origin, race/ethnicity, visa type, length of residency in the United States, university, academic status, socioeconomic status (SES) of the birth family, parents’ educational levels, and their occupations. A sample item for father’s educational level is: 1 = No school completed; 2 = Elementary school; 3 = Junior high school; 4 = High school; 5 = Some college; 6 = Associate degree; 7 = Bachelor’s degree; 8 = Master’s degree; 9 = Doctoral degree; 10 = Other.

**Family Influence Scale (FIS)**

The Family Influence Scale is a 22-item, 6-point Likert-type instrument (1 = strongly
disagree to 6 = strongly agree) to measure participants’ perception of how their family of origin influences career and work choices developed by Fouad and colleagues (2010). The FIS has four-factor subscales, including informational support, financial support, family expectations, and values/beliefs (Fouad et al., 2010, 2016). Each item of the subscales was generated based on previous literature related to the family influence on career development (Fouad et al., 2010). The original financial support subscale included five items (Fouad et al., 2010). Researchers compared the 3-item financial support scale and the 5-item financial support scale and found similar Cronbach’s coefficients with original FIS studies (Vaautero et al., 2021). Both the 22-item FIS study (Mark et al., 2018) and the 20-item FIS study (Fouad et al., 2016) demonstrated good convergent validity. The 3-item financial subscale and 20-item FIS were used for further analysis in this study.

The informational support subscale assesses the information that was provided by the family to support participants, including sharing information across different career choices. A sample item for this subscale is “My family shared information with me about how to obtain a job.” The financial support subscale assesses financial support for career choices. A sample item for financial support is “Because my family supports me financially, I can focus on my career development.” The family expectations assess family expectations for career choices based on cultural background. A sample item is described as “My family expects that my choice of occupation will reflect their wishes.” The values/beliefs subscale discloses family beliefs on career choices. A sample item reflects this subscale “My family expects my career to match our family’s values/beliefs.” The total score is calculated in statistics.

The FIS demonstrated appropriate reliability and convergent validity. A split-half approach was used to test the internal consistency among a college sample. The Cronbach’s α
ranged from .75 to .89 for college students, which indicated good reliability (Fouad et al., 2010; Kim et al., 2016). Other researchers reported the alpha coefficients ranged from .82 to .92 among young adults (Wright et al., 2020). The convergent validity of the FIS was demonstrated through a high-level correlation between the subscales and similar constructs, including the Parental Attachment Questionnaire, Individualism-Collectivism Scale, Career Decision Self-Efficacy Scale, and Satisfaction with Life Scale (Fouad et al., 2010). The results of different studies supported the cultural validity of FIS when applied to the Asian populations, such as South Korean (Kim et al., 2015) and Indians (Fouad et al., 2016). Previous literature found that information support was positively associated with career decision self-efficacy, and family expectation was negatively associated with career decision self-efficacy (Fouad et al., 2010; Kim et al., 2016). Therefore, the researcher used all four subscales to represent family influence in data analysis. The Cronbach’s alpha for the FIS in the present study was .79, which demonstrated appropriate reliability.

**The Assessment of Human Agency (AHA)**

The Assessment of Human Agency is a 12-item, 4-point Likert scale (1 = never, 2 = seldom, 3 = often, 4 =almost always) to measure an individual’s level of human agency using in individual career development and employee selection process (Yoon, 2011). This is the first assessment created to test human agency using four constructs from Bandura’s (2001) concept of human agency.

The AHA has four subscales: internationality, forethought, self-reactiveness, and self-reflectiveness. There are sample items from each subscale: “I have specific goals in mind when I complete tasks”, “I imagine various opportunities that might be open to me in five years”, “I monitor my plans and actions so my goals will be met”, and “I think about why I am passionate
about certain things”.

The Cronbach’s alpha coefficient ranged from .88 to .90, and the sound convergent validity was demonstrated through moderate/high correlation with similar constructs (Yoon, 2011). The AHA significantly predicted CDSE by controlling age and vocational identity, which verified criterion validity (Yoon, 2011). The internal consistency reliability for the human agency for the participants in the current study was .83.

**Hopeful Career State Scale (HCS)**

Hopeful Career State scale is a 9-item, 4-point Likert scale (1 = definitely false, 2 = somewhat false, 3 = somewhat true, 4 = definitely true) to assess the current degree of hopefulness toward careers (Yoon et al., 2017). Sample items are “My current job provides resources for the next steps in my career journey”, “What I am doing now is helping me to build skills and experience for the future”, and “I am hopeful that what I am doing now will help me in my career journey”. The high score reflected more engagement at work (Yoon et al., 2019).

Researchers reported sufficient internal consistency of the Hopeful Career State Scale among Arab-speaking refugees in Canada (Cronbach’s alpha = .958) and hotel front office employees in the United States (Cronbach’s alpha = .932, Bast, 2019; Yoon et al., 2019). The internal consistency reliability for the entire scale for Asian international students in this study was .89.

**Career Decision Self-Efficacy Short-Form Scale (CDSE-SF)**

The short form of the Career Decision Self-Efficacy Scale is a 25-item, 5-point Likert scale (1 = no confidence at all, 2 = very little confidence, 3 = moderate confidence, 4 = much confidence, 5 = complete confidence) to measure the self-efficacy in Asian international students’ career decision-making process (Betz et al., 1996). It is developed from an original
form of the 50-item Career Decision Self-Efficacy Scale (CDMSE, Taylor & Betz, 1983), which measures an individual’s self-efficacy in successfully completing tasks and making career decisions.

The scale contains 5 subscales: accurate self-appraisal scale, gathering occupational information scale, goal selection scale, making plans for the future scale, and a problem-solving scale (Betz et al., 1996). The sample items include “Make a plan of your goals for the next five years,” “Summarize the skills you have developed in the jobs you have held”, and “How often in the last two weeks have you asked for a referral to someone who might have helpful information or advice about your career or industry.”

The internal consistency reliability of five subscales ranged from .73 to .83 and the Cronbach’s alpha of the CDSES-SF was .94 in college students, which represented sufficient reliability (Betz, et al., 1996). Betz et al. (1996) also demonstrated considerable validity. Other researchers reported that Cronbach’s α ranged from .78 to .87 in a large college student sample (N = 1832; Betz et al., 2005). The internal consistency for the CDSES-SF was .92, indicating good reliability.

Acculturation Index (AI)

Acculturation Index is a 7-point Likert scale (from 1 = not at all similar to 7 = very similar), used to measure the level of acculturation (Ward & Kennedy, 1994) based on Berry et al.’s (1987) model to measure both acculturation to home culture and acculturation to host culture. It has two independent dimensions of acculturation: co-national identification and host national identification, and each dimension consists of 21 cognitive and behavioral items. This study only uses host national identification to measure Asian international students’ acculturation to American culture. A low score represents low level of acculturation, and a high score reflects
high acculturation in this scale. A sample question is “Are you experiences and behaviors similar to Americans?” The sample options are clothing, food, pace of life, and communication style. Previous studies reported good internal reliability. The international consistency of host national identification is .96 in Ward and Kennedy’s (1994) initial study. The Cronbach’s alphas ranging from .87 to .95 for the Acculturation to the Host Culture Subscale (Jennings et al., 2006; Wang & Mallinckrodt, 2006; Ward & Rana-Deuba, 1999). The Cronbach’s alpha was .92 in the current study, indicating good internal consistency.

Procedures

This study aimed to examine the role of human agency and hopeful career state in the relationship between family influence and career decision self-efficacy among Asian international students, as well as a moderated mediation effect. This study got approval from the University Institutional Review Board (IRB) for Human Subjects Research Committee of the Pennsylvania State University. Upon IRB approval, a convenience sampling technique was used, and participants were asked to share this study with their networks.

The recruitment letter was sent to international students’ offices at higher education institutions and international students’ organizations across the United States through emails. Multiple social media platforms were used to recruit participants, including LinkedIn, Facebook, and WeChat. For example, “I am writing to invite you (Asian international students) to participate in my dissertation study about the role of human agency and hope in the relationship between family influence and career decisions making among Asian international students. This is an anonymous survey, which takes approximately 15 minutes to complete. Participants will have the opportunity to enter to win one of six $20 Amazon gift cards. This study is approved by the Institutional Review Board at the Pennsylvania State University #STUDY00019467. You are
eligible if you are a student older than 18, from an Asian country, holding an F-1 or J-1 visa, and currently studying at a U.S. higher education institution.”

Data Collection

Data were collected from both Asian international undergraduate and graduate students through the questionnaire from March 2022 to May 2022. The effect of family influence on career decision self-efficacy of Asian international students through hopeful career state as moderated by the human agency was explored in this study. The demographic form and five standardized measurements were available online via Qualtrics. Participants read the informed consent form, potential benefits, and risks before confirming their voluntary participation before answering the questionnaire. Participants filled out an online survey with a Demographic form, the Family influence scale (FIS), the Hopeful Career State Scale (HCS), the Assessment of Human Agency (AHA), Acculturation Index (AI), and the Career Decision Self-Efficacy Scale (CDSE-SF). Permission for using the instruments was secured from the researchers who created the scales. The survey reflected how family influence had impacted the career decision-making of Asian international students. After receiving the response, the researcher reviewed the responses and removed ineligible responses.

Data Analysis

The current study measured the effect of family influence on career decision self-efficacy with the mediating role of hopeful career state as moderated by human agency controlling acculturation. As mentioned before, a quantitative method approach was used for data collection and analysis. The quantitative data analysis includes descriptive statistics, reliability analysis, multiple regression, structural equation modeling, and examining model fit. The IBM Statistical Package for the Social Sciences (SPSS) version 27.0 and Mplus 8.0 software was used to analyze
Preliminary Data Analysis

The missing data and outliers were examined first. The researcher used SPSS to check for threats of linearity, normality, homoscedasticity, and multicollinearity. A descriptive analysis was used to perform demographic variables study variables. The demographic variables included age, gender, country of origin, race/ethnicity, visa type, length of residency in the United States, the location of the university, academic year, the degree pursuing, socioeconomic status (SES) of the birth family, parents’ educational levels, and occupations. The main variables were the family influence, human agency, hopeful career state, and career decision self-efficacy.

Descriptive Statistics

This study investigated a model integrating exogenous variables family influence, hopeful career state, and human agency with an endogenous variable, career decision self-efficacy. The descriptive statistics of each measurement were calculated in Table 4-1.

Table 3

Descriptive Statistics for Variables

<table>
<thead>
<tr>
<th>Variable Type</th>
<th>M</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
<th>skewness</th>
<th>kurtosis</th>
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</thead>
<tbody>
<tr>
<td>Family Influence</td>
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<td>.54</td>
<td>1.40</td>
<td>4.60</td>
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<td>.521</td>
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<td>Human Agency</td>
<td>2.99</td>
<td>.45</td>
<td>1.75</td>
<td>4.00</td>
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<td>-.197</td>
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<td>Hopeful Career State</td>
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<td>.53</td>
<td>1.78</td>
<td>4.00</td>
<td>-.320</td>
<td>-.874</td>
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<tr>
<td>Career Decision Self-efficacy</td>
<td>3.55</td>
<td>.57</td>
<td>2.16</td>
<td>5.00</td>
<td>.033</td>
<td>-.270</td>
</tr>
</tbody>
</table>

Note. N = 206
Notea: Standard error of skewness = .169
Noteb: Satndard error of kurtosis = .337
**Outliers.** The absolute value of a z scores exceeding 3.29 indicates a univariate outlier for continuous variables (Tabachnick & Fidell, 2019). Univariate Outliers can be tested by the inspection of the frequency distribution or box plot for each variable (Meyers et al, 2016). Z-scores of main continuous variables (family influence, human agency, hopeful career state, career decision self-efficacy, acculturation) were calculated to check the univariate outliers. A univariate outlier was found for the mean score of family influence (#107 z-score = -3.74). The Mahalanobis distances is a more objective way to assess the multivariate outliers (Tabachnick & Fidell, 2019). A Chi-square distribution with a strict p-value of .001 is used to compare each case (Meyers et al., 2016). The same multivariate outlier was found (#107 p = .0005). Examination of response sets revealed that the patterned responses of case 107 caused the extreme values. Therefore, the researcher deleted case 107 for further analysis.

**Skewness and kurtosis.** The skewness and kurtosis of the main variables were examined (See Table 4-1). According to Kline (2016)’s criteria, variables with an absolute value smaller than 1 for skewness or than 10 are considered a mild non-normal distribution, and variables with an absolute value greater than 3 for skewness or than 20 are considered extreme value and problematic. The family influence scale had a skewness of -.164 and kurtosis of .521. The assessment of human agency had a skewness of .323 and kurtosis of -.197. The hopeful career state scale had a skewness of -.320 and a kurtosis of -.874. The career decision self-efficacy short form had a skewness of .033 and kurtosis of -.270. The distribution of all scales presented an acceptable range of normality.

**Correlation among variables.** The correlation analysis was conducted to describe the association among all variables. Table 4 demonstrated the results of Pearson correlation among all variables. Career decision self-efficacy short form was moderately correlated with the hopeful
career state scale \((r = .53, p < .01)\) and the assessment of human agency \((r = .62, p < .01)\). Family influence scale was weakly correlated with the assessment of human agency \((r = .18, p < .05)\), and weakly correlated with hopeful career state scale \((r = .20, p < .01)\). The assessment of human agency was moderately associated with the hopeful career state scale \((r = .57, p < .01)\).

**Table 4**

*Correlations for Each Variable*

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Family Influence</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Human Agency</td>
<td>.184*</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Hopeful Career State</td>
<td>.198**</td>
<td>.573**</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>4. Career Decision Self-efficacy</td>
<td>.072</td>
<td>.617**</td>
<td>.529**</td>
<td>1.000</td>
</tr>
</tbody>
</table>

*Note.* *p* < 0.05, **p** < 0.01

**Main Data Analysis**

The IBM Statistical Package for the Social Sciences (SPSS) version 27.0 was used to perform a descriptive analysis of frequency and data distribution to test normality, linearity, homoscedasticity, and multicollinearity. The present study used a structural equation modeling to investigate the direct effects and indirect effects of family influence on career decision self-efficacy through human agency and hopeful career state controlling acculturation. Usually, Structural Equation Modeling (SEM) is used to test the analysis of combined moderation and mediation (Sardeshmukh & Vandenberg, 2017). SEM is a two-step process starting with CFA to test the goodness of fit of the measurement model and estimating the hypothesized theoretical model (Crockett, 2012). The CFA estimation adopted a maximum likelihood method. The goodness of fit was evaluated by various indicators: (1) the Chi-square test with its degree of
freedom and p-value; A nonsignificant chi-square indicates a good fit, however, it is biased with a large sample size (Kim et al., 2016); (2) Bentler Comparative Fit Index (CFI; Value greater than .90 indicates a good fit; Hu & Bentler, 1990); (3) the Root Mean Square Error of Approximation (RMSEA; Value less than .08 suggest a good fit; Steiger, 1990); (4) the Standardized Root Mean Square Residual (SRMR; Value of .10 or less considers a good fit; Kline, 2016).

Item parceling is a technique to improve the model fit and quality of indicators in SEM (Wu & Wen, 2011). Parceling is a method that aggregating items into one or more groups (parcels) as the latent construct (Kishton & Widaman, 1994; Matsunaga, 2008). The current study used item parceling to improve the quality of indicators since limited participants were recruitment for 87 individual items. Two alternative methods are commonly used for item parceling. The first method of parceling item is unidimensional parcels, the construction of internally consistent (Kishton & Widaman, 1994), the family influence scale and hopeful career state adopted this method. The second method for item parceling is construction of domain representative parcels (Kishton & Widaman, 1994). In other word, the family influence scale, the assessment of human agency, and the career decision self-efficacy short form were parceled based on their subscales.

Confirmatory factor analysis and full structure equation modeling were performed within the SEM framework via Mplus 8.0. The SEM analysis followed five steps: model specification, model identification, model estimation, model testing, and model modification. This study examined both individual and overall model fit via multiple model fit indicators, such as RMSEA, CFI, and SRMR. After the analysis, the results were reported by following the practice recommendations for SEM.

Summary

This chapter provided the purpose of this study and presented the research questions that
need to be answered. It detailed research design, target population, recruitment procedure, variables, instruments, and data analysis. A personal demographic form and five existing standardized measures were used to measure key variables: The *Family Influence Scale* (FIS; Fouad et al., 2010), the *Hopeful Career State Scale* (HCS; Yoon et al., 2017), the *Assessment of Human Agency* (AHA; Yoon, 2011), *Acculturation Index* (AI; Ward & Kennedy, 1994), and the *Career Decision Self-Efficacy Scale Short-Form* (CDSE-SF; Betz et al., 1996). The quantitative data analysis calculated descriptive statistics, normality test, model fit, confirmatory factor analysis, and structural equation modeling.
Chapter 4 Results

The purpose of this study was to explore the effect of family influence on career decision self-efficacy among Asian international students with hopeful career state as a mediator and human agency as a moderator. This chapter presented the results of the preliminary analysis, FIS confirmatory factor analysis, and structural equation modeling to answer the following research questions:

Research Question 1: To what extent does family influence affect Asian international students’ career decision self-efficacy?

Research Question 2: Does the hopeful career state mediate the effects of family influence on Asian international students’ career decision self-efficacy?

Research Question 3: Does human agency moderate the relationship between family influence and hopeful career state?

Preliminary Analysis

Data Screening

The raw data was downloaded from the online platform Qualtrics and analyzed in SPSS 27.0. The respondents needed to meet the criteria: a) international student who is originally from Asian countries, b) 18 years or older, c) currently enrolled in a U.S. university for pursuing a degree purpose, d) holding a student visa (i.e., F-1, J-1, etc.) in a U.S. higher education institute, e) completing the survey while in the United States. The researcher removed 26 participants whose responses were not from Asian international students (U.S. citizens). Also, thirty participants who answered less than 50% of the survey questions were removed. As a result, A total of 207 participants were used in the data analysis. Only 129 of 207 participants completed the Acculturation Index (AI) scale missing, which may be caused by response fatigue. Therefore,
the researcher decided not to use the acculturation variable for the main data analysis.

**Missing Data**

The Missing Value Analysis (MVA) was conducted to examine the pattern of missing values. There were 379 out of 13,283 missing responses for the four instruments, including family influence, human agency, hopeful career state, and career decision self-efficacy. These missing values account for 2.77% of the dataset with four variable instruments. The missing data mechanism was examined to decide the way to handle missing data via Little’s Missing Completely at Random (MCAR) test in SPSS. The result of Little’s MCAR indicated that the data were not missing completely at random: Chi-Square (df = 2490) = 2771.583, p < .05.

There are traditional methods and modern approaches used to deal with missing data. Traditional procedures either deleted missing cases or adopt single imputation approaches to fill out the missing values (Meyers et al., 2016). The model method focuses on maximum likelihood estimation procedures such as expectation maximization (EM) and multiple imputation procedures (Meyers et al., 2016). Researchers get a consensus that model methods to handle missing data is favorable (Garham, 2012; Kline, 2016; Meyers et al., 2016). The multiple imputation was developed by Rubin (2004) to deal with missing data, which was highly recommended when the data is not MCAR (Tabachnick & Fidell, 2019). This study used the multiple imputation method to handle missing data in SPSS 27.0. After imputation, the researcher compared imputed cases with cases using only completed data through independent samples t-test in SPSS. The t-test results (p > .05) showed no differences between “completed” data versus “imputed data”.

**Assumption Testing**

SEM analysis is a correlational research technique, which is also influenced by
measurement instruments, outliers, and nonnormality (Crockett, 2012). So, this study checked outliers, normality, linearity, and homoscedasticity before running an SEM analysis.

**Normality.** The univariate normality was first tested by using Shapiro-Wilk’s test (Meyers et al., 2016). The results showed that career decision self-efficacy was a normal distribution. Second, the researcher evaluated the skewness and kurtosis of the family influence scale, the assessment of human agency, and the hopeful career state (See Table 4). The skewness and kurtosis ranged from -.87 to .52, which were considered acceptable non-normal distributions based on Kline’s (2016) general guideline. Therefore, further analysis could be conducted based on these variables.

**Linearity.** The assumption of linearity was examined by linear regression analyses between each predictor variable and outcome variable, the scatterplots for each pair of the predictor variable, and the outcome variable. A review of the scatterplot (Figure 5) and Pearson coefficient demonstrated that human agency and hopeful career state had a negative linear relationship with career decision self-efficacy. However, the family influence did not demonstrate a linear relationship with career decision self-efficacy. The researcher decided to conduct this analysis in SEM because SEM is fairly robust in terms of violations to linearity.

**Figure 5**

*Scatterplot for Each Pair of Predictor Variable and Outcome Variable*
**Homoscedasticity.** The assumption of homoscedasticity represented that outcome variables have equal variability across a range of predicted variables (Hair et al., 2010). Levene’s Test for Equality of variance was used to test homoscedasticity. The Levene statistics were not statistically significant for family influence ($p = .053$), human agency ($p = .168$), hopeful career state ($p = .121$). The results indicated that there was an equal variance of career decision self-efficacy across all range of predictor variables, family influence, human agency, and hopeful career state. Also, a scatterplot (Figure 6) of standardized residuals and standardized predicted values for the outcome variable and predictor variables were used to test homoscedasticity. A visual inspection of the scatterplots demonstrated acceptable homoscedasticity.

**Figure 6**

*Scatterplot for Assumption of Homoscedasticity*
Multicollinearity. The Person correlations, Tolerance, and Variable Inflation Factors (VIF) were used to evaluate multicollinearity among predictor variables. The multicollinearity is considered if the correlation coefficient is equal to or greater than .90 (Tabachnick & Fidell, 2019). No correlation coefficient of predictor variables higher than .62 (human agency and hopeful career state). A cutoff value for Tolerance below .01 and a cutoff value for VIF above 10 are considered multicollinearity (Tabachnick & Fidell, 2019). The Tolerance values of predictor variables ranged from .66 to .95. The VIF values of predictor variables ranged from 1.05 to 1.51. There was no concern about the violation of multicollinearity.

FIS Confirmatory Factor Analysis (CFA)

The family influence scale (FIS) has been used for Americans (Fouad et al., 2010, 2016) and Asian populations (Fouad et al., 2016; Kim et al., 2016). Before testing the measurement model, a CFA was conducted to examine the construct validity of the family influence scale for a sample of Asian international students. The four-factor structure of the FIS has been supported in previous studies (Fouad et al., 2010, 2016; Kim et al., 2016; Tate et al., 2014), only CFA was
tested in the current study. The CFA analysis showed a poor model fit: $\chi^2(164) = 511.260$, $p < .001$, CFI = .78, SRMR = .010, and RMSEA = .010. Table 5 displayed the results of CFA, demonstrating moderate to strong factor loading to the four-factor construct except for FIS item 1 and item 18. The item 1 loading onto informational support and the item 18 loading onto family expectation had the lowest estimates, $r = 0.30$ and $r = 0.34$. Those two items were considered for removal if this change did not affect the theoretical model (Knekta et al., 2019).

The first item, “My family shared information with me about how to obtain a job”, and the eighteenth item “My family expects that I consider my religion/spirituality when making career decisions” were problematic loading in this analysis. For item 1, Asian international students were far from their homes, and this item was also affected by the knowledge of family about the U.S job market. This item was not applied to Asian international students in the U.S. context. There were other seven items that were measured in the information support. For item 18, religion/spirituality has different weights in Asian countries. For example, China is an atheist country, and over half of the participants were from China in this study. All participants were from 17 countries and regions in Asia. So, the religion/spirituality value was also affected by other factors. There were also two other items measuring family values/beliefs. Therefore, the statistical rationale for removing items 1 and 18 was consistent with theoretical consideration.

After removing two low factor loading items and covarying the error terms, results showed a minimally acceptable fit to the data: $\chi^2(124) = 304.222$, $p < .001$, CFI = .87, SRMR = .09, and RMSEA = .08. The result also indicated that an item parceling method was appropriate to improve the model fit in the measurement model. With the large number of items in SEM, there are many parameters were estimated, which increased the amount of measurement error (Kishton & Widaman, 1994; Matsunaga, 2008). Item parceling divided a scale into a subset
of items to reduce the required sample and obtain a stable solution (Little et al., 2002; Matsunaga, 2008).

**Table 5**

*Model Summary for the CFA of the FIS*

<table>
<thead>
<tr>
<th>Information support</th>
<th>Standardized Estimates</th>
<th>Standard Error</th>
<th>Est/S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIS Item 1</td>
<td>0.30***</td>
<td>0.07</td>
<td>4.35</td>
</tr>
<tr>
<td>FIS Item 2</td>
<td>0.58***</td>
<td>0.05</td>
<td>10.66</td>
</tr>
<tr>
<td>FIS Item 3</td>
<td>0.73***</td>
<td>0.04</td>
<td>17.21</td>
</tr>
<tr>
<td>FIS Item 4</td>
<td>0.56***</td>
<td>0.06</td>
<td>9.86</td>
</tr>
<tr>
<td>FIS Item 5</td>
<td>0.63***</td>
<td>0.05</td>
<td>12.23</td>
</tr>
<tr>
<td>FIS Item 6</td>
<td>0.65***</td>
<td>0.05</td>
<td>13.40</td>
</tr>
<tr>
<td>FIS Item 7</td>
<td>0.60***</td>
<td>0.05</td>
<td>11.37</td>
</tr>
<tr>
<td>FIS Item 8</td>
<td>0.69***</td>
<td>0.05</td>
<td>15.04</td>
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<table>
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<tr>
<th>Financial support</th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>FIS Item 9</td>
<td>0.84***</td>
<td>0.04</td>
<td>24.11</td>
</tr>
<tr>
<td>FIS Item 10</td>
<td>0.78***</td>
<td>0.04</td>
<td>21.01</td>
</tr>
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<td>FIS Item 11</td>
<td>0.79***</td>
<td>0.04</td>
<td>21.27</td>
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<table>
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<th>Family Expectation</th>
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<td>FIS Item 12</td>
<td>0.69***</td>
<td>0.04</td>
<td>16.03</td>
</tr>
<tr>
<td>FIS Item 13</td>
<td>0.73***</td>
<td>0.04</td>
<td>18.22</td>
</tr>
<tr>
<td>FIS Item 14</td>
<td>0.81***</td>
<td>0.03</td>
<td>24.25</td>
</tr>
<tr>
<td>FIS Item 15</td>
<td>0.68***</td>
<td>0.05</td>
<td>15.01</td>
</tr>
<tr>
<td>FIS Item 16</td>
<td>0.57***</td>
<td>0.05</td>
<td>10.52</td>
</tr>
<tr>
<td>FIS Item 17</td>
<td>0.42***</td>
<td>0.06</td>
<td>6.59</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Values/Beliefs</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>FIS Item 18</td>
<td>0.34***</td>
<td>0.07</td>
<td>4.67</td>
</tr>
<tr>
<td>FIS Item 19</td>
<td>0.83***</td>
<td>0.05</td>
<td>16.61</td>
</tr>
<tr>
<td>FIS Item 20</td>
<td>0.65***</td>
<td>0.05</td>
<td>11.88</td>
</tr>
</tbody>
</table>
Structural Equation Modeling

Structural equation modeling (SEM) is usually used to examine the direct and indirect effects between observed variables and latent variables. SEM was used in this study to answer current research questions: (1) Does the hopeful career state mediate the effects of family influence on Asian international students’ career decision self-efficacy? (2) Does human agency moderate the mediating effect of hopeful career state between family influence and hopeful career state?

Measurement Model

As mentioned before, item parceling (Matsunaga, 2008) was used to reduce the problems caused by instruments with many items. For FIS, the researcher used the same procedures in previous studies with the same scales (Kim et al., 2016; Vautero et al., 2021). Both family financial support and family values/beliefs in FIS contained 3 items; each item was used as an observed indicator. Family information support and family expectation were represented by two parcels of 3-4 items each by conducting an exploratory analysis and parceling items based on the magnitude of factor loadings (Little et al., 2002; Matsunaga, 2008). Similarly, HCS was represented by three parcels of 3 items according to the factor loading. For AHA, the parcels were created based on 4 subscales of the AHA (Yoon, 2011), which were intentionality (3 items, $\alpha = 0.59$), forethought (3 item, $\alpha = 0.70$), self-reactiveness (3 items, $\alpha = 0.75$), self-reflective (3 items, $\alpha = 0.68$). For CDSE-SF, the parcels were grouped according to the five subscales of the CDSE-SF (Betz & Tayler, 1996), which were gathering occupational information (5 items, $\alpha = 0.84$), goal selection (5 items, $\alpha = 0.85$), making plans for the future (5 items, $\alpha = 0.74$), problem-solving (5 items, $\alpha = 0.74$), and self-appraisal (5 items, $\alpha = 0.82$).

A CFA was conducted after parceling items, and a maximum likelihood estimation was
used. The 7-factor (family information support, family financial support, family expectation, family values/beliefs, human agency, hopeful career state, and career decision self-efficacy) demonstrated an appropriate fit: $\chi^2(168) = 304.101$, $p < .001$, CFI = .92, SRMR = .05, and RMSEA = .07. Figure 7 displays the results of CFA. The examination of the covariance matrix showed a few modification indices (MI) among observed variables between error items could be covaried to improve the model fit.

**Model Modification**

Further evaluation revealed three potential correlations of the error term associating HCS’s parcel 1 with HCS’s parcel 3 and linking CDSE-SF occupational information with CDSE-SF making plans for future and CDSE-SF problem-solving. Covarying the error term is appropriate when there is a reasonable theoretical explanation (Ullman, 2001). The researcher covaried error items in Figure 8. For error items of CDSE-SF occupational information, making plan for future, and problem-solving, they all measured career decision self-efficacy and correlated with each other in CDSE-SF construct. So, it was appropriate to covary these error terms. Likewise, for both parcel 1 and parcel 3 of HCS, they measured hopeful career state construct. Therefore, the researcher correlated these error terms and made a modification to the measurement model. The adjusted model demonstrated a good fit for the data: $\chi^2(165) = 307.741$, $p < .001$, CFI = .94, SRMR = .05, and RMSEA = .07.
Figure 7

CFA of the Measurement Model
Figure 8

CFA of the Modified Measurement Model
**Primary Structural Model**

The hypothesized model was tested using structural equation modeling with Mplus 8.0 (Muthén & Muthén, 2017) in Figure 9. The hypotheses for research questions 1 and 2 were that family influence would predict career decision self-efficacy and hopeful career state would mediate the indirect effects between family influence on career decision self-efficacy among Asian international students. To test these hypotheses, the exogenous variable family influence (information support, financial support, family expectation, values/beliefs), the mediator hopeful career state, and the endogenous variable were placed in a structural equation modeling (Figure 9). Table 6 displayed the direct and indirect effects of the structural mediation model, which indicated a $\chi^2(101) = 181.636, p < .001, \text{CFI} = .96, \text{SRMR} = .05, \text{and RMSEA} = .06$. Results showed that only financial support was negatively associated with career decision self-efficacy. The direct effect of financial support on career decision self-efficacy ($\beta = -.25, p < .01$) and the indirect effect of financial support on career decision self-efficacy ($\beta = .34, p < .001$) were statistically significant, supporting a partial mediation effect. The total effect of information support on career decision self-efficacy via hopeful career state ($\beta = .19, p < .05$) was statistically significant. The model explained 28% of the variance in hopeful career state ($R^2 = .28$) and 42% of the variance in career decision self-efficacy ($R^2 = .42$), revealing a large effect size (Cohen, 2013).

**Table 6**

*Standardized Direct and Indirect Effect of the Primary Structural Mediation Model*

<table>
<thead>
<tr>
<th>Path</th>
<th>Direct effect</th>
<th>Indirect effect</th>
<th>Total effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information support ---&gt;CDSE-SF</td>
<td>.13</td>
<td>.06</td>
<td>.19*</td>
</tr>
<tr>
<td>Financial support ---&gt;CDSE-SF</td>
<td>-.25**</td>
<td>.34***</td>
<td>.09</td>
</tr>
</tbody>
</table>
The hypothesis for research question 3 was that human agency moderates the indirect effect between family influence and hopeful career state mediating by hopeful career state. After examining the mediating role of hopeful career state between family influence and career decision self-efficacy, the researcher found the mediation effect only existed in financial support. So, the exogenous variables financial support, the mediator hopeful career state, the moderator human agency, and endogenous variable career decision self-efficacy were placed in a structural equation modeling to test hypothesized moderated mediation model (See Figure 10).

The results indicated that the moderating effect (the interaction between financial support
and human agency) on hopeful career state was negatively significant ($\beta = -0.23, p < 0.05$). The hypothesized moderated mediation effect was supported. While family financial support predicted the levels of hopeful career state, this relationship was stronger for low levels of human agency and weaker for high levels of human agency. As shown in Table 7, the indirect effect of financial support on career decision self-efficacy via hopeful career state was stronger for individuals with low levels of human agency ($\beta = 0.59, p = 0.00$) than for those with high levels of human agency ($\beta = 0.14, p = 0.19$).

**Figure 10**

*Primary Moderated Mediation Model*

**Table 7**

*Moderated Mediation Effect*

<table>
<thead>
<tr>
<th>Path</th>
<th>$\beta$</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial support ---&gt;CDSE-SF</td>
<td>-0.25</td>
<td>0.004</td>
</tr>
<tr>
<td>Financial support ---&gt;HCS ---&gt;CDSE-SF</td>
<td>0.34</td>
<td>0.000</td>
</tr>
<tr>
<td>Inter AHA: Financial support ---&gt;HCS ---&gt;CDSE-SF</td>
<td>-0.23</td>
<td>0.029</td>
</tr>
</tbody>
</table>
Low AHA: Financial support --->HCS --->CDSE-SF  .59  .000
High AHA: Financial support --->HCS --->CDSE-SF  .14  .189

**Alternative Model**

Considering the complexity of the hypothesized model and cross-section data of this study, alternative models were recommended to test (Weston & Gore, 2006). The initial goal of this study was to understand the family influence on career development via hopeful career state, moderated by human agency. The researcher tested an alternative, theoretically plausible model in this study because of the important impact of human agency and relatively new measures (the assessment of human agency & hopeful career state). The researcher aimed to deeply explore the different aspects of the relationships among these variables. The theoretically grounded model was generated based on social cognitive career theory (Lent et al., 1994), human agency theory (Bandura, 2006), and previous literature (i.e., Kim et al., 2016). The alternative model of the effects of family influence as a contextual factor and human agency as a personal factor on career decision self-efficacy via hopeful career state. The alternative mediation model (Figure 11) indicated a good fit for the data: $\chi^2(165) = 307.741$, $p < .001$, CFI = .94, SRMR = .05, and RMSEA = .07.

Table 8 displayed the direct and indirect effects of the alternative model. The results showed that the direct effect of financial support on career decision self-efficacy ($\beta = -.17$, $p < .01$) and the indirect effect of financial support on career decision self-efficacy ($\beta = .11$, $p < .001$) were statistically significant, supporting a partial mediation effect. However, the associations were very weak. Also, the direct effect of human agency on career decision self-efficacy ($\beta = .57$, $p < .001$) and the indirect effect of human agency on career decision self-efficacy...
efficacy ($\beta = .18$, $p < .001$) were statistically significant, supporting a partial mediation effect. In other words, hopeful career state mediated the relationship between family financial support and career decision self-efficacy. Hopeful career state strongly mediated the relationship between human agency and career decision self-efficacy. The model explained 60% of the variance in hopeful career state ($R^2 = .596$) and 60% of the variance in career decision self-efficacy ($R^2 = .586$), revealing a large effect size (Cohen, 2013).

**Figure 11**

*Alternative Structural Mediation Model*

![Alternative Structural Mediation Model](image)

**Table 8**

*Standardized Direct and Indirect Effect of the Alternative Structural Mediation Model*

<table>
<thead>
<tr>
<th>Path</th>
<th>Direct effect</th>
<th>Indirect effect</th>
<th>Total effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information support ---&gt; CDSE-SF</td>
<td>.05</td>
<td>-.01</td>
<td>.04</td>
</tr>
<tr>
<td>Relation</td>
<td>Coefficient1</td>
<td>Coefficient2</td>
<td>Coefficient3</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>--------------</td>
<td>--------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Financial support ---&gt; CDSE-SF</td>
<td>-.17*</td>
<td>.11*</td>
<td>-.06</td>
</tr>
<tr>
<td>Family expectation ---&gt; CFSE-SF</td>
<td>.07</td>
<td>-.03</td>
<td>.05</td>
</tr>
<tr>
<td>Values/Beliefs ---&gt; CDSE-SF</td>
<td>-.15</td>
<td>.03</td>
<td>-.12</td>
</tr>
<tr>
<td>Human agency ---&gt; CDSE-SF</td>
<td>.57***</td>
<td>.18**</td>
<td>.75***</td>
</tr>
</tbody>
</table>

*p<0.05. **p<0.01. ***p<0.001.

Summary

This chapter presented the findings of this study, including the preliminary analysis, FIS confirmatory factor analysis, and structural equation modeling to answer the research questions and test the hypotheses. The results of the analysis supported the hypothesis that only family financial support would predict career decision self-efficacy and hopeful career state would mediate the indirect effects between family influence on career decision self-efficacy among Asian international students. The result of the analysis also supported the hypothesis that human agency moderates the indirect effect between family influence and hopeful career state via hopeful career state.

The results of the alternative model analysis supported that hopeful career state weakly mediated the relationship between family financial support and career decision self-efficacy. Hopeful career state mediated the positive relationship between human agency and career decision self-efficacy. The effect of human agency was stronger than the effect of family financial support on career decision self-efficacy via hopeful career state.
Chapter 5 Discussion

This chapter discussed the findings of this study, strengths, and limitations of the current study were followed. The implications and recommendations for future study were provided at the end.

Discussion of the Results

The purpose of this study was to explore the effect of contextual and personal factors on career decision self-efficacy among Asian international students. The first goal of this study was to explore the mediating role of hopeful career state between family influence and career decision self-efficacy. The second purpose of this study was to investigate the moderating role of human agency between family influence and hopeful career state mediated by hopeful career state. A total of 206 Asian international students were recruited for data analysis. The SEM analysis was conducted to answer the three research questions below:

Research Question 1

To what extent does family influence affect Asian international students’ career decision self-efficacy?

The SEM analysis supported family influence (financial support) as a significant predictor of career decision self-efficacy. Only the financial support of the family influence scale negatively affected the career decision self-efficacy of Asian international students ($\beta = -.25, p < .01$), and the effect was statistically negative. In other words, more financial support decreased career decision self-efficacy. Family financial support may create an individual’s dependency; however, career decision self-efficacy is an independent construct that refers to an individual’s process. It should keep in mind that most of the participants (80.7%) of the current study were from East Asian countries (80.2%) and from middle or upper-income families. The results may
be affected considering different sample compositions and socioeconomic status.

The family was identified as an important influencing factor in one’s career decision-making process for Asian Americans (Fouad et al., 2008) and Asian populations (i.e., Kim et al., 2016; Choi & Nieminen, 2013). However, the family influence of international students has been rarely explored in previous literature. The family either positively or negatively affected one’s career decision-making process (Workman, 2015; Vautero et al., 2021). For example, information support was significantly, but small, positively associated with career decision self-efficacy; family expectation negatively correlated with career decision self-efficacy (Chung et al., 2018; Fouad et al., 2010; Kim et al., 2016).

However, the results of the current study indicated that information support, family expectation, and family values/beliefs were not significantly associated with career decision self-efficacy. The results of information support and family expectation were opposite to previous findings among college students in the United States (Fouad et al., 2010) and South Korea (Kim et al., 2016). Although there was no direct effect between information support and career decision self-efficacy, the direction was positive, which was consistent with previous literature (Fouad et al., 2010; Kim et al., 2016). While no direct effect between family expectation and career decision self-efficacy, the direct was negative, which was also consistent with existing research (Fouad et al., 2008; Chung et al., 2018).

The inconsistent results from previous studies and the current study may be related to the unique context of Asian international students in the United States, which was consistent with previous research (Singaravelu et al., 2005). The researcher pointed out that family influence was more among non-Asian international students (mainly from Africa, Latin America, and the Middle East) than among Asian international students surprisingly, which may connect with
economic development and focus on self-development (Singaravelu et al., 2005). Considering the information support of family influence on Asian international students, it may require family acknowledge the job market and career options in the United States since around ninety percent of students in the current study reported a plan to work in the U.S. for at least five years or permanently. One plausible explanation for the results could be the current separation from family while studying in the U.S. Indeed, previous researchers suggested that physical distance from families may decrease opportunities to share information (Li et al., 2021).

Additionally, previous studies found that family expectations negatively predicted career decision self-efficacy due to the pressure from the family of origin (Fouad et al., 2010; Kim et al., 2016; Workman, 2015). As mentioned before, family expectations/values were not significantly associated with career decision self-efficacy in the current study. Asian international students separate from their families for further education in the United States. Thinking about the unique environment of Asian international students, not only understanding their culture but also recognizing the ongoing process of personal career development using contextual action theory (Shao, 2021). So, there are personal factors beyond the environmental factors. According to social cognitive career theory (Lent et al., 1994), personal factors also played an important role in one’s career development besides contextual factors. So, the role of hopeful career state and human agency as personal factors were also explored in this study.

**Research Question 2**

Does the hopeful career state mediate the effects of family influence on Asian international students’ career decision self-efficacy?

The SEM analysis of the current study indicated that hopeful career state positively predicted career decision self-efficacy ($\beta = -.71, p < .001$). The results also revealed that the
indirect effect of financial support on career decision self-efficacy via hopeful career state (β = .34, p < .001) was statistically significant, supporting a partial mediation effect. Although there were no direct and indirect effects of information support on career decision self-efficacy, the total effect of information support on career decision self-efficacy via hopeful career state (β = .19, p < .05) was statistically significant. A large sample size and more empirical research are needed to further explore the influence of family information support on career decision self-efficacy. The results showed that a more hopeful career state can predict high levels of career decision self-efficacy. Family financial support increases hopeful career state but decreases the career decision self-efficacy since more financial support may reduce the pressure to make career decisions.

Previous researchers found hope to be an important cognitive variable and it was identified as a strong predictor of career development (Niles et al., 2014; Sung et al., 2013). The finding from the current study was consistent with previous research in which hope positively affected the career decision self-efficacy of Korean international students as a personal strength (In, 2016). Ai (2021) also supported this positive relationship among East Asian international students.

The current study adopted hopeful career state scale to measure the important role of hope in career development. Hopeful career state is an important concept specifically an action-oriented hopeful state about one’s future according to Hope Action Theory (Niles et al., 2020), and represents a positive approach to facilitate career development. The result of this study was consistent with the previous research. Action-oriented hope serves as a significant factor to predict positive career outcomes for employees (Amundson et al., 2018; Clarke et al., 2018) and college students (Yoon et al., 2015). Researchers also found that a higher level of hope was
associated with a greater work engagement (Yoon et al., 2015; Yoon et al., 2019).

Hope was recognized as a strong mediator as a human strength in previous studies among college students (Satici, 2016; Yang et al., 2016). Similarly, hopeful career state was found to serve as a strong mediator (Yoon et al., 2015; Yoon et al., 2019). So, it was appropriate to consider it as a mediator between the relationship of family influence and career decision self-efficacy. Results showed that both the direct effect of financial support and indirect effect of financial support on career decision self-efficacy via hopeful career state were statistically significant, presenting a partial mediation effect. In other words, hopeful career state mediated the relationship between family financial support and career decision self-efficacy. The findings of the present study were corresponding with the findings in previous literature (Yoon et al., 2015; Yoon et al., 2019).

**Research Question 3**

Does human agency moderate the relationship between family influence and hopeful career state?

The results indicated that the moderating effect (the interaction between financial support and human agency) on the hopeful career state was negatively significant ($\beta = -0.23$, $p < .05$). It supported the moderating role of human agency between family influence and hopeful career state mediated by hopeful career state. The indirect effect of financial support on career decision self-efficacy via hopeful career state was stronger for individuals with low levels of human agency ($\beta = 0.59$, $p = .00$) than for those with high levels of human agency ($\beta = 0.14$, $p = .19$). This effect supported the theoretical framework of human agency (Bandura, 2001a, 2018), and was consistent with the previous literature on the human agency (Niles et al., 2011).

The effect of interaction between family financial support and human agency on the
hopeful career state was statistically negatively significant. The relationship between family financial support and hopeful career state is stronger for individuals with low levels of human agency than for individuals with high levels of human agency. In turn, more financial support creates dependency, which results in low career decision self-efficacy. When adding human agency as a moderator, this effect varies between high and low levels of the human agency group. Human agency is an independent construct according to its definition and theoretical framework (Bandura 2001a, 2018). The effect of financial support on career decision self-efficacy decreases among individuals with high levels of human agency.

The results of the current study indicated the significant direct effect of human agency on career decision self-efficacy, which is consistent with Yoon’s (2011) findings. Human agency refers to the capacity to exercise control over the nature and quality of one’s life, which includes three main properties: forethought, intentionality, self-reactiveness, and self-reflectiveness (Bandura 2001a, 2018; Yoon, 2019). Multiple theoretical frameworks have explained the important role of human agency (Bandura 2001a, 2018; Chen, 2015). For example, Yoon (2015) has described the application of human agency theory to human resources development. The findings of the current study contributed to the existing theories and add empirical evidence to the current work of the human agency. However, this concept was rarely explored in either qualitative or quantitative research and the measurement was relatively new. Therefore, the alternative hypotheses were proposed to further capture the new phenomena and further explore the role of human agency.

**Alternative Hypotheses**

(a) Hopeful career state mediates the relationship between family influence and career decision self-efficacy.
(b) Hopeful career state mediates the relationship between human agency and career decision self-efficacy.

The researcher tested an alternative model, which was theoretically grounded based on social cognitive career theory (Lent et al., 1994) and human agency theory (Bandura, 2001a, 2018). The results of the alternative model indicated that the effects of family influence as a contextual factor and human agency as a personal factor on career decision self-efficacy via hopeful career state were statistically significant. They both presented partial mediation effects. The direct effect ($p = 0.04$) and indirect effect ($p = 0.03$) of family financial support on career decision self-efficacy were weak. On the contrary, the mediating role of hopeful career state between human agency and career decision self-efficacy was strong ($p = 0.01$). The researcher also tested the hypotheses while controlling for the age covariates. There was no difference compared to the original alternative model.

The findings suggested that human agency as a personal factor played a greater role than family influence as a contextual factor in the career decision self-efficacy of the Asian international students in the United States. This outcome supported the important role of human agency as an individual factor among Asian international students, which is consistent with the previous literature (Crockett & Hays, 2011): individual factors mediated the relationship between career needs and barriers among international students. Shen and Herr (2004) also emphasized that personal factors affected the career decision of international students, such as professional growth, job satisfaction, and working environment. Students who had weaker social support were more likely to use counseling services (Kahn & Williams, 2003). The findings of the current study are consistent with previous research that personal factors play a more important role in the career development of international students considering their unique environment in
the U.S. context and separation from home.

The social cognitive theory described a three-way interplay of individual, personal, and behavioral determinants, and human functioning is the product of the interaction between individual and environmental factors (Bandura, 1986). Personal influences played an important role in this triadic determinism as an agent (Bandura, 2001a, 2006). Being an agent is to produce certain events by one’s intention and action (Bandura, 2018). Bandura (2018) broadened the concept of human agency: not only do people affect their own lives, but also three different modes of human agency, including individual, proxy, and collective. The human agency in this study potentially represented the individual efforts of Asian international students, knowledge, and skills about the job market from professionals, which generated higher career decision self-efficacy.

**Acculturation**

In the literature review section, acculturation was presented and planned to serve as a control variable in data analysis. However, while conducting preliminary data analysis, the researcher found that acculturation was not correlated with all the variables except for a weak correlation ($r = -.28, p < .01$) with family financial support. Therefore, the researcher decided to remove acculturation for further data analysis in the current study.

**Summary of the Findings**

The study aimed to examine the contextual and personal predictors of career decision self-efficacy. The primary goal was to explore the relationship between family influence and career decision-making among Asian international students in the United States. The secondary goal of this study investigated the moderating roles of human agency, the mediating role of hopeful career state, and a moderated mediation effect between family influence and career
decision self-efficacy. A two-step structural equation modeling analysis was conducted to test the hypotheses. First, the finding of the data analysis showed that family influence was a significant predictor of career decision self-efficacy.

Family financial support was negatively associated with the career decision self-efficacy of Asian international students. Moreover, hopeful career state mediated the relationship between family influence and career decision self-efficacy. Additionally, human agency moderates the mediating effect of hopeful career state on the relationship between family financial support and career decision self-efficacy, such that the indirect effect is stronger for a situation with a low human agency group than those in a high human agency group. Furthermore, the result of the alternative mediation model suggested the mediating role of hopeful career state between family financial and career decision self-efficacy, which supports a weak partial mediation effect. Similarly, the finding of the alternative mediation model indicated the mediating role of hopeful career state between human agency and career decision self-efficacy, supporting a strong partial mediation effect. Human agency as a personal strength played a greater role than family influence as a contextual factor for Asian international students in the United States.

**Strengths of the Study**

It is important to understand the influencing factors of international students’ career development to meet their career demands. This study aimed to explore the contextual and personal predictors of career decision self-efficacy from a positivity psychology perspective. There were unique strengths of this study.

First, the sample size of this study had a wide range across 17 countries and regions from Asian countries to represent the Asian international students’ population to provide rich information for this study.
Second, previous work has explored the career concerns (Reynolds & Constantine, 2007) and career placement (Arthur, & Popadiuk, 2010; Crockett & Hays, 2011) of international students. But the number of research that explores influencing factors on career decision-making is limited (Singaravelu et al., 2005). Theoretical framework and studies indicated that family was an important factor in the career development of international students. Few studies explored this relationship, and the results were inconsistent. This study specifically examined the family influence on Asian international students from four perspectives: informational support, financial support, family expectations, and family values/beliefs. The findings brought a unique perspective that family played a less important role than personal factors in their career development considering the unique context that Asian international students are remote from their family of origin and are in a new environment.

Third, this study explored the interaction between contextual factors and personal factors according to Social Cognitive Theory (Bandura, 1986). Both Human Agency Theory (Bandura, 2006, 2018) and Hope-Action Theory (HAT, Niles et al., 2011) emphasized the important role of agency and action-oriented hope from a positive psychology perspective. Personal initiatives were explored beyond the contextual factors. The findings of the current study provided empirical evidence to the theoretical framework of the important role of human agency as a personal strength. It also helps the further theory development of the human agency. This study also proposed positive coping strategies, hope, and human agency, to help international students to navigate the challenges in their career development.

Fourth, the present study used multiple imputations to minimize biases from missing data, which was a modern and advanced method to handle missing data (Meyer et al., 2016). A structural equation modeling analysis was conducted to examine the relationship among
variables, which was identified as an advanced statistic method to calculate complex relationships among hypothetical constructs with strong psychometric characteristics, such as good reliability and validity (Crockett, 2012; Kline, 2016). It also addressed the errors in measurement. In short, this study explored the impact of contextual factors and personal factors on career decision self-efficacy and provided empirical evidence to human agency and hope-action theories.

**Limitations**

The results of the current study need to be viewed within the scope of the limitations. First, this study used a convenience sampling method to collect data, which may not fully represent the overall Asian international student population. Although the participants of this study were large and widely from 17 countries and regions, two-thirds of the participants were from China. The top three countries of origin for international students are China (34.7%), India (18.3%), and South Korea (4.3%; IIE, 2021). The sample size of this study did not evenly account for the distribution of percentages in each country, which may affect the generalizability of the results to large populations. The current data had slightly more graduate students than undergraduate students due to the data collection process. There could be a potential difference between these two groups.

Second, the data collection was based on self-report by participants. The self-report questionnaire may have a negative influence on internal validity since participants may complete the measurements based on social expectations. The researcher expected the students answered the survey questions as honestly as possible. In the consent form, participants are encouraged to provide their truthful responses.

Third, this study adopted a cross-sectional study design, and only correlation
relationships were present. There were no causal relationships that can be inferred from the data. Other path directions could be possible. Previous literature demonstrated hope as the significant cultural factor contributing to career decision self-efficacy among East Asian international students (Ai, 2021; In, 2016). However, this study was not able to use acculturation as a control variable due to limited data collection potential caused by response fatigue. Further research can be conducted to examine the effect of acculturation on this mediation model.

Fourth, the COVID-19 pandemic is a global crisis over the past two years, which significantly affected many students studying abroad plan to the economic impact and travel restrictions (Gesing et al., 2021). Covid-19 pandemic is a career shock, highly disruptive extraordinary event (Akkermans et al., 2020). This study did not include this important contextual factor in the data analysis, which may significantly affect the career decision self-efficacy of Asian international students.

**Implications for Practice**

The purpose of this study was to examine the effects of personal factors (human agency, hopeful career state) and contextual factors (family influence) on career decision self-efficacy. The findings from the current study demonstrated financial support of family influence as a significant predictor and highlighted the human agency and hopeful career state in the career development of Asian international students. This study provided several important implications for future research about the career development of Asian international students and cross-cultural career services.

**Counseling Professionals**

Researchers have found that the utilization of career and counseling services among international students was low, especially for Asian international students (Balin et al., 2016;
Crockett & Hays, 2011; Mitchell et al., 2007; Shen & Herr 2004). The results of the current study may help counseling professionals gain a deeper understanding of the unique challenges faced by Asian international students, and the interaction between contextual and personal factors in their career decision-making process. Asian international students can benefit from working with career counselors who have the knowledge and awareness of family influence on career decisions. Addressing family support could promote effective counseling with Asian international students, which was consistent with Metheny and McWhirter’s (2013) work, family support was associated with social cognitive career development outcomes.

Furthermore, the current study found that human agency and hopeful career state played more important roles than the family influence on Asian international students from a positive psychology perspective. Counseling professionals may not only address contextual factors for Asian international students but also recognize the individual needs when coping with career concerns (Shen & Herr, 2004). Efforts to enhance the career decision self-efficacy of Asian international students could pay attention to increasing both family support and human agency. Counselors may seek to increase the autonomy and independence of international students to increase their human agency and career decision self-efficacy. It is essential for counseling professionals to work on increasing human agency as personal strength during the pandemic and post-pandemic.

Similarly, Shao (2021) proposed to apply contextual action theory to Chinese international students addressing both cultural background and personal ongoing processes. Meanwhile, career professionals can utilize an action-oriented approach to facilitate Asian international students’ career development by instilling hope and the function of human agency to promote the career development of international students.
Counselor Educators

The need for culturally sensitive counseling is increasingly explored in the profession. For example, multicultural, social justice, and advocacy are highlighted in the American Counseling Association (2014) Code of Ethics and Council for Accreditation of Counseling and Related Educational Programs ([CACREP], 2015) standards for counselor training. Counselor educators play a vital role since they are the person required to infuse multicultural/diversity competencies into counselor-in-training. They actively train students to gain awareness, knowledge, and skills of competencies (CACREP, 2015). Therefore, it is especially important for counselor educators to be aware of significant influencing predictors on career decision making, both contextual (family influence) and personal (human agency, hope), as well as action-oriented coping strategies to better prepare counseling students for facilitating the career development of their international student clients. Counselor educators can further guide counseling trainees to consider the ways to increase human agency during the pandemic or post-pandemic. Counselor educators may address these issues with counselor trainees in various ways, such as direct conversation in individual supervision or class group discussion. It enables counselor educators to incorporate this knowledge into their training process, which increases students’ multicultural competencies through clinical practice in their programs.

The number of international students enrolled in CACREP-accredited programs also has significantly increased in past few years, including Asian international students (CACREP, 2014, 2015). Counselor educators should notice that the contextual and personal factors may also have a significant impact on the career decision self-efficacy of Asian international counseling students. Counselor Educators should be aware of the barriers and learn about Asian international counselor trainees’ career development process. It was essential for counselor
educators to assess the needs of Asian international students and provide resources to support their development in counseling programs.

**Recommendation for Future Research**

The recommendations for future research were made to overcome the limitations of the study and expand the research built on this study. First, the acculturation variable was not used in this study due to missing, so the role of acculturation needs to be explored in the relationship between family influence, human agency, and career decision self-efficacy mediated by hopeful career state.

Second, more diverse sample sizes may help generalize the findings of this study, such as more participants from Asian countries except for China, international students from other continents, or international students residing in other countries. It is worth noting that the results of the current study were mainly based on the East Asian international students from middle- or upper-income families, which significantly affect the family financial support. It would be interesting to test the current analysis and see the results for participants from low-income families. The current study recruited Asian international students as participants. Future research may further explore the important roles of family influence and individual factors among international clients, specifically.

Third, the effect of family influence on career decision self-efficacy was surprisingly interesting. Family support is a general and vague concept, and previous literature found both negative and positive impacts from different angles to represent family influence, such as emotional support and family expectation. Limited studies specifically measured the family influence on career decision self-efficacy for international students. More empirical studies need to conduct to verify the relationship.
Fourth, theoretical frameworks strongly support the positive role of human agency and hopeful career state. The findings of the current study supported the existing theory of human agency, hope-action theory, and the important role of individual factors. It also significantly promotes theory development. However, the empirical studies were limited. This study using a quantitative method provided evidence-based support for the interaction between contextual and personal factors on career development, which also significantly contributed to current career development studies of international students. Further replicated research is needed to test current findings. Furthermore, more empirical quantitative and qualitative research is needed to expand the studies on the important personal factor, the human agency from a positive psychology perspective. The current study also has important implications for parenting and developmental literature to increase one’s independence and autonomy.

Summary

This study examined the effects of family influence, hopeful career state, and human agency on career decision self-efficacy among Asian international students in the United States. A sample of 206 Asian international students across 17 countries and regions was recruited and used for further data analysis. They have completed the demographic form, family influence scale, assessment of human agency, hopeful career state, acculturation index, and career decision self-efficacy short form via an online platform, Qualtrics. This study used a cross-section design and conducted structural equation modeling to test the research questions.

The chapter reviewed and discussed the findings of the current study. This chapter also presented strengths, limitations, and implications for this study. Recommendations for future research were proposed in the end.
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Appendix A Demographic Forms

1. What is your age? ______
2. What is your country of origin/nationality? ______
3. What is your race/ethnicity? ______
4. What is your gender?
   - Male
   - Female
   - Transgender man
   - Transgender woman
   - No-binary/third gender
   - Prefer not to say
5. What is your international student visa type?
   - a. F-1 Visa
   - b. J-1 Visa
   - c. M-1 Visa
   - d. Other – Please specify:
6. How long have you stayed in the United States so far?
   - How many years ____ + How many months
7. Where is the university that you currently enrolled?
8. What is your field of study?
   - a. Business
   - b. Computer science/Engineering
   - c. Humanities
   - d. Education
   - e. Natural sciences
   - f. Social Science
   - g. Health (including medicine)
   - h. Law
   - i. Other Please specify ___
9. What is your current academic status?
   - a. Freshman
   - b. Sophomore
   - c. Junior
   - d. Senior
   - e. 5th year or above undergraduate
   - f. Master’s student
   - g. PhD student
   - h. Other – Please specify: ______
   - i. Not a student
10. What is your father’s educational level?
    - a. No school completed
    - b. Elementary school
    - c. Junior high school
    - d. High school
    - e. Some college
f. Associate degree
g. Bachelor’s degree
h. Master’s degree
i. Doctoral degree
j. Other Please specify___

11. What is your father’s occupation? ______

12. What is your mother’s educational level?
   a. No school completed
   b. Elementary school
   c. Junior high school
d. High school
e. Some college
f. Associate degree
g. Bachelor’s degree
h. Master’s degree
i. Doctoral degree
j. Other Please specify___

13. What is your mother’s occupation? ______

14. How long do you plan to work in the United States?
   a. Less than 5 years
   b. More than 5 years
c. Other – Please specify

15. What is socioeconomic status (SES) of your birth family?
Appendix B Family Influence Questionnaire

Please read each statement carefully, then use the following scale to indicate how strongly you agree or disagree with each statement:

1 = Strongly Disagree
2 = Disagree
3 = Neutral
4 = Agree
5 = Strongly Agree

1. My family shared information with me about how to obtain a job.
2. My family showed me what was important in choosing a career.
3. My family showed me how to be successful in choosing a career.
4. My family discussed career issues with me at an early age.
5. My family provided guidance on which careers would be best for me.
6. My family has given me information about obtaining education and training.
7. Watching my family work gave me confidence in my career decisions.
8. My family supported me asking career-related questions.
9. Because my family supports me financially, I can focus on my career development.
10. If I wanted to get additional education after high school, my family would provide financial support.
11. If I were to experience a difficult career situation, my family would support me financially.
12. My family expects that my choice of occupation will reflect their wishes.
13. My family expects me to make career decisions so that I do not shame them.
14. My family expects people from our culture to choose certain careers.
15. My family expects me to select a career that has a certain status.
16. My family is only willing to support me financially if I choose a career of which they approve.
17. My family’s career expectations for me are based on my gender.
18. My family expects that I consider my religion/spirituality when making career decisions.
19. My family expects my career to match our family’s values/beliefs.
20. My family explained how our values and beliefs pertain to my career choices.
Appendix C The Assessment of Human Agency

1 = Never
2 = Seldom
3 = Often
4 = Almost Always

1. I have end results in mind before I begin something.
2. I have specific goals in mind when I complete tasks.
3. I have a specific purpose when I commit to something.
4. I imagine possible future events in my life.
5. I forecast my future in terms of the next several years.
6. I imagine various opportunities that might be open to me in five years.
7. I actively keep myself on track to complete my plans.
8. I monitor my plans and actions so my goals will be met.
9. I keep myself motivated to reach my goals.
10. I think about why I am passionate about certain things.
11. I think about the meaning of my life pursuits.
12. I evaluate my motivations for certain goals.
Appendix D Hopeful Career State Scale

Definitely false = 1  
Somewhat false = 2  
Somewhat true = 3  
Definitely true = 4

1. My current work (and/or education) will be helpful for my future career.  
2. My current work (and/or education) will enable me to be a better worker in the future.  
3. I feel that I am getting closer to better career opportunities.  
4. I can think of new employment options because of my current job (and/or program of study).  
5. My current job (and/or education) provides resources (e.g., skill development, network, finances) for next steps in my career journey.  
6. What I am doing now will help me to build a better career future.  
7. What I am doing now is helping me to build skills and experience for the future.  
8. What I am doing now is an important step in my career journey.  
9. I am hopeful that what I am doing now will help me in my career journey.
Appendix E Career Decision Self-Efficacy-Short Form

No confidence at all =1
Very Little confidence = 2
Moderate confidence = 3
Much confidence = 4
Complete confidence = 5

1. Use the internet to find information about occupations that interest you.
2. Select one major from a list of potential majors you are considering.
3. Make a plan of your goals for the next five years.
4. Determine the steps to take if you are having academic trouble with an aspect of your chosen major.
5. Accurately assess your abilities.
6. Select one occupation from a list of potential occupations you are considering.
7. Determine the steps you need to take to successfully complete your chosen major.
8. Persistently work at your major or career goal even when you get frustrated.
9. Determine what your ideal job would be.
10. Find out the employment trends for an occupation over the next ten years.
11. Choose a career that will fit your preferred lifestyle.
12. Prepare a good resume.
13. Change majors if you did not like your first choice.
15. Find out about the average yearly earnings of people in an occupation.
16. Make a career decision and then not worry whether it was right or wrong.
17. Change occupations if you are not satisfied with the one you enter.
18. Figure out what you are and are not ready to sacrifice to achieve your career goals.
19. Talk with a person already employed in a field you are interested in.
20. Choose a major or career that will fit your interests.
21. Identify employers, firms, and institutions relevant to your career possibilities.
22. Define the type of lifestyle you would like to live.
23. Find information about graduate or professional schools.
24. Successfully manage the job interview process.
25. Identify some reasonable major or career alternatives if you are unable to get your first choice.
Appendix F Acculturation Index

Are your experiences and behaviors similar to Americans? Enter your response.

<table>
<thead>
<tr>
<th>Not at all Similar</th>
<th>Neutral</th>
<th>Very Similar</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

1. Clothing
2. Pace of life
3. General knowledge
4. Food
5. Religious beliefs
6. Materials comfort (standard of living)
7. Recreational activities
8. Self-identity
9. Family life
10. Accommodation/residence
11. Values
12. Friendships
13. Communication style
14. Cultural activities
15. Language
16. Employment activities
17. Perceptions of people from my country
18. Perceptions of American people
19. Political ideology
20. Worldview
21. Social customs
Appendix G Recruitment Email

I am writing to invite you to participate in my dissertation study about the role of human agency and hope in the relationship of family influence and career decisions making among Asian international students.

You are eligible to participate in this study if you are
- an international student who is originally from Asian countries
- 18 years or older
- currently enrolled in a U.S. university for pursuing degree purpose
- holding a student visa (i.e., F-1, J-1, etc.) in a U.S. higher education institute
- Completing the survey while in the U.S.

Participants are asked to complete a Qualtrics survey, which takes approximately 15 minutes to complete. The survey will include informed consent, collect demographic data and questions related to the study. Your participation is completely voluntary, and you can withdrawal at any time without consequences. The participation is anonymous and no identifying information will be involved. Upon completion of the survey, participants will have the opportunity to enter to win one of six $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).

Should you have any questions or concerns about the study, you may reach me via at hks5335@psu.edu or phone at (314) 441-9720. This dissertation study is being conducted under the supervision of Dr. Kristen Nadermann who can be contacted at kmc452@psu.edu.

By continuing I agree to participate in this research study.

Thank you for your consideration.

Sincerely,
Hongshan Shao
Appendix H Informed Consent

Consent for Exempt Research
The Pennsylvania State University

Title of Project: The role of human agency and hope in the relationship of family influence and career decision making among Asian international students

Principal Investigator: Hongshan Shao

Telephone Number: 314-441-9720

You are being invited to volunteer to participate in a research study. This summary explains information about this research.

- The purpose of this qualitative study is to will examine the direct of family influence on career decision self-efficacy and indirect effects of family influence on career decision self-efficacy through hopeful career state and human agency among Asian international students in the United States.
- You are invited to participate in a Qualtrics survey, which is approximately 15 minutes. The participation is anonymous, and no identified information will be associated with this survey.
- There are no foreseeable risks, discomforts, hazards, or inconveniences that is anticipated. This study is an anonymous survey, so participants can withdraw at any time. The data file will be kept on the Qualtrics platform which is password protected and known only to the principal investigator. The confidentiality of the electronic data created by participants or by the researchers will be maintained as required by applicable law and to the degree permitted by the technology used.
- Participants may not benefit directly from this study. The data and findings will submit to dissertation and publications in future. Participants may benefit from the findings, which may show the coping strategies of career development of Asian international students from a positive psychology perspective.
- This study will help counselor educators to gain a deeper understanding of the roles of environmental and personal factors played in Asian international students’ career development with the social cognitive framework. It also may emphasize the positive function of human agency, which may further promote the career decision self-efficacy.

If you have questions, complaints, or concerns about the research, you should contact Hongshan Shao at 314-441-9720. If you have questions regarding your rights as a research subject or concerns regarding your privacy, you may contact the Office for Research Protections at 814-865-1775.

This study is completely voluntary. You are free to accept or turn down the invitation. You must be 18 years of age or older to take part in this research study.
Appendix I IRB Approval letter

EXEMPTION DETERMINATION

Date: February 17, 2022
From: Samantha Bonaddio,
To: Hongshan Shao

<table>
<thead>
<tr>
<th>Type of Submission:</th>
<th>Initial Study</th>
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</thead>
<tbody>
<tr>
<td>Title of Study:</td>
<td>The Role of Human Agency and Hopeful Career State in the Relationship Between Family Influence and Career Decision Making Among Asian International Students</td>
</tr>
<tr>
<td>Principal Investigator:</td>
<td>Hongshan Shao</td>
</tr>
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<td>Study ID:</td>
<td>STUDY00019467</td>
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<td>Submission ID:</td>
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<td>Funding:</td>
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</table>

Documents Approved:
- IRB (0.01), Category: IRB Protocol
- Survey Questions (0.01), Category: Data Collection Instrument

The Office for Research Protections determined that the proposed activity, as described in the above-referenced submission, does not require formal IRB review because the research met the criteria for exempt research according to the policies of this institution and the provisions of applicable federal regulations.

Continuing Progress Reports are not required for exempt research. Record of this research determined to be exempt will be maintained for five years from the date of this notification. If your research will continue beyond five years, please contact the Office for Research Protections closer to the determination end date.

Changes to exempt research only need to be submitted to the Office for Research Protections in limited circumstances described in the below-referenced Investigator Manual. If changes are being considered and there are questions about whether IRB review is needed, please contact the Office for Research Protections.

Penn State researchers are required to follow the requirements listed in the IRP 103 – Investigator Manual, which can be found by navigating to the IRB Library within CATS IRB (http://irb.psu.edu).
Vita
Hongshan Shao

EDUCATION

**Doctor of Philosophy, Counselor Education and Supervision (CACREP)**
The Pennsylvania State University, University Park, PA  
GPA: 3.92  
August 2022

**Master of Education in Clinical Mental Health Counseling (CACREP)**
University of Missouri - St. Louis, St. Louis, MO  
GPA: 3.71  
May 2019

**Bachelor of Science in Applied psychology**
Hebei North University, Zhangjiakou, China  
GPA: 3.98  
July 2015

CERTIFICATION STATUS
National Certified Counselor (#1139241)
LPC Eligible

SCHOLARLY ACTIVITIES

Publications


Book chapters


Grants