

JOB SEARCH SELF-EFFICACY OF EAST ASIAN
INTERNATIONAL GRADUATE STUDENTS

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Doctor of Philosophy

By

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INTERNATIONAL GRADUATE STUDENTS

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STUDENTS

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ABSTRACT

A positive relationship between job search behaviors (i.e., job search intensity) and employment outcome has been documented empirically (Kanfer et al., 2001). Thus, to enhance the likelihood of positive job search outcomes, it is critical to understand the antecedents of job search behaviors such as job search self-efficacy. This study was the first to examine Bandura's Perceived Self-Efficacy Model (1986) in the domain of job search self-efficacy on East Asian international graduate students. It also investigated the moderating effects of two contextual factors (perceived control over job search outcomes and perceived job discrimination) in the relationship between job search self-efficacy and job search behaviors. The results of this study confirmed the self-efficacy model and partially supported the hypothesized relations of the four source variables to job search self-efficacy. Specifically, job search-related performance accomplishments and verbal encouragement were found to be unique predictors of job search self-efficacy among the target population. Neither of the two contextual variables, perceived control over job search outcomes and perceived job discrimination, moderated the relationship between job search self-efficacy and job search behaviors. However, the results revealed that the subscale of perceived job discrimination, perceived job discrimination based on nationality, moderated the relationship between job search self-efficacy and active job

search behaviors (e.g., submit resume, job interviews). Implications and limitations of the study are discussed.

Keywords: job search, self-efficacy, Asian international students

CHAPTER 1

Introduction

In the last four decades, the international student population has been steadily increasing in college and universities across the United States. For instance, in academic year 2004-2005, there were 565,039 international students enrolled in U.S. colleges and universities for various degrees; representing about seven times as many international students compared to 1965. Research suggested that international students in the U.S. expressed greater needs in career than academic or personal issues (Leong & Sedlacek, 1989). More specifically, they expressed relatively greater needs than their American counterparts for obtaining work experiences in the U.S. than for job exploration or career planning. However, the scarcity of the subsequent literature or relevant services that address this specific vocational need of international students suggests the gap and needs for more research in this area.

International employees in the U.S. comprise an important part of the U.S. workforce. While seeking post-graduation employment in the U.S., however, international students deal with unique concerns and vocational challenges such as language barriers and cultural differences, have to complete technical procedures (e.g., apply for Optional Practical Training to obtain one-year legal status to seek employment in the U.S.), and carry out complicated legal requirements (e.g., obtain H1B work visa) within a restricted time frame. In spite of these challenges and limitations, many international students are still interested in finding a job in the U.S. for various reasons (e.g., to obtain American work experiences, financial gains, family expectations, and relatively liberal political environment) and express needs to receive assistance in their

job search. For instance, the International Students' Career Services (ISCS) program at the University of Missouri-Columbia conducted two focus groups in 2004 to assess the career needs of international students on their campus. Overall, the focus group participants indicated great needs in obtaining specialized career assistance in job search-related tasks such as writing American style resumes and cover letter, preparing for a job interview, and understanding work regulations placed upon them, etc. In response to the career needs expressed by these international students, the ISCS offered various culturally appropriate services, including a series of international focused job search-related workshops, career consultation/counseling, mock interviews, online discussion board, and a job search support group. The dramatic increase (from 5% to 30%) of their service utilization rate suggests not only the effectiveness of the program but also the previously underserved career needs of the international students (Tsai, He, Lee, & Lin, 2006).

International students face not only the objective vocational barriers that place them into a disadvantaged position when searching for a job, but also must deal with their subjective experiences in response to environmental barriers. As vocational researchers and practitioners, our role as change agents cannot be overemphasized, and more efforts should be taken to reduce the restrictions placed upon future international employees. However, given the fact that not much research has been conducted with an attempt to understand the career development and vocational needs of international students, it appears to be crucial and logical to start from understanding our international clientele and how they perceive and cope with the environmental factors in their job search process. Thus, the scope of the current study focuses on the subjective experiences during

the job search process of international students in the U.S. More specifically, it focuses on the construct of job search self-efficacy, which has been empirically documented to be critical in the job search process and to job search outcomes.

The targeted population in the present study includes only international students from East Asia (e.g., China, Taiwan, Japan, and Korea) because historically, East Asian countries shared the same cultural roots and practice similar cultural values, such as filial piety and Confucianism, and are culturally different from other Asian countries such as India. Therefore, the focus on this population seems appropriate from a cultural and historical perspective. Furthermore, about 33% of the international students come from East Asian countries listed above (Institute of International Educator's Open Doors 2006 report). Thus, this study will yield adequate generalizability and will draw important implications for a considerable number of international student groups in the U.S. Moreover, the current study only focuses on international graduate students mainly because the level of job positions (professional versus entry level) between international graduate and undergraduate students involve different job search tasks and resulting challenges.

Career-Related Self-Efficacy

The central role of career-related self-efficacy in the course of career development has been acknowledged and empirically supported (Lent, Brown, & Hackett, 1994) and has also been widely applied to racial/ethnic minority groups (for a recent review on self-efficacy on diverse populations, see Lindley, 2006). However, only limited research (Bikos & Furry, 1999; Lent, Brown, Nota, & Soresi, 2003; Singer, 2003) of career-related self-efficacy has been conducted on international populations. The wide range of

cultural diversity international student groups represents deserves further examination on the cultural appropriateness of the existing career theories or models.

Sources of Self-Efficacy

Among the research studies (Betz & Schifano, 2000; Campbell & Hackett, 1986; Lent, Lopez, & Bieschke, 1991) focusing on the source variables (i.e., performance accomplishment, vicarious learning, verbal persuasion, and emotional arousal) of career-related self-efficacy, the majority have concentrated on the domain of math self-efficacy. These studies also have been conducted on relatively homogeneous groups of American students. Furthermore, among the studies focusing on sources of math self-efficacy, there are some unique differences that are worthy of attention. For instance, Lent and his colleagues (1991) reported that both perceived and actual math performance explained a significant amount of variance in a sample of college students, but that none of the other three presumed source variables contributed unique variance to the prediction equation. Whereas Matsui and his colleagues (1990) found that among Japanese high school students, vicarious learning and emotional arousal explained a small unique variance in math self-efficacy in addition to math performance. These conflicting findings inform us of the importance of examining the extent that these four presumed sources of efficacy beliefs “individually and collectively contribute to the self-efficacy domain of interest” (Lent, Lopez, & Larkin, 1991) as well as the predictive strength of the source variables across developmental stages and cultures.

Career Search Self-Efficacy

Career search self-efficacy refers to an individual’s judgment/beliefs in his/her ability to “successfully perform a variety of career exploration activities, including their

judgments about their abilities to successfully explore personal values and interests, effectively network with professionals in a field of interest, successfully interview for a job, etc” (Solberg, Good, & Fisher, Brown, et al., 1995). According to this definition, career search involves exploration activities at both the personal and job search levels. However, the scope of career search self-efficacy in the current study will be specifically confined to self-efficacy related to job search-related tasks (e.g., job hunting, networking, and interview), because the presenting issues of the targeted population investigated, international students interested in seeking post-graduation employment in the U.S., are presumed to be relatively job search-oriented.

Contextual Factors

Career choices by no means take place in a social vacuum (Lent et al, 1994; Lent, Brown, Brenner, Chopra, David, Talleyrand, & Suthakaran, 2001). For international students in the U.S. who encounter unique career challenges and restrictions in the process of their job search, contextual factors appear to be critical in understanding their job search behaviors and performance. According to the Social Cognitive Career Theory (SCCT; Lent, Brown, & Hackett, 1994) model, contextual factors are postulated to moderate the relation between choice goals (e.g., seek employment in the U.S.) and choice actions (e.g., job search behaviors). Because interest and choice goals are presumed to be homogeneous among the targeted population in the current study, these two variables are not included in the present study. However, the role of contextual factors as moderating variables between self-efficacy and choice actions will be examined. Two specific contextual factors (i.e., perceived job discrimination and perceived control over job search outcomes) are investigated in the current study.

Perceived job discrimination has been considered to be a critical career barrier to the career development and attainment among disadvantaged individuals such as women (Fagenson, 1993; Uhlmann & Cohen, 2005), racial/ethnic minority groups (McWhirter, 1997; Mor Barak, Findler, & Wind, 2003), Lesbian, Gay, Bisexual, and Transgender individuals (Chung, 1995; Croteau & Von Destinon, 1994; Day & Schoenrade, 1998), and people with disabilities (Balsler, 2000; Herbert & Dambrocia, 1989). However, the majority of the studies focused on the consequent adjustment and psychological well-being of these groups within the workplace. Only a few studies (e.g., McWhirter, 1997) examined how these individuals' perceived discrimination at future workplaces may influence their career choices or job search behaviors. International students may encounter job discrimination in the process of their job search because of various minority statuses such as nationality and language skills. Consequently, these percepts of job discrimination may negatively affect their job search behaviors and performance, and therefore is a crucial variable to investigate.

Job Search Behaviors

Saks and Ashforth (1999) examined the relations among job search self-efficacy, perceived control over job search outcomes, job search behaviors, and employment status among college students three months before and four months after their graduation. Their results suggested that perceived control over job search outcomes was positively related to preparatory job search behaviors (e.g., occupational information gathering), but negatively related to both active job search behaviors and intensity. A possible explanation was given by highlighting the fact that when people felt less control over the task outcomes, they might “engage in more active job search activities as a compensatory

response.” Perceived control is a crucial variable in job search behavior research. More exploration in relation to the role of perceived control in the job search model is needed. It is possible that instead of serving as a predictor to job search behaviors, perceived control may serve as a contextual factor and may moderate the relation between job search self-efficacy and outcomes.

Purpose of Study

The purpose of this study is two fold. The first goal is to examine the sources of the job search self-efficacy on East Asian international graduate students. The second goal is to investigate the role of socio-contextual factors in the relation between job search self-efficacy and job search behaviors. The three main research hypotheses are: 1) job search-related performance accomplishments, vicarious learning, and verbal persuasion will uniquely and positively predict an individual’s job search self-efficacy whereas job search-related anxiety will negatively predict an individual’s job search self-efficacy; 2) among the four source variables, performance accomplishments will be the strongest predictor to job search self-efficacy; and 3) the two contextual factors (i.e., perceived control over job search outcome, perceived job discrimination) will moderate the relation between job search self-efficacy and job search behaviors.

CHAPTER 2

Method

This chapter is divided into three subsections. First, the characteristics of the participants will be described. Second, the psychometric properties of each instrument will be presented. The four self-constructed source measures (i.e., Performance Accomplishments, Vicarious Learning, Verbal Persuasion, and Emotional Arousal) were used to measure sources of job search self-efficacy. The Career Search Efficacy Scale (CSES) was used to assess job search self-efficacy. The Perceived Job Discrimination Scale and Perceived Control over Job Search Outcome Scale were used to measure two identified contextual factors, and the Job Search Behaviors Scale was used to measure the frequency of preparatory and active job search behaviors. Finally, procedures of data collection and research incentives will be described.

Participants

Participants were East Asian international graduate students ($n = 86$; 39 males and 47 females) who were interested in seeking postgraduate employment in the U.S. and who were planning to graduate within six months at the time they took the survey. (Data collection occurred from May 2006 to July 2007. The participants were primarily from China (43%), Taiwan (36%), and less than one fifth of them were from South Korea (14%) and Japan (6%), with 47% of them pursuing a master degree, 41% of them pursuing a doctoral degree, and 12% of them pursuing neither degree (i.e., specialist, dual degree). Participants majored in Engineering (37%), Arts and Science (27%), Business (18%), Education (8%), Medical School (6%), and Agriculture and Natural Science (4%). The top three major areas of this sample mirrored the leading fields of study in 2006 among

international students (Institute of International Education's Open Doors 2005 Report). Over two thirds of the participants were single (69%) and 31% were married; their mean age was 27.6 ($SD = 4.5$, range from 21 to 44 years old); and their average length of stay in the U.S. was 52 months ($SD = 32.6$, range from 6 – 192 months). About 40% did not have work experiences in their home countries, 35% had 1-2 years of work experiences; and 25% had more than two years of work experiences before they came to U.S. Their average length of English learning was 14 years ($SD = 5$), and they rated their perceived English level fluency as 5.27 on a 7-point Likert Scale ($SD = 1.6$).

Instruments

Participants completed a demographic information sheet, measures of four perceived sources of job search self-efficacy, scales of job search self-efficacy, perceived control over job search outcomes, perceived job discrimination, and job search behaviors. Research has suggested that compared to Caucasians, East Asians are more likely to choose the midpoint in the odd-numbered response categories, which results in a bias/skew of the test results (Chen, Lee, & Stevenson, 1995; Si & Cullen, 1998). These researchers recommended that using a scale with even numbered response categories can significantly reduce this tendency among this population. Thus, the instruments in the current study are developed or modified so that responses are given on a six-point Likert type (1= *Strongly Disagree*, 6= *Strongly Agree*) with the exception the measures on frequency of job search behaviors.

Demographic questionnaire. The demographic information included the following items: sex, age, country of origin, marital status, academic major, degree, length of stay in the U.S., length of work experiences in one's home country, expected

graduation date, career goal, (i.e., industry, academia, both, undecided), length of learning English, and perceived English fluency (i.e., “Please evaluate your English fluency in your chosen field”). (See Appendix D)

Performance accomplishments. An eight-item scale was constructed for the current study to measure perceived job search-related performance accomplishment (See Appendix E). These eight Likert-type items are represented on a six-point continuum (1= *Strongly Disagree*, 6= *Strongly Agree*) with high scores indicating high levels of mastery of job search-related tasks. Specifically, among the eight items, one item (i.e., “I have successfully found a job in my home country”) was used to measure participants’ past success in job search in their home countries, and the other nine items are used to measure participants’ perceived past success in seeking employment in the U.S. The rationale of the item distribution was based on the presumption that because of cultural differences and unique challenges in the job search process, international students’ job search self-efficacy in the U.S. is more relevant to their U.S. job search experiences than that in their home countries.

Vicarious learning. Vicarious learning was narrowly defined to be the perceived influence of role modeling. The Inspiration/Modeling (I/M) subscale derived from the Influence of Others on Academic and Career Decisions Scale (IOACDS; Nauta & Kokaly, 2001) was utilized to measure the extent of influence of career role models. The I/M subscale consisted of seven five-point Likert type items but for this study was adjusted to be a six-point Likert scale (1= *Strongly Disagree*, 6= *Strongly Agree*) with high scores indicating high levels of perceived influence and inspiration from career role models. To make the items relevant to the study domain, the items were also slightly modified. Each

item started with the stem phrase “In the process of my job search in the U.S.,” followed by descriptive phrases such as “there is someone I am trying to be like” and “there is no one who inspires me” (See Appendix E). The I/M subscale was reported to have adequate test-retest reliability ($r = .78$) and good internal consistency with alpha coefficients ranging from .87 to .91. (Nauta & Kokaly, 2001). The convergent validity of the scale was supported by correlations in expected directions with measures of occupational information, career certainty, and career indecision, and discriminant validity was supported by the nonsignificant relationship with the social desirability.

Verbal persuasion. To assess the degree of both perceived verbal encouragement and discouragement from different groups such as family, friends, and professors in the process of the job search, eight items were developed by modifying the verbal persuasion subscale of Source of Math Efficacy Scale (SMES; Lent et al., 1991). The 2-week test-retest reliability of scores on the verbal persuasion subscale in SMES was high ($r = .91$). Internal consistency alpha coefficient was .74. The eight items were presented on a six-point continuum (1= *Strongly Disagree*, 6= *Strongly Agree*) with high scores indicating high levels of perceived verbal encouragement. The modified sample items were, “My family has discouraged me to seek employment in the U.S.” (Reverse score) and “My professor(s) have made positive comments on my capability to obtain the job I desire in the U.S.” (See Appendix E).

Emotional arousal. Emotional arousal was narrowly defined as the extent of perceived anxiety while performing job search-related tasks (e.g., identifying job openings, preparing for a job interview). The items were drawn from the researcher’s clinical experiences working with the target population for job search-related issues. The

participants were asked to rate their anxiety level when performing the described job search tasks. This scale consisted of 10 six-point Likert-type items (1= *Not anxious at all*, 6= *Very anxious*) with a high score indicating a high level of perceived anxiety (See Appendix E). The 10 items were derived partially from the Career Search Efficacy Scale (CSES; Solberg, Good, & Nord, 1994), which comprised specific job search-related tasks.

Job search self-efficacy. Job search self-efficacy was measured by the Career Search Efficacy Scale (CSES; Solberg et al., 1994). CSES assessed the extent to which an individual's perceived confidence in performing career search-related tasks. It consisted of 35 items that are presented on a 10-point continuum (0 = *Very little confidence*, 9 = *Very much confident*). To keep the consistency of the measures utilized in this study, the scale was modified to be a six-point continuum scale (1= Not confidence at all, 6= *Very confidence*) with higher score indicating higher level of perceived confidence in performing job search-related tasks. The CSES included four subscales: (a) Job Search Efficacy (14 items) consisted of items about job searching tasks such as identifying employers and contacting personnel offices; (b) Interviewing Efficacy (9 items) measured different aspects of interviewing such as conducting an informational interview and preparing for an interview; (c) Networking Efficacy (7 items) assessed various networking tasks such as utilize social networks to gain potential employment and meet new people in careers of interest; and (d) Personal Exploration Efficacy (5 items) assessed an individual's personal and career values and preferences. High internal consistency for scores on the four subscales was supported, with alpha coefficients ranging from .87 to .95. The convergent validity was supported by the positive correlations with other career-related efficacy scales, and the discriminant validity was

supported by the nonsignificant relationship with measures of personality constructs such as assertiveness, interpersonal skills, and instrumentality (Solberg, 1998). For the current study, two items (i.e., conducting a job interview in English, and discuss H1B work visa with an employer) were added to the Interviewing Efficacy subscale to address the unique job search tasks of international students (See Appendix F). A small group of East Asian international students ($n = 8$) were asked to fill out the CSES and provide feedback about the perceived clarification of scale items. Based on their feedback, additional illustration and slight wording changes were made to increase the scale reliability and validity among the international population.

Perceived control over job search outcomes. Perceived control over job search outcomes was assessed by the five items developed by Saks and Ashforth (1999) in a job search behaviors study. Sample items included “Finding a job is totally within my control”, and “My ability to find a job is controlled by the labor market” (See Appendix G). The reported alpha coefficient was .74. No validity information was reported by the authors. In the present study, the scale was modified from a five-point Likert scale to a six-point one (1= *Strongly Disagree*, 6= *Strongly Agree*) with a high score indicating a high level of perceived control over job search outcomes.

Perceived job discrimination. Perceived job discrimination in the process of the job search was measured by the Future Job Discrimination Scale developed by McWhirter (1997). This scale was originally constructed for her study which assessed the perceived barriers in career and educational pursuits among Mexican American and European American high school students. It consists of two identical four-item subscales (i.e., Sex Discrimination and Ethnic Discrimination). The eight items were presented on a

five-point continuum (1 = *Strongly Agree*, 5 = *Strongly Disagree*) with low score indicating a high level of anticipated sex and racial/ethnic discrimination in future jobs. The summed scores of the two subscales were used to determine the level of anticipated future job discrimination because of sex and ethnicity. The alpha coefficients for the whole scale, the gender discrimination subscale, and the racial/ethnic discrimination subscale were .89, .86, and .89 (McWhirter, 1997), respectively, suggesting high reliability. For the current study, the sources of perceived job discrimination were modified from sex and ethnicity to nationality (e.g., In my future job, I will probably be treated differently because of my nationality) and language (e.g., In my future job, I will probably be treated differently because I am not a native English speaker), (See Appendix H). In addition, the scale was modified to be a six-point Likert scale (1= *Strongly Disagree*, 6= *Strongly Agree*) with high score indicating a high level of anticipated job discrimination resulting from nationality and English in the process of job search.

Job search behaviors. Job search behaviors was measured by the two six-item subscales developed by Blau (1994) to assess both preparatory and active job search behaviors. The alpha coefficient of the preparatory job search behavior subscale reported in Saks and Ashforth (1999) on undergraduate graduates was .74, and that of the active job search behavior subscale was .75, suggesting acceptable reliability estimate. The correlation and confirmatory factor analysis results indicated that the interrelation and discriminant distinction between preparatory and active job search behaviors. Several changes were made to adapt the scale to the current sample (See Appendix I). For instance, because more international students utilize the Internet for their job search, the item “Read the help wanted/classified ads in a newspaper, journal, or professional

association” was changed to “Identify job opening from newspapers, journals, websites, or professional organizations”. In addition, difficult terminology was given more illustration to increase comprehension. For example, the item “Contacted an on-line employment agency executive search firm or state employment service.” was adjusted to “Contact an employment agency (e.g., monster.com, Head Hunters) for job openings”. Also, one additional items regarding H1B visa was included to the preparatory job search behaviors to address the additional preparation tasks required for international students in the U.S. For the current study, because the sample participants might not have started either preparatory or active job search behaviors at the time they took the survey, participants were asked to rate how likely they were planning to engage in the preparatory and active job search behaviors. The scale was presented on a 5-point continuum where 1 = *Never* (0 times), 2 = *Rarely* (1 or 2 times), 3 = *Occasionally* (3 to 5 times), 4 = *Frequently* (6 to 9 times), and 5 = *Very frequently* (at least 10 times).

Procedures

The present study was conducted online after obtaining approval from the IRB (Institutional Review Board) of University of Missouri-Columbia (UMC). A pilot study was conducted with East Asian international students at UMC to establish the reliability and validity of the four self-constructed source measures. The instruments included in the pilot study were a demographic questionnaire, the four source of self-efficacy measures, Career Search Efficacy Scale (CSES), Social Self-Efficacy Scale (SSS), and the Satisfaction with Life Scale (SWLS). For the main study, an individualized email message along with the online survey was sent to various international student organizations (e.g., China, Hong-Kong, Japan, Korea, and Taiwan), at the top 20

universities in the U.S. (for a list of these universities, see Appendix J) with largest number of international students. Snowballing strategy was also utilized. The email recipients were encouraged to forward the emails to anyone they knew who might be eligible as a potential participants. Two types of incentives were provided. First, all participants were given a list of job search-related resources (e.g., website links, books) after they agreed to participate in the study. Second, several raffle prizes were provided as incentives for participation. Specifically, one \$150 dollar gift certificate and twenty \$20 dollar gift certificates to Amazon.com were provided for participants who were interested in participate in the raffle drawing.

CHAPTER 3

Results

This chapter summarizes the results of the pilot study and depicts the statistical analyses used to evaluate the research questions and hypotheses established in the main study. In the pilot study, the reliability and validity estimates of the source of self-efficacy measures are reported. Next, the procedures and results of data screening and preliminary analyses of the main study are presented. Finally, a report of the multiple regression analyses employed to examine the research hypotheses are reported.

Pilot Study

To examine the reliability and validity estimates of four self-constructed measures of the sources of job search self-efficacy, a pilot study was conducted at a Mid-western university. A total of 43 participants responded to the survey, and only 35 usable data (five missing data and three ineligible participants) was analyzed. The internal consistencies of the efficacy source measures indicate adequate reliabilities: performance accomplishments, $r = .82$; vicarious learning, $r = .89$; verbal persuasion, $r = .72$, and emotional arousal, $r = .91$. The test-retest reliability estimates indicated stability of these scales over a 4-week interval: performance accomplishments, $r = .93$; vicarious learning, $r = .87$; verbal persuasion, $r = .83$, and emotional arousal, $r = .88$.

Table 1 represents the intercorrelations among the four efficacy sources and job search self-efficacy. Results revealed that job search self-efficacy correlated positively with three of the four efficacy source measures (range = .46 to .61), with the strongest correlation to performance accomplishments. In addition, the four source measures were not significantly related, with the exception of the verbal persuasion measure, which was

significantly correlated with the performance accomplishments and vicarious learning scales. To examine the discriminant validity of the source measures, Social Self-Efficacy Scale (SSS; Sherer, Madux, Mercadante, Prentice-Dunn, Jacob, & Rogers, 1982) and the Satisfaction with Life Scale (SWLS; Pavot & Diener, 1993) were utilized. Discriminant validity of the source measures was supported by non-significant relationships between the source variables with social self-efficacy and life satisfaction, with the exception of performance accomplishments, which was positively correlated to life satisfaction. Career Search Efficacy Scale (CSES) was used to explore the convergent validity of the source measures in the pilot study. Convergent validity of the source measures was supported by correlations in the expected directions with career search self-efficacy, with the exception of emotional arousal, which was not correlated to career search self-efficacy. In sum, the discriminant validity and convergent validity of the four source measures indicated adequate levels of construct validity of these self-constructed measures.

Main Study

Data Screening

Prior to conducting the main analyses, all the variables of interest were examined through SPSS 13.0 program for accuracy of data entry, missing values, the normality of distribution, and multivariate outliers. One hundred and fifty-five participants filled out the survey. Sixty-seven entries were deleted due to ineligibility ($n = 33$) and incomplete data ($n = 34$), determined by omitting more than 20% of survey items. The scale means of the Perceived Control over Job Search Outcomes (PC), Perceived Discrimination (PD), and Job Search Behaviors Scales (JSB) were used to replace the missing values for

participants who did not complete these measures ($n = 3$). Two cases were found to have univariate outliers by examining Z scores ($z > 3.0$) and were deleted. No cases were detected as multivariate outliers between the source measures and job search self-efficacy variables through Mahalanobis distance statistics (Tahachnick & Fidell, 1996) with $p < .001$. Thus, ultimately 86 cases remained for the main analyses. Using G* Power software, a power analysis was conducted to determine the actual power of the sample size. Results revealed a power of .82 with the sample size ($n = 86$), effect size ($r = .30$), and alpha level ($\alpha = .05$).

Evaluation of Statistical Assumptions

Multivariate normality was examined by analyzing the values of skewness and kurtosis for each of the main variables in the study. The results indicated that the values for skewness and kurtosis on all measured variables fit within an appropriate range (i.e., below the absolute value of 1), indicating a normal distribution of the scores across all of the measured variables (see Table 2). In addition, assumptions of multicollinearity were tested by using Variance Inflation Factor (VIF) and Tolerance values. Specifically, VIF values greater than 10 and Tolerance values below .10 indicate collinearity in the data (Field, 2000). Results revealed no collinearity among the variables of interest.

Preliminary Analysis

Differences based on gender and country of origin with regard to the dependent variables of the study were examined. A 2 (gender) X 4 (country of origin) MANOVA was performed with job search self-efficacy and job search behaviors as the dependent variables. The results revealed that men and women did not differ across the variables, $F(1, 84) = .56, p = .64$ and that there were no differences in country of origin across the

variables, $F(1, 84) = 1.14, p = .34$. Thus, the main analyses were performed on the entire sample.

Estimates of internal consistency were examined for the measured variables. Table 2 presented the means, standard deviations, ranges, and alpha coefficients of the variables of interest in the study. The alpha coefficients were as follows: .77 for PA, .82 for VIC, .65 for VP, .91 for EA, .98 for CSES, .51 for PC, .90 for PD, and .93 for JSB. These initial estimates of reliability suggested that most of the measures have adequate levels of internal consistency in East Asian international graduate students. Two measures, VP and PC, had less than desirable internal consistency values.

Table 2 represents the intercorrelations among the measured variables. To avoid alpha inflations due to multiple pairwise comparison, a Bonferroni correction was used to establish the alpha level at .01 (.05/5). The results revealed that among the four source variables, only the PA was significantly related to the VP ($r = .37, p < .01$). In addition, the results showed that the CSES was significantly related to two source measures (PA/CSES = .59; VP/CSES = .42, $p < .01$) as well as JSB ($r = .44, p < .01$).

Main Analyses

Hypothesis 1. Hypothesis 1 posited that job search-related performance accomplishments, vicarious learning, and verbal persuasion will uniquely and positively predict an individual's job search self-efficacy whereas job search-related anxiety will negatively predict an individual's job search self-efficacy. To examine this hypothesis, a simultaneous regression analysis was conducted. The four source variables (i.e., PA, VIC, VP, and EA) were entered as predictor variables and the CSES as the criterion variable (see Table 3). The results revealed that the overall regression model was statistically

significant, $F(4, 81) = 13.1, p < .05$, and the four source variables accounted for 36% of the variance in the CSES scores (adjusted $R^2 = .36$) for this sample of East Asian international graduate students. In addition, standardized regression coefficients of the four source variables indicated that performance accomplishments ($\beta = .49$) and verbal persuasion ($\beta = .24$) significantly predict CSES. Thus, the findings of this analysis partially support Hypothesis 1.

Hypothesis 2. Hypothesis 2 posited that among the four source variables, performance accomplishment will be the strongest predictor of job search self-efficacy. Results of the simultaneous regression analysis described above revealed that Performance Accomplishments accounted for the most variance (25%) in CSES ($\beta = .49$), followed by Verbal Persuasion ($\beta = .24$). Thus, the finding supports Hypothesis 2.

Hypothesis 3. Hypothesis 3 posited that the two contextual factors: perceived control over job search outcomes (PC) and perceived job discrimination (PD) would moderate the relation between job search self-efficacy (CSES) and job search behaviors (JSB). To examine moderating effects, a series of hierarchical regression analyses were employed. The predictors (i.e., CSES) and the moderators (PC and PD) were centered to eliminate multicollinearity concerns. Results are depicted in Table 4 and revealed that there were no moderating effects of the PC and PD scales with the CSES. Specifically, the addition of the new variables, job search self-efficacy X perceived control and job search self-efficacy X perceived discrimination to the regression equation did not improve the explained variance in job search behaviors (see Table 4). Therefore, the results do not support Hypothesis 3.

To further examine whether the subscales of perceived discrimination had moderating effects on the relationship between CSES and JSB, a series of hierarchical regression analyses were conducted. The hierarchical regression analysis results revealed that the PDN had a significant moderating effect in the relationship between the CSES and Active Job Search Behaviors (AJSB), $F_{\text{change}}(1, 82) = 4.11, p < .05$ (see Table 4). Active Job Search Behaviors (AJSB), a subscale of Job Search Behavior (JSB) scale, consists of items related to active job search tasks such as sending out a resume, going for job interviews, and discussing a work visa with potential employers. The interaction between the CSES and PDN accounted for approximately 4% of additional variance in the AJSB, $R^2_{\text{change}} = .04$. Specifically, for one unit increase in the CSES, there is an estimated increase in the frequency of active job search behaviors for individuals at the mean level of perceived discrimination based on their nationalities; for one unit increase in the PDN, there is an estimated increase in the frequency of active job search behaviors for individuals at the mean level of the CSES in this sample.

CHAPTER 4

Discussion

This chapter will discuss the implications of the results of this study. First, the findings of the analyses will be discussed in response to the research questions and hypotheses. Second, implications for practice of the present study will be discussed. Next, limitations of the study will be addressed and recommendations for future research in relation to career search of international students will be reviewed. Finally, this chapter ends with a summary of the findings of the study.

The purpose of this study was to examine Bandura's Perceived Self-Efficacy Model (1986) in the domain of job search self-efficacy on East Asian international graduate students, and to investigate the moderating effects of two contextual factors in the relationship between job search self-efficacy and job search behaviors. The results of this study confirmed the self-efficacy model and partially supported the hypothesized relations of the four source variables to job search self-efficacy. Specifically, job search-related performance accomplishments and verbal encouragement from family, faculty, and colleagues/friends were found to be unique predictors of job search self-efficacy among East Asian international graduate students. No main moderating effects of the two contextual factors were found. However, the results revealed that perceived discrimination based on nationality moderated the relationship between job search self-efficacy and active job search behaviors (e.g., submit resume, job interviews).

The results of this study confirmed the utility of Bandura's Perceived Self-Efficacy Model (1986, 1997) for East Asian international students and partially supported the hypothesized relations of the four source variables to job search self-efficacy. Overall,

the self-efficacy model was statistically significant, and the four source variables uniquely accounted for approximately 36% of variance of job search self-efficacy in the target population. Only performance accomplishments and verbal persuasion were significantly correlated to one another. This is inconsistent with the findings of previous studies in which moderate to high inter-correlations among the four source variables were reported (Anderson et al., 2001; Lent et al., 1991; & Matsui et al., 1990). The low interrelations among the source variables suggested that the four source variables represented distinct constructs and that multicollinearity was not problematic in this study.

Furthermore, the results indicated that only job search-related performance accomplishments and verbal persuasion significantly and positively predicted an individual's job search self-efficacy. That is, participants who possessed more experiences or skills in job search-related tasks and received more verbal encouragement from their family, faculty, and colleagues/friends regarding their capability to find a job in U.S. were more likely to report higher confidence in their capabilities to perform job search-related activities. Across various domains of self-efficacy, performance accomplishments have been consistently found to be a significant predictor of self-efficacy (Anderson et al., 2001; Lent et al., 1991; & Matsui et al., 1990). This makes sense that when job seekers possess a higher sense of mastery of job search tasks, they are more likely to develop high level of job search self-efficacy. Additionally, verbal persuasion, mostly measured by their perceived level of verbal encouragement from family, faculty, and colleagues/friends in the current study, also contributed significantly to the enhancement of the job search self-efficacy in this sample. Bandura (1997) posited that an individual's self-efficacy is mediated by the perceived credibility and expertness

of the persuaders (pp. 105). East Asians highly value the opinions of authority figures. Thus, based on this finding, it seems that the persuasive efficacy feedback from perceived authority figures significantly boosted students' efficacy. Family members and colleagues/friends may not be considered as authority figures. However, they are mostly likely to be trustworthy and reliable individuals to the target population. Their supportive comments on the capabilities of the students to perform job search-related tasks well can also have a positive impact on their perceived job search self-efficacy.

Vicarious learning and perceived levels of anxiety did not significantly predict job search self-efficacy in this sample. This may be explained by the following reasons. First, descriptive findings of vicarious learning showed that approximately half of the current sample reported the existence of perceived role models in their job search process. This suggests that while half of them reported having someone whom they looked up to or who guided them in their job search process, the other half did not. According to Bandura (1997), one's self-efficacy can be increased by observing the success of people similar to oneself performing the target tasks. The perceived similarity between the role model and the observer is a key element to determine the effects of role modeling. The present study only assessed the participants' level of agreement with the existence of perceived role models in their job search process and did not scrutinize their perceived similarity or other sophisticated differentiation of modeling influences such as the number of and the relationship with their identified role models (Karunanauake & Nauta, 2004). This lack of specificity of the perceived role models may diminish the effects of vicarious learning in this sample. Second, role modeling that conveys effective coping strategies can be powerful in fostering one's self-efficacy (Bandura, 1997). Given the unique job search

challenges this population face, effective coping strategies in relation to job search are most likely to be provided by role models who have encountered similar challenges in the job search or had experiences in mentoring other international job seekers. It is uncertain to what extent the perceived role models of this sample provided effective guidance in coping with the job search challenges, however, it is suspected to be low, given the relatively limited number of international alumni and international students in U.S. academic programs. If this assumption is valid, the overall perceived helpfulness of the perceived role models in this sample could be low and therefore could explain why it did not significantly contribute to the increment of job search self-efficacy. In sum, future investigation focusing on both the quantity and quality of the modeling and their effects in the enhancement of self-efficacy is needed. Another explanation is related to the cognitive status of the participants when responding to the scale items. The sample questions on the Vicarious Learning scale are “In the process of my job search in U.S., I know someone who has a career I would like to pursue” and “In the process of my job search in U.S., there is someone I am trying to be like.” It is possible that when the participants responded those questions, they were thinking about their career or occupational role models and not those who demonstrated skills or shared experiences in relation to the job search process. Thus, the effects of these perceived role models might not have a direct influence on the increase of job search self-efficacy of this sample.

Emotional arousal, measured by the anxiety level of performing job search-related tasks, usually takes place under certain circumstances. Thus, with the absence of the real evocative events/thoughts/behaviors, perceived anxiety levels may be at minimum. When the participants completed the survey, some of them may not have performed or were

about to perform some of the job search tasks (e.g., sending out resume, interview with a potential employer). Thus, the self-reported ratings on their anxiety levels may be lower than what they may experience when they are performing those job search-related tasks. In other words, it is possible that because of the time span design of this study, emotional arousal did not serve as a salient predictor as other non-timely sensitive factors to job search self-efficacy. In addition, Bandura (1997) argued that “a resilient sense of efficacy” is developed after overcoming obstacles through persistent efforts. Perhaps the resilient sense of efficacy of the target population developed over their graduate training in adjusting and succeeding in a new academic and social environment in U.S. enhanced their capabilities to deal with anxiety provoking situations such as job search. This may provide an explanation as to why emotional arousal was not a significant contributor to the job search self-efficacy of the international students in this sample.

No significant gender difference in self-reported job search self-efficacy was found in the present study. Previous studies in career search-related self-efficacy revealed mixed finding. For instance, Decker (1996) reported no gender difference in job search self-efficacy among final semester college students, whereas Van Hooft and colleagues (2005) found that men reported higher levels of job search self-efficacy than women in Netherlands. Perhaps the influences of gender on job search self-efficacy are determined by other demographic characteristics such as age, previous employment status, and broader environmental and cultural factors, and future research may explore these relations.

As hypothesized, performance accomplishments was the strongest predictor of job search self-efficacy among East Asian international graduate student population. The

finding of the current study confirmed Bandura's proposition that performance accomplishments is the most influential source of self-efficacy. Specifically, in the domain of job search self-efficacy, having opportunities to practice and successfully perform these behaviors or developed mastery in these behaviors prior to job search may be especially important for East Asian international graduate students. This finding is consistent with the findings of previous studies examining the sources of math self-efficacy (Lent et al., 1991; Lopez et al., 1992; Matsui et al., 1990), but is inconsistent with a study (Anderson et al., 2001) in which both emotional arousal and performance accomplishments were the strongest contributors to social self-efficacy.

Contrary to expectations, the two contextual variables, perceived control over job search outcomes, perceived job discrimination, did not moderate the relation between job search self-efficacy and job search behaviors. The lack of moderating effects of these two factors suggests that these two contextual factors that were found to influence one's career choices and vocational behaviors may not serve as critical barriers in the job search process for this population. In the original SCCT model (Lent et al., 1994), the proposed moderating effects of contextual factors occur between interest and choice goals, and between choice goals and choice actions. In the present study, it was hypothesized that given the homogeneity of the interests and choice goals of the target population, an indirect moderating relationship may exist between self-efficacy and choice actions. The results did not support this indirect moderating effect. However, recent studies have suggested a modified SCCT model (Cunningham et al., 2005; Lent et al., 2005) in which contextual factors are posited to have an indirect influence on career interests through its direct influence on self-efficacy. In other words, it is believed that

self-efficacy serves as a mediator between contextual factors and interest. This modification gives us some insight into the role of contextual factors in the formation of self-efficacy and provides a possible explanation on why the two identified contextual factors did not serve as moderators between self-efficacy and choice action, job search behaviors in this study. Future research might explore whether self-efficacy mediates the relation between proximal contextual factors and interests with other international samples.

Alternatively, the non-significant moderating effects may be due to the psychological characteristics of this sample. Specifically, research suggested that a positive relationship existed between the level of career certainty and persistence in career choices of Asian international students (Shih & Brown, 2000). The target population is highly homogeneous in terms of short-term goals to seek postgraduate employment in the U.S. Thus, even though motivations behind this goal may vary (Shen & Herr, 2004), high career certainty in finding a job in U.S. may enhance levels of persistence in pursuing this goal regardless of the perceived barriers, which may subsequently reduce the influences of these two contextual factors on their job search behaviors. Furthermore, Bandura (1997) argued that “a resilient sense of efficacy” developed after overcoming obstacles through persistent efforts. Perhaps the resilient sense of efficacy of the target population developed over their graduate years in adjusting and succeeding in a new academic and social environment in U.S. enhanced their level of resourcefulness and persistence in reaching their goals, which is subsequently generalized to other domains of self-efficacy such as job search in U.S. In other words, the resilient

sense of efficacy may be robust to this population despite the adverse environmental obstacles.

Third, the Theory of Planned Behavior (Ajzen, 1991) posited that job search behaviors are indirectly influenced by other variables such as attitudes, perceived social pressure, and self-efficacy. Based on this theoretical framework, other external variables such as job search attitudes, perceived social pressure, and coping efficacy to the perceived barriers (Bandura, 1997; Hackett & Byars, 1996; Lent et al., 2000) may serve as more adequate moderators in the relationship between job search self-efficacy and job search behaviors than participants' subjective observation in these two identified contextual factors. Future studies should explore the role of these variables as moderators in SCCT (Lent et al., 1994).

Fourth, other environmental regulations such as the 12-month OPT legal restriction and the limited cap of work visas may provide another explanation to this non-significant result. Specially, since 2004, the cap of work visas was downsized from 195,000 to 65,000. The perceived pressure from the restricted timeline and the more competitive job market might force international students to maintain or increase their job search intensity regardless of their perceived barriers in job discrimination and control over job search outcomes.

Finally, perceived discrimination has been considered a critical career barrier to the career development and attainment among racial/ethnic minority groups in U.S. However, mixed findings were found in the relationship between perceived discrimination and career outcomes in different minority groups. For instance, Constantine, Wallace, and Kindaichi (2005) found that perceived racial discrimination

positively affected the career indecision of African American adolescents, whereas Rollins (2001) reported that perceived racial discrimination served as a protective factor and helped African American adolescents increase their career decision-making self-efficacy. In addition, Foley and Kidder (2002) reported that the perceptions of racial discrimination were related to the perceived fairness in future employment treatment among Hispanic law students. These findings suggested the diverse effects of perceived discrimination in different minority groups. Therefore, it is possible that perceived job discrimination works differently in the job search behaviors for this population. It is worth noting that even though the perceived job discrimination as a whole did not moderate the hypothesized relationship, its subscale, perceived discrimination based on nationality, was found to moderate the frequency of active job search activities. This result suggests that the moderating effect of perceived discrimination may be situation-specific and time sensitive. For example, East Asian international students' perceived discrimination based on nationality may not become salient until their active job search activities (e.g., contact an employment agency, interviews with a prospective employer) begins because preparatory job search activities do not demand them to disclose or discuss their visa status, which is believed to be related to their perceived job discrimination in relation to nationality.

Theoretical and Practical Implications

The result of this study provides new information about source information of job search self-efficacy based on this sample of East Asian international job seekers. It also expands our understanding of Bandura's Self-Efficacy Model in the area of career search. The results of this study suggest that Bandura's model is generally valid for this target

population but partially valid in terms of the predictive strength of the four source variables in the domain of job search self-efficacy. To expand the scope of the theoretical implications of this model, further examination of this model in other international student samples, and other domains of self-efficacy are needed.

The results of this study shed some light on career intervention programs based on Bandura's Perceived Self-Efficacy Model. It is posited that the comprehensiveness and effectiveness of the intervention programs will be maximized when all four sources of efficacy information are included (Betz, 1992). Thus, implications in relation to vicarious learning and emotional arousal will also be discussed. In the process of developing an intervention program based on the four source information, cultural elements cannot be neglected as developing culturally focused career intervention programs is the key to addressing the unique vocational needs of this target population. Below are some recommendations for career counselors.

First, to increase the perceived performance accomplishments or sense of mastery in job search tasks, "structuring of successful performance accomplishments" is critical. To do so, career counselors can (a) assist East Asian international graduate students to make connections between their job search skills developed from prior jobs and the desired jobs and help them demonstrate those connections in their resume writing and interviews; (b) conduct job search-related presentations or workshops (e.g., resume writing, interview, self-marketing strategies, work visa application process and timeline) that are helpful in building their sense of perceived mastery in job search skills and process; and (c) provide opportunities such as mock interviews for the international job seekers to practice what they have learned from the workshops/presentations to increase

their sense of mastery in job search tasks. A multi-session program such as job-search focused support groups can be more instrumental for international job seekers than a one-time intervention (e.g., mock interview) in this aspect. For example, a multi-session program allows the facilitators to assess the collective and individual needs of the participants and, subsequently, allows them to tailor the content and structure of the group based on these needs. In addition, the progress of the participants can be observed from a longitudinal perspective, which provides opportunities for repeated trials and individualized constructive feedback.

Second, to increase their level of perceived verbal encouragement and guidance among this population, it is critical for career counselors to underscore the strengths of these international job seekers as modesty is a salient cultural value of this population which may lead them to focus on their weakness more than strengths when they present themselves. Some career-related assessment such as Clifton Strength Finder 2.0 (Rath, 2007) can be employed to help them identify their strengths. Additionally, guidance and sometimes direct advice in the development of job search-related skills to this population may be helpful to boost one's sense of self-efficacy (Bandura, 1997).

Furthermore, to increase the benefits of vicarious learning, inviting international alumni or senior graduate students who are further along in the program to share their job search experiences may be functional. If resources are permitted, establishing a culturally focused mentoring program can be helpful in which individuals who are experienced in the process of job search activities and process serve as role models and guidance givers. To reduce the perceived anxiety level in performing job search-related tasks, anxiety

management techniques such as monitoring their psychological reactions during job interviews can be useful.

Additionally, research indicated that regardless of the demographic backgrounds and career plans of the international students, academic programs were perceived more helpful in their career placement choices than the campus career services (Shen et al, 2004). Thus, to develop a comprehensive intervention program that promotes the success of the international job seekers, it requires the collaboration between the academic program and the career services providers.

As for the effects of the perceived discrimination based on nationality on the relationship between job search self-efficacy and the frequency of active job search activities, it is essential to address both the actual and perceived discrimination in future work settings. Some international students may not have a broad picture of the discrimination history and dynamic in U.S. and may not be prepared for the challenges resulting from that. Thus, strategies in assessing and coping with actual and perceived discrimination should be discussed.

Suggestions for Future Research

This study was the first to examine the effects of the four sources of information of job search self-efficacy and its relationship to the job search behaviors among East Asian international graduate students. Future investigation of job search self-efficacy and job search behaviors can replicate this study in other international groups as well as non-international population in U.S. to further understand the prediction strengths of the sources of job search self-efficacy and its influences on the job search behaviors in various groups. In addition, future investigation should examine additional contextual

factors such as perceived coping efficacy to perceived career barriers, acculturation level, career certainty, and influence of family expectations and investigate how they may influence the relationship between job search self-efficacy and job search behaviors. Other external variables posited in Theory of Planned Behavior (Ajzen, 1991) such as attitudes, perceived social pressure, demographics, personality traits, and culture as well as other behavior indicators posited by Bandura (1986) such as persistence, performance, and choice (approach vs. avoidance) can also be included to deepen our understanding in the complexity of job search behaviors of international job seekers in U.S.

Shen and Herr (2004) argued that studies on international students tend to take the pathological views on the well-being international students. Therefore, future research should make additional efforts to scrutinize the positive aspects of international students in their job search process as it may shed some light on the interventions that enhance or reinforce those positive assets. Furthermore, this study examined the job search self-efficacy and the frequency of job search activities within the time span of 6 months prior to the graduation of the participants. Longitudinal research can be conducted by following up the job search outcomes during their 12-month OPT period. No gender differences were found in either job search self-efficacy or behaviors in this sample. However, further examination of gender differences in the job search “outcomes” in this population can be instrumental in increasing our understanding of job attainment and consequent satisfaction among this population. In the present study, the construct of verbal persuasion included mostly verbal encouragement and only one item addressing direct guidance or advice in job search process. In the future research, it is important to include various types of verbal persuasion posited by Bandura (1997) and examine the

types of verbal persuasion that contribute to positive enhancement of job search self-efficacy. Moreover, examining the intersections of other demographic variables such as gender, school/program ranking, major, and perceived English proficiency may also be useful in understanding the interplay of these additional factors on their job search behaviors. Finally, more refined validity studies of the source measures of job search self-efficacy are needed. The factor analysis may yield interesting findings regarding how the four source variables cluster together (see Anderson et al., 2001) and how that may be different for different groups.

Limitations

As with all studies, this study has some limitations. First, given the uniqueness of the target population, the purposeful recruitment may have limited the sample size for the current study. Even though the power analysis indicated the sample size of this study possesses power greater than .80 with medium correlation, the results may be different with an increased sample size. Second, all of the instruments were self-reported measures. Thus, these subjective perceptions may not reflect the actual experiences. Third, this study looked at the job search behaviors within a six month time span prior to graduation. This restriction of time span yielded partial evidences of the job search process and behaviors and can't be generalized to job search outcomes. Furthermore, the marginal internal consistency reliability estimates of the verbal persuasion (VP) and perceived control over job search outcomes (PC) in this sample ($r = .65, .51$, respectively) lead cautions in the findings related to these variables. More psychometrically adequate properties of these scales are needed in future studies.

Summary of Findings

The results of this study confirmed the self-efficacy model and partially supported the hypothesized relations of the four source variables to job search self-efficacy. Specifically, job search-related performance accomplishments and verbal encouragement were found to be unique predictor of job search self-efficacy among the target population. No main moderating effects of the two contextual factors (perceived control over job search outcomes, perceived job discrimination) were found. However, the results revealed that perceived discrimination based on nationality moderated the relationship between job search self-efficacy and active job search behaviors (e.g., submit resume, job interviews). The findings of this study yield several implications to the theory, practice, and future research. Specifically, a comprehensive intervention program based on the four sources of information of job search self-efficacy can be developed with the collaboration between academic programs and career service providers. In addition, more external variables such as perceived coping efficacy to perceived barriers, perceived social pressure, Behavior indicators posited by Bandura (1986), and other demographic variables can be included in future studies to further understand the complexity of the job search behaviors of international job seekers in U.S. Limitations of the study are also discussed.

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Table 1

Correlations, Means, Range, and Standard Deviations of Efficacy Sources and Career Search Self-Efficacy Scores (Pilot Study)

Variable	1	2	3	4	5	6	7
1. Performance accomplishment	—						
2. Vicarious learning	0.27	—					
3. Verbal persuasion	0.44**	0.45**	—				
4. Emotional Arousal	0.80	-0.08	0.22	—			
5. Career Search Self-Efficacy	0.61**	0.46**	0.59**	0.04	—		
6. Social Self-Efficacy	-0.28	-0.02	-0.23	0.33	-0.26	—	
7. Life Satisfaction	0.42**	0.28	0.13	-0.15	0.63**	-0.13	—
<i>M</i>	4.36	3.81	4.13	3.67	6.83	4.39	4.56
<i>SD</i>	1.10	1.13	0.76	1.17	1.74	1.02	1.41

N = 35 (male = 23, female = 12). ** $p < .01$.

Table 2

Means, Standard Deviations, Range, Alpha Coefficients, Skewness, and Kurtosis among the Measured Variables (Main Study)

Variable	1	2	3	4	5	6	7	8
1. Performance accomplishment (PA)	—							
2. Vicarious learning (VIC)	0.08	—						
3. Verbal persuasion (VP)	0.37**	0.20	—					
4. Emotional Arousal (EA)	-0.17	-0.04	0.09	—				
5. Career Search Self-Efficacy (CSES)	0.59**	0.07	0.42**	-0.10	—			
6. Perceived Control (PC)	0.10	0.15	0.10	-0.18	0.18	—		
7. Perceived Discrimination (PD)	-0.15	-0.13	-0.17	0.11	-0.07	-0.24	—	
8. Job Search Behaviors (JSB)	0.50**	-0.09	0.19	0.07	0.44**	-0.16	0.24	—
M	4.63	3.85	4.42	3.77	6.73	3.43	3.48	3.13
SD	0.93	0.96	0.70	1.16	1.57	0.66	0.99	0.88
Actual Ranges	2.3 - 6.5	1.6 - 6.0	3.0 - 6.0	1.0 - 6.0	2.2 - 10.0	1.8 - 5.2	1.0 - 6.0	1.3 - 5.0
Skewness	-0.47	-0.14	0.07	-0.51	0.14	0.14	0.41	0.07
Kurtosis	-0.41	0.03	0.43	0.37	-0.16	0.94	0.24	-0.37
α	0.77	0.82	0.65	0.91	0.98	0.51	0.90	0.93

$N = 86$ (male = 39, female = 47). * $p < .05$. ** $p < .01$.

Table 3

Simultaneous Regression Analysis Predicting Job Search Self-Efficacy

Variable	B	SE B	β	<i>t</i>
1. Performance accomplishment (PA)	0.83	0.16	0.49	5.13**
2. Vicarious learning (VIC)	-2.41	0.15	-0.02	-0.17
3. Verbal persuasion (VP)	0.55	0.22	0.24	2.51**
4. Emotional Arousal (EA)	-4.87	0.12	-0.04	-0.40

Table 4

Hierarchical Regression Analyses Examining the Moderating Effects of Perceived Discrimination in the Relationship between Career Search Efficacy Scale (CSES) and Active Job Search Behaviors (AJSB)

	Predictor	R^2	Adjusted R^2	ΔR^2	F change
<u>JSB</u>					
(1)	Step 1: CSES & PC	0.24	0.22	0.24	12.89
	Step 2: CSES * PC	0.24	0.21	0.00	0.00
(2)	Step 1: CSES & PD	0.27	0.25	0.27	15.2
	Step 2: CSES * PD	0.28	0.25	0.01	0.86
<u>PJSB</u>					
(3)	Step 1: CSES & PDL	0.28	0.27	0.28	17.19
	Step 2: CSES * PDL	0.29	0.26	0.00	0.26
(4)	Step 1: CSES & PDN	0.28	0.26	0.28	16.59
	Step 2: CSES * PDN	0.28	0.25	0.00	0.08
<u>AJSB</u>					
(5)	Step 1: CSES & PDL	0.18	0.16	0.18	9.68
	Step 2: CSES * PDL	0.18	0.15	0.00	0.00
(6)	Step 1: CSES & PDN	0.25	0.23	0.25	13.89
	Step 2: CSES * PDN	0.29	0.26	0.04	4.11*

Note: PJSB = Preparatory Job Search Behaviors; AJSB = Active Job Search Behaviors; CSES = Career Search Efficacy Scale; PC = Perceived Control over Job Search Market; PD = Perceived Discrimination; PDL = Perceived Discrimination Based on Language; PDN = Perceived Discrimination Based on Nationality. N = 86, * $p < .05$.

APPENDIX A Intensive Literature Review

There are three primary foci in the present review. First, to provide a context to better understand the targeted population of the present study, the general demographics of international students will be described and the changing career challenges and needs of this population will be highlighted. Second, since Bandura's Social Cognitive Theory (1986, 1997) will be a central theoretical framework for this investigation, an overview will be provided with a particular focus on the concept of perceived self-efficacy and its wide application in career areas. Furthermore, research will be synthesized in the area of career-related self-efficacy, and specifically, research pertaining to sources of career-related self-efficacy will be highlighted. Finally, literature and rationales on how socio-contextual factors such as perceived job discrimination and perceived control over job search outcomes may influence job search behaviors and outcomes will be presented.

International Students in the U.S.

General Demographics of International Students

There were 565,039 international students enrolled in U.S. colleges and universities for various degrees during the academic year of 2004-2005 (Institute of International Education's Open Doors 2005 Report). After the September 11 tragedy, due to the difficulty of visa attainment, security issues, rising tuition fees, and competition from other English-speaking countries (e.g., Canada, Australia, U.K.), about a 3.1% decline of the enrollment rate was noticed (Institute of International Education's Open Doors 2005 Report). However, in the last four decades, the international student population has been fairly steadily increasing in the U.S. For instance, in 1965, there were over 80,000 international students enrolled in U.S. colleges and universities; and in 2005, about 7

times as many international students attended U.S. colleges and universities compared to 1965.

During the academic year 2004-2005, Asian international students composed about half of the international population in the U.S., with India (14.2%) as the leading country, followed by China (11.1%), South Korea (9.4%), Japan (7.5%), and Taiwan (4.6%). Canada is the only non-Asian country represented among the five leading countries of origin.

Trends of Research on International Students

The international student population is probably the most diverse clientele in counseling. They represent more than 186 nationalities and attend over 2,500 institutions of higher learning in the U.S. (Bikos & Furry, 1999). In responding to the diversity and stable dramatic increases of international students, the body of literature on international students in counseling psychology is also growing.

To date, the majority of the literature pertains to international students' academic and psychological stress such as general adjustment (Kaczmarek, Matlock, Merta, Ames, et al., 1994; Poyrazli, Arbona, Nora, McPherson, & Prsecco, 2002), cross-cultural adjustment (Li & Gasser, 2005), coping strategies (Cross, 1995; Thomas, 1995; Moore, & Constantine, 2005), acculturation (Nilsson & Anderson, 2004; Rahman & Rollock, 2004), attitudes toward help profession (Zhang, 2001; Komiya & Eells, 2001), social support (Chen, Mallinckrodt, & Mobley, 2002), and counseling style preference (Leong & Chou, 1996). Research has suggested that international students in the U.S. expressed greater needs than their American counterparts in career than academic or personal issues (Leong & Sedlacek, 1989). However, very little research (Spence-Rodgers, 2000; Yang

et al., 2002) has been conducted to examine the career developmental needs and vocational situation of individuals from abroad (Leong & Sedlacek, 1989; Spencer-Rodgers, 2000).

Vocational Needs and Challenges of International Students

International employees in the U.S. comprise an important part of the U.S. workforce. In 2000, to increase the benefits to the American workforce by hiring international employees and to reduce the restrictions of work visas, mainly H1B visas, President Clinton signed two bills into law (i.e., S. 2045 and H.R. 5362). H1B visa is the main work visa that allows an international professional or student to legally work for one to six years in the U.S. From fiscal year 2001 to 2003, after the bills were signed, the total number of H1B visas increased from 115,000 to 195,000 each year. However, the cap of H1B visas dramatically decreased to 65,000 after the legitimate timeframe of this bill in 2004 and the following years. While the U.S. is celebrating the lowest unemployment rate (4.7%) since year of 2001 (Department of Labor, 2006), international job seekers are still struggling with the extremely limited and competitive H1B visas available.

The process of becoming an international employee in the U.S. is not only difficult, but also complicated. (Note that the international employees addressed here do not include those hired by American companies directly from overseas). For instance, while seeking employment in the U.S., international students have to deal with unique concerns and vocational challenges such as language barriers and cultural differences, complicated legal requirement (e.g., obtain work permit or visa), and technical procedures, such as apply for Optional Practical Training to obtain one-year legal status to seek employment

in the U.S. (Spence-Rodgers, 2000). In addition to the limited cap of work visas available each year, procedurally, in order to hire an international, an employer has to 1) petition the government for a H1B visa; 2) obtain approval from the Labor Department, with evidence that there is no American candidate equivalent to replace the international individual for the position; and 3) hire a lawyer to deal with the complicated immigration paperwork. Some employers will not even interview international graduates because of the lengthy process and the complications involved. Moreover, after graduation, an international student is only given one year to look for a job in the U.S. by applying for the Optional Practical Training (OPT). OPT is a temporary work permit that allows international students to work in the U.S. for 12 months after graduation, and it waives the sponsorship responsibility for the employers. It is possible that an international graduate can obtain a commitment from their employer for sponsorship to H1B visa status during their OPT period, but the commitment and application action have to take place before August each year as that is usually the time when the cap of H1B visas is reached. If an international individual can not find a job within the OPT timeframe or misses these work visa application deadlines, s/he will be forced to return to his/her home country.

With limited time and the various environmental barriers addressed above, seeking employment in the U.S. can be stressful and frustrating for international students. However, despite the difficulties and limitations addressed above, many international students are still interested in finding a job in the U.S. for various reasons (e.g., obtain American work experiences, financial gains, family expectations, and liberal political environment) and express the need to receive assistance in the course of their job search

in the U.S. (Leong & Sedlacek, 1989, Spencer-Rodgers, 2000). Next, a unique career service program will be briefly presented to further depict the vocational needs of international students in the U.S.

The International Students' Career Services (ISCS) program at the University of Missouri-Columbia is a program specifically designated to provide culturally appropriate career services to the international students on their campus. Before any services were delivered, they conducted two focus groups in 2004 to assess the career needs of international students on their campus. Overall, the focus group participants indicated great needs in obtaining specialized career assistance in job search-related tasks such as writing American style resumes and cover letter, preparing for a job interview, and understanding work regulations placed upon them, etc. In response to the career needs expressed by these international students, the ISCS offered various culturally appropriate services, including a series of international focused job search-related workshops, career consultation/counseling, mock interviews, online discussion board, and a job search support group. The dramatic increase (from 5% to 30%) of their service utilization rate suggests not only the effectiveness of the program but also the previously underserved career needs of the international students on this campus. (Symposium presentation at the APA annual conference, 2006).

Change of Self-Efficacy

International students are a highly select population. They performed exceedingly well at different aspects in their home countries and successfully overcame various admission-related thresholds and tasks (e.g., English examination, visa attainment) to pursue higher education in the U.S. However, they experienced a great deal of life

changes after they arrived in the U.S. A variety of issues such as cultural shock, loneliness, language barriers, cultural differences, racial discrimination (Yoon & Portman, 2004), financial constraints, and acculturation stress (Klin & Liu, 2005), and the resulting adjustment difficulties may in particular reduce their self-efficacy in performing well academically, socially, and psychologically.

Research on Self-Efficacy of International Students

Research on self-efficacy beliefs of international students has mainly focused on their academic self-efficacy (Gong & Fan, 2006; Poyrazli, Arbona, Nora, McPherson, & Prsecco, 2002), social self-efficacy (Li & Gasser, 2005; Constantine, Okazako, & Utsey, 2004), and even more specifically, on counseling self-efficacy among international psychology students (Nilsson & Anderson, 2004). The merits of these studies have helped mental health professionals develop awareness, knowledge, and skills in assisting their international clients or trainees to better transitional adjustment academically and socially. However, consistent with the scarcity of career-related research on the international population, only a small number of studies (e.g., Bikos, & Furry, 1999) investigated the career-related self-efficacy of this particular population. Research has suggested that international students are more likely to seek counseling for career rather than personal or academic issues (Leong & Sedlacek, 1989). Thus, career-related self-efficacy is a critical concept for both vocational researchers and practitioners to investigate. For vocational counselors who work with international students, it is not uncommon to hear academically competent international students express low confidence in or underestimate their capabilities to succeed in obtaining a job in the U.S. Their self-evaluated confidence in succeeding in the job search process, termed as job search self-

efficacy in the present study, is presumed to affect their job search behaviors and outcomes. Thus, empirical investigation on this construct is critical and needed as it will yield practical implications to vocational practitioners who work with international students and employers who are interested in hiring international students. Next, to provide the theoretical framework for the construct of job search self-efficacy, the Social Cognitive Theory (Bandura, 1986; 1997) will be presented and literature specifically on career-related self-efficacy will be discussed.

Social Cognitive Theory and Perceived Self-Efficacy

Overview of Social Cognitive Theory

Unlike theories that overemphasize environmental or biological factors in the development of human behaviors and learning, Bandura's social cognitive theory views individuals as a "self-regulating, proactive, and self-reflective" entity in human functioning (Bandura, 1986). He argued that human functioning is determined by the reciprocal interaction between personal factors (e.g., cognitive, affective, biological aspects), environmental influences, and behaviors. The reciprocal nature of these three elements provides not only a framework to conceptualize human functioning, but also insights and practical interventions to increase effective behaviors and learning.

Self-Efficacy

Among the components that affect human functioning, self-efficacy plays an essential role. Bandura (1986) defines self-efficacy as "*people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performance*" (p. 391). With its emphasis on the proactive role of self-efficacy and positive view on human agency to change behaviors, social cognitive theory was able to

further differentiate itself from other social learning theories, which mainly focus on the role of social context rather than human agency. In addition, self-efficacy is hypothesized to influence a variety of behavioral outcomes (i.e., avoidance versus approach of the decision, performance, and persistence in the face of obstacles). The self-efficacy beliefs are also postulated to provide the “cognitive pathways” through which interventions most effectively achieve desirable changes (Bandura, 1986).

Furthermore, unlike global traits, self-efficacy is “a distinguished set of self beliefs linked to distinct realms of functioning” (Bandura, 2005). In other words, self-efficacy is a domain-specific aspect of human functioning. Without defining the specificity within the self-efficacy domain (e.g., specific tasks and behaviors), the concept of self-efficacy will “lose its meaning” (Betz & Hackett, 1986; Betz, 2006).

It was almost three decades ago that Bandura (1977) first proposed the concept of self-efficacy and highlighted the importance of understanding the cognitive process of how an individual interprets the environment, behavioral, and personal information. Self-efficacy was then considered as a critical construct and was widely researched and adopted to various fields such as education, medicine, business, psychology, athletics, and media studies to enhance the effectiveness of designated task performance.

Specifically, in psychology, self-efficacy has been widely applied to clinical problems such as phobias (Williams, 1992; Johnstone & Page, 2004), depression (Wei, Russell, & Zakalik, 2005), social skills (DeRosier, 2004), and substance abuse (Burleson, & Kaminer, 2005; Whittinghill, Whittinghill, & Loesch, 2000).

Sources of Self-efficacy

Bandura (1986, 1997) argued that self-efficacy can be acquired and modified through four sources: performance accomplishment (e.g., mastery of experiences), vicarious learning (e.g., role modeling), verbal persuasion (e.g., guidance, encouragement), and emotional arousal (e.g., anxiety related to the task performed). However, the extent to which the four self-efficacy source information affects the development of self-efficacy expectations vastly depends on how the individual attend to and cognitively appraises the information (Bandura, 1986, 1997).

The most influential source of self-efficacy is hypothesized to be the perceived judgments of one's previous performance or mastery of experiences. Usually a successful outcome raises self-efficacy and a failure lowers it. The key element here, however, is not the object performance itself, but how an individual subjectively interprets the performance outcomes and develops beliefs in his/her capability to perform the task. The emphasis on one's perceptions about self, environment, and behaviors is the core component across the four sources of self-efficacy.

In addition to cognitively process/evaluate one's own mastery experiences, self-efficacy can be formed through observing others performing the designated tasks, especially when an individual has limited experiences or exposure to those tasks. The effects of observing a role model has been an essential change mechanism of self-efficacy. Given the legal restriction and limited career options available for international students in U.S., their career search self-efficacy and outcome expectations may be challenged. Thus, having role models who have successful experiences in job search in U.S. may be instrumental to their career development. Furthermore, self-efficacy can also be developed by receiving adequate and accurate verbal/social persuasion. The forms of

social persuasion can come from advice, guidance, and/or verbal judgments from others. When an individual receives positive and inspiring persuasion such as encouragement, one's self-efficacy increases; whereas while receiving negative evaluation, false advice, or discouragement, one's self-efficacy decreases.

At last, emotional arousal contains both physical and psychological states in both pleasant (e.g., enthusiasm) and unpleasant (e.g., anxiety) ways and is also theorized to impact people's confidence in their capability to perform the task. Performance anxiety can be a good example illustrating how emotional status can discount one's real capabilities. Because counseling psychology is a helping profession, even though we acknowledge the positive assets of a client, we tend to look for problems that require attention and assistance. Thus, instead of emphasizing the pleasant side of emotional arousal, the vast majority of the research has been solely focusing on the unpleasant aspect, particularly task-related anxiety, of this source variable.

Career-Related Self-Efficacy

In vocational psychology, Hackett and Betz (1981) were the two pioneers that first applied the concept of self-efficacy to the understanding of career development of women. With particular interest in understanding the under-representation of women in male-dominated career fields, particularly in math, science, and engineering, they hypothesized that males and females received different levels and types of self-efficacy source information (Bandura, 1977) due to the differential sex-role socialization process and that the gender differences in self-efficacy expectations might consequently influence the career-related choices and behaviors of women. In an empirical study (Betz & Hackett, 1981), they found that while taking traditionality of occupational alternatives

into account, perceived occupational self-efficacy was found to significantly contribute to the gender differences in the consideration of traditional and nontraditional careers.

Since Hackett and Betz's (1981) pioneering work, more researchers have followed their steps to investigate the relationship between career self-efficacy and other career-related variables such as vocational interests (e.g., Ji, Lapan, & Tate, 2004; Rottinghaus, Larson, & Borgen, 2003; Silvia, 2003), outcome expectations (e.g., Ali, McWhirter, & Chronister, 2005), career choices (e.g., Flores & O'Brien, 2002; Lent et al., 2001), career indecision (e.g., Lent, Brown, & Larkin, 1987; Multon, Brown, & Lent, 1991), and work-related performance (e.g., Stajkovic & Luthans, 1998). The majority of the research studies supported the mediating role of career self-efficacy in the process of choosing a career (Lent, Brown, & Larkin, 1984; Lent & Hackett, 1987; Lent, Lopez, & Bieschke, 1991; Zeldin & Parajes, 2000). The prosperity of research on career self-efficacy in vocational psychology is also evident with the number of reviews in various areas (e.g., Lindely, 2006; Rottinghaus et al., 2003; Stajkovic & Luthans, 1998) and of special journal issues that have addressed this area (e.g., *Journal of Career Assessment*, 2002; 2006; *The Counseling Psychologist*, 1998).

Career-related self-efficacy was originally utilized to understand the career development of women and is now widely applied to a variety of diverse populations such as racial/ethnic minority group members, gay, lesbian, and bisexual individuals, people with disability (for a recent review on self-efficacy on diverse population, see Lindley, 2006), military veterans (Krieshok, Ulven, Hecox, & Wettersten, 2000), socio-economically disadvantaged individuals (Sterrett, 1998), and female offenders (Chartrand & Rose, 1996). However, only limited research (Bikos & Furry, 1999; Lent et al., 2003)

of career-related self-efficacy has been conducted on international populations. The wide range of cultural diversity international student groups represents deserves further examination on the cultural appropriateness of the existing career theories or models.

With respect to measurement issues, a number of researchers (e.g., Betz & Hackett, 1986; Betz & Hackett, 2006; Lent & Brown, 2006) have called for attention to measurement of self-efficacy mainly due to its domain-specific nature and demands of precise definition and behavioral indicators that capture the behaviors/tasks of interest. Thus, further development of specific measures tailored to targeted behavioral tasks is highly advised.

Because math performance has been utilized as a major selection filter to advance in education, especially in science, engineering, and technology-based fields, the domain of math self-efficacy (Lent et al., 1991) and science and engineering self-efficacy (Lent, Brown, & Larkin, 1984; 1985) has received considerable attention. However, as Betz (2006) stated, the major body of the literature of domain-specific studies has been “within math/science or engineering domains and very little on domains other than that”. Thus, more research on other career-related domains such as career search self-efficacy is needed.

Research on Sources of Career-Related Self-Efficacy

The central role of career-related self-efficacy in the course of career development has been acknowledged and empirically supported (Lent et al., 1994). Given that, it is essential to explore how an individual constructs his/her career-related self-efficacy (Lent et al., 1991) and utilizes the knowledge about the antecedents of these efficacy beliefs to develop effective and efficient career interventions (Anderson & Betz, 2001; Lent et al.,

1991; Solberg, Good, Nord, 1994). However, there have been only a few research studies (Betz & Schifano, 2000; Campbell & Hackett, 1986; Lent, Lopez, & Bieschke, 1991) investigating how these career-related self-efficacy beliefs were constructed, and the majority have concentrated on the math self-efficacy domain and its contribution to gender differences in perceived math self-efficacy. These studies also have been conducted on relatively homogeneous groups of American students.

Consistent with Bandura's (1986) theory, performance accomplishment has been found to be the most influential predictor of career-related self-efficacy (e.g., Anderson & Betz, 2001; Hackett, Betz, O'Halloran, & Romac, 1990; Lent et al., 1991; Matsui, Matsui, Ohnishi, 1990). However, again, the majority of the studies on sources of self-efficacy focus on the math domain. Potentially due to the concentration of studies on the same domain, it may repeatedly confirm the previous findings and has little generalizability to other domains or other populations. As mentioned earlier, math performance is a crucial construct to investigate as it serves as a filter in advancing education. Other domains, however, related to later career development stages such as career search and work adjustment are also critical career behaviors/constructs and deserve more attention.

Particular attention should be paid to the source structure of these domains as it would yield practical implications for both vocational researchers and counselors who mainly work in college and community agency settings. For example, in the International Students Career Services office at the University of Missouri-Columbia, international clients often seek assistance mainly for job search-related issues. Thus, to better assist them, it is helpful and important for us to know empirically whether or not job search self-efficacy plays a significant role in predicting the job search behaviors and outcomes

among this population, and through what avenues/sources we can most effectively enhance their job search self-efficacy.

Among the studies listed above, there are some unique differences that are worthy of attention. For instance, Lent and his colleagues (1991) reported that both perceived and actual math performance explained a significant amount of variance in a sample of college students but that none of the other three presumed source variables (i.e., vicarious learning, verbal persuasion, and emotional arousal) contributed unique variance to the prediction equation. Whereas Matsui and his colleagues (1990) found that among Japanese high school students, vicarious learning and emotional arousal explained a small unique variance in math self-efficacy in addition to math performance. These conflicting findings inform us of the importance of examining the extent that these four presumed sources of efficacy beliefs “individually and collectively contribute to the self-efficacy domain of interest” (Lent et al., 1991) as well as the predictive strength of the source variables across developmental stages and cultures.

Next, two studies examining the sources of career-related self-efficacy on two different domains will be presented. More specifically, the main focus will be on their measurement instruments, primary findings, and implications.

Sources of Math Self-Efficacy

Lent and his colleagues (1991) conducted a research study examining the relation of the four presumed source variables to math self-efficacy among university students. They revised the Math Self-Efficacy Scale (Betz & Hackett, 1983) and self-constructed the Sources of Math Efficacy Scale (SMES) to assess the four sources of math self-efficacy. The SMES contains 40 items, with 10 items for each source variable. The first

three subscales (i.e., performance accomplishment, vicarious learning, and verbal persuasion) were developed by the authors whereas the emotional arousal subscale was adopted from Betz (1978), who revised the items from the Fennema-Sherman Math Anxiety Subscale. Coefficient alphas for personal performance, vicarious learning, social persuasion, and emotional arousal scales were .86, .56, .74, and .90, respectively. Two-week test-retest reliability correlations ranged from .85 to .96. The result generally supported the postulated relations of the four source information to math self-efficacy and that previous math performance was the most influential source to math self-efficacy. However, after the math performance variable was entered into the regression model, the other three presumed source variables did not significantly explain additional variance in the prediction equation. The source variables were all significantly interrelated except for vicarious learning, which is consistent with other studies (Matsui et al., 1990; Lopez & Lent, 1992) on sources of math self-efficacy. Two clusters/dimensions were identified based on the criteria of direct (i.e., performance accomplishment, verbal persuasion, and emotional arousal) and indirect experiences (vicarious learning). Lent et al. highlighted cautions regarding the scale they constructed, especially the low internal consistency of the vicarious learning subscale. They also pointed out that the high interrelation among the source variables “may have attenuated the predictive value of the vicarious learning, verbal persuasion, and emotional arousal” (Lent et al., 1991).

Sources of Social Self-Efficacy

Following the procedures of source of self-efficacy scale development by Lent et al., (1991), Anderson and Betz (2001) developed the Social Source Scale. Social self-efficacy was defined “as an individual’s confidence in his/her ability to engage in the

social interaction tasks necessary to initiate and maintain interpersonal relationships in social life and career activities.” This scale consists of 40 items, with 10 items on each source variable. The scale was utilized as the predictor variable to social self-efficacy and social confidence (the criteria variables) on 250 undergraduate students. The coefficient alpha for personal performance, vicarious learning, social persuasion, and emotional arousal scales were .80, .77, .91, and .87, respectively. The reliability of the total scale was .94. The two-cluster tendency (Lent et al., 1991) was also present in this study. The factor structure showed overlap among performance accomplishment, verbal persuasion, and emotional arousal and suggested vicarious learning as a distinct dimension from the other source variables. However, vicarious learning did not significantly contribute to the prediction equation after the other three direct experience variables were entered. In addition, inconsistent with other research findings, performance accomplishment was not the most influential predictor to social self-efficacy, but the three direct experience variables together explained the most variance.

There are several similarities between these two studies and two of the similarities raise measurement concerns. First, both studies used self-constructed scales to assess the sources of self-efficacy information. Even though they went through rigorous item generating process and factor analysis, the high interrelations among the source variables is a big concern. It is unclear that the high interrelations are stemming from the interrelated nature of the four variables or the discriminative level of the items per se. This particular concern may be reduced by utilizing various existing scales (with reasonable reliability and validity) that correspond to the four source variables and modifying the items to be relevant to the domain of interest. Second, the participants

were mainly undergraduate Caucasian students in these two studies. The similar cluster phenomenon and findings may result from the homogeneity of the samples and the generalizability to other age and cultural groups is limited. Thus, similar research intention should be continued on other samples.

Career-related self-efficacy has been postulated to have both developmental and environmental antecedents (Bandura, 1986). Developmental aspect of career search self-efficacy refers to relatively stable personality traits such as locus of control, interpersonal skills, instrumentality (Abdalla, 1994), and family attachment (O'Brien, 1996). On the other hand, the environmental antecedent of career-related self-efficacy is conceptualized to come from the four external source variables (i.e., personal performance accomplishment, vicarious learning, verbal persuasion, and emotional arousal). Many researchers have called for more investigation in the four source variables of career-related self-efficacy (Anderson & Betz, 2001; Lent et al., 1991; Lent & Brown, 2006) because of its malleability and intervention/programming implications. Thus, the environmental aspect of career search self-efficacy will be the primary focus of the present study.

Career Search Self-efficacy

Career search self-efficacy refers to an individual's judgment/beliefs in his/her ability to "successfully perform a variety of career exploration activities, including their judgments about their abilities to successfully explore personal values and interests, effectively network with professionals in a field of interest, successfully interview for a job, etc" (Solberg, Good, & Fisher, Brown, et al., 1995). According to this definition, career search involves exploration activities at both personal and job search levels.

However, the scope of career search self-efficacy in the current study will be specifically confined to self-efficacy related to job search-related tasks (e.g., job hunting, networking, and interview) for the following two reasons.

First, the targeted population of the present study is East Asian international graduate students who are planning to obtain employment in the U.S. after their graduation and planning to graduate in 6 months from the time they take the survey. The presenting issues of this population at this specific career stage are presumed to be more job-search oriented. Second, job search self-efficacy has been documented to be an important predictor of job search behaviors and employment outcomes (Eden & Aviram, 1993; Kanfer & Hulin, 1985; Saks & Ashforth, 1999), and received empirical support in its positive effects in a relatively short timeframe (Bikos & Furry, 1999). Thus, for the targeted population, it appears to be rational and appropriate to focus on this specific domain.

Research on job search behaviors and outcomes has received a great deal of attention particularly in industrial/organizational psychology (Saks & Ashforth, 1999). However, the majority of the research focused on the correlational relationship between job search behaviors, unemployment and psychological well-being (Vansteenkiste, De Witte, & Feather, 2005), turnover, job loss, less research (Saks & Ashforth, 1999; Van Hooft, Born, Taris, & van de Flier, 2005) has focused on the causality relations (e.g., predictors and outcomes) of job search behaviors.

As the research design and variables of the current study are partially built upon that of Saks and Ashforth (1999), a more detailed discussion about their study will be presented here. Saks and Ashforth examined the relations among job search self-efficacy, perceived

control over job search outcome, job search behaviors, and employment status among 384 college students three months before and four months after their graduation. Consistent with previous studies (Kanfer & Hulin, 1985), results suggest that job search self-efficacy positively predicted three job search behaviors (i.e., preparatory job search behaviors, active job search behaviors, and job search intensity). Furthermore, job search self-efficacy predicted employment status at graduation. As hypothesized, perceived control over job search outcome was positively related to preparatory job search behaviors such as occupational information gathering. Surprisingly, however, it was negatively related to both active job search behaviors and intensity. A possible explanation was given by highlighting the fact that when people felt less control over the task outcomes, they might “engage in more active job search activities as a compensatory response.” Moreover, with regard to job search behaviors, utilization of separate measures of preparatory and active job search behaviors (Blau, 1994) was empirically supported by the distinct dimensions. The authors expressed concerns/limitations about the timeframe set for their study. They argued that three months before graduation may be the time that students are more engaging in active job search activities such as completing job applications and sending resumes to potential employers rather than preparatory activities. Thus, by expanding the timeframe to six months before graduation, it may help better capture the frequency of preparatory job search behaviors. For international students in the U.S., the extension of timeframe to six months may also be more strategically appropriate due to their timeline of OPT application and perceived and actual challenges of seeking employment in the U.S. after graduation. These internal and

external concerns may force them to start job search preparation work earlier than their American counterparts.

Contextual Factors

Social Cognitive Career Theory (SCCT; Lent et al., 1994), an elaborated extension of Bandura's (1986) Social Cognitive Theory, emphasizes both person-cognitive variables (e.g., self-efficacy, outcome expectations, and goals) and the interplay between contextual factors (e.g., race, gender, socioeconomic status, career barriers, social support) and person-cognitive variables in the process of career development. However, the majority of the research on SCCT has focused on person-cognitive variables and only a few research studies (Ali, Rasheed, McWhirter, & Chronister, 2005; Chronister, & McWhirter, 2004; Lent, Brown, et al, 2001; 2003) have examined the effects of environmental variables on an individual's career development. Career choices by no means take place in a social vacuum (Lent, Brown, et al., 2001). To international students in the U.S., because of the unique career challenges and restrictions placed upon them in the process of their job search, contextual factors appear to be even more critical in understanding their job search behaviors and performance.

According to the Social Cognitive Career Theory (SCCT; Lent, Brown, & Hackett, 1994) model, contextual factors are postulated to moderate the relation between choice goals (e.g., seek employment in the U.S.) and choice actions (e.g., job search behaviors). Because interest and choice goals are presumed to be homogeneous among the targeted population in the current study, these two variables are not included in the present study. However, the role of contextual factors as moderating variables between self-efficacy and choice actions will be examined. Two specific contextual factors (i.e.,

perceived job discrimination and perceived control over job search outcomes) are investigated in the current study.

Perceived job discrimination. Perceived job discrimination has been considered to be a critical career barrier to the career development and attainment among disadvantaged individuals such as women (Uhlmann & Cohen, 2005), racial/ethnic minority groups (McWhirter, 1997; Mor Barak, Findler, & Wind, 2003), Lesbian, Gay, Bisexual, and Transgender individuals (Chung, 1995; Croteau & Von Destinon, 1994; Day & Schoenrade, 1997), and people with disabilities (Balsler, 2000; Herbert & Dambrocia, 1989). These studies suggested that compared to their dominant counterparts, minority individuals' perceived job discrimination at workplace are more likely to prevent them from reaching their career goals. Moreover, the majority of these studies focused on the consequent adjustment and psychological well-being of these groups within the workplace. Only a few studies (e.g., McWhirter, 1997) examined how these individuals' perceived discrimination at future workplaces may influence their career choices or job search behaviors. International students may encounter job discrimination in the process of their job search because of various minority statuses such as nationality and language skills. Consequently, these percepts of job discrimination may negatively affect their job search behaviors and performance and therefore is a crucial variable to investigate.

Perceived control over job search outcome. As reviewed earlier, perceived control is a crucial variable in job search behavior research (Saks & Ashforth, 1999). Even though these researchers (1999) provided a persuasive rationale for their contradictory findings between perceived control over job search outcomes and job search behaviors, more exploration in relation to the role of perceived control in the job

search model is needed. It is possible instead of serving as a predictor to job search behaviors, perceived control may moderate the relations between job search self-efficacy and outcomes. Furthermore, the construct of perceived control seems to fit well with the definition of contextual factors and therefore is theoretically appropriate to be considered as a moderator in the current study.

Summary

International students face unique challenges in seeking employment in the U.S. and have needs in obtaining assistance in job search-related tasks. Since job search self-efficacy has received empirical support in its positive prediction to job search behaviors and employment status, it seems promising to explore the antecedents and outcomes of job search self-efficacy on this population. Bandura's Perceived Self-Efficacy model has been suggested to be applicable to not only individual-oriented, but also collective-oriented cultures (Bandura, 1997). Because of the unique and challenging conditions international students encounter in the course of their job search, examining the applicability of this model on this particular population appears warranted. In addition, contextual factors have also been theoretically postulated and empirically documented to moderate relation between self-efficacy and choice actions. Specifically, in the course of job search, given the competitive and difficult job market, international individuals' perceived control over job search outcome may influence the relation between job search self-efficacy and behaviors. In addition, potential job discrimination is present to a racial/ethnic minority individual in the U.S. and is believed to affect the career options of minority groups across races, gender, sexual orientation, and age. Thus, it also appears

crucial to investigate how an international individual's perceived job discrimination will facilitate or hinder their job search behaviors.

This study has three potential implications. First, it will provide empirical evidence for the applicability of job search self-efficacy model on international students. Second, the source structure findings can offer practical insights and applications in career interventions and programming. Third, it may inform both researchers and practitioners of how contextual factors play a role in an international individual's job search process.

The foreseeable limitation of the present study comes from its confined population. To increase the internal validity of this study, only international students from East Asia (e.g., China, Taiwan, Japan, and Korea) will be included, because historically, East Asian countries shared the same cultural roots and practice similar cultural values such as filial piety and Confucianism and are culturally different from other Asian countries such as India. Thus, the focus on this population seems appropriate from a cultural and historical perspective. Furthermore, about 33% of the international students come from East Asian countries listed above. Thus, this study will yield adequate generalizability and will draw important implications for a considerable number of international student groups in the U.S. Moreover, the current study only focuses on international graduate students mainly because the level of job positions (professional versus entry level) between international graduate and undergraduate students involve different job search tasks and resulting challenges.

In sum, the purpose of the study is two-fold. The first goal is to examine the source structure of the job search self-efficacy on East Asian international graduate students. The second goal is to investigate the role of contextual factors (i.e., perceived control

over job search outcome, perceived job discrimination) in the relation between job search self-efficacy and job search behaviors. The three main research hypotheses are as follows:

- 1) Job search-related performance accomplishment, vicarious learning, and verbal persuasion will positively predict an individual's job search self-efficacy whereas job search-related anxiety will negatively predict an individual's job search self-efficacy.
- 2) Among the four source variables, performance accomplishment will be the strongest predictor to job search self-efficacy.
- 3) The contextual factors, perceived control over job search outcomes and perceived job discrimination, will moderate the relation between job search self-efficacy and job search behaviors.

APPENDIX B

Recruitment Email

Dear XXX,

My name is Yi-Jiun Lin, a doctoral student in the Counseling Psychology program at the University of Missouri-Columbia. I am currently conducting a study for my dissertation that aims at examining job search self-efficacy of East Asian international students who are interested in seeking post-graduation employment in the U.S. This research was approved by IRB of University of Missouri-Columbia. **I am writing to sincerely ask you to forward the following message to the international students on your campus.** Thanks for your assistance!

Yi-Jiun Lin

Dear international students,

Are you interested in a chance to win a \$150 gift certificate for 15-20 minutes of your time? Here is an opportunity! Below is an online survey link related to the job search self-efficacy of East Asian international students. This is a study about you and your career possibilities and will take only 15-20 minutes to fill out.

To participate in this study, you have to be:

1. an international graduate student from East Asia (e.g., China, Japan, Korea, Hong Kong, Taiwan)
2. graduating in 2007 and interested in seeking post-graduate employment in the U.S.

By filling out the survey (<http://www.surveymonkey.com/s.asp?u=760983356851>), you will be given a **comprehensive list of job search resources** and an opportunity to win a raffle prize (One **\$150** dollar gift certificate or one of twenty **\$20** dollar gift certificates to Amazon.com). For more information about my study, please refer to the link provided. Please feel free to forward this survey link to friends or acquaintances that are eligible for the survey as well. Thanks!

Sincerely,

Yi-Jiun Lin

Doctoral Candidate

Educational, School, and Counseling Psychology Department

University of Missouri-Columbia

APPENDIX C

Consent Form

Job Search Self-Efficacy of East Asian International Student

Informed Consent

Please note that you must be over the age of 18 and an international graduate student from East Asia to participate in this study.

I agree to participate in this research exploring job search self-efficacy of East Asian international graduate students in the U.S. and their job search behaviors. Yi-Jiun Lin, a doctoral student in the Department of Educational, School, and Counseling Psychology (ESCP), is directing this research project under the supervision of Dr. Lisa Y. Flores, an assistant professor in the ESCP Department. The ESCP Department at the University of Missouri-Columbia is sponsoring this research.

Purpose: The purpose of this study is to examine the job search self-efficacy and job search behaviors of East Asian international students studying in the U.S.

Procedure: This research involves the completion of a one-time survey. (a) You are requested to read the consent form carefully. After reading this, please click “NEXT” if you want to participate in this study. (b) You are asked to complete an online survey, which will take 15-20 minutes. (c) Finally, you will be asked to write your e-mail address if interested in participating in the raffle drawing. Your e-mail will be used only if you win the raffle prize and will be deleted after the winner notification.

Requirements for the survey: The survey packet contains a total of 104 items and will take 15-20 minutes for you to complete. The items included in the survey packet are demographic questions, scales measuring career search self-efficacy, sources of job search self-efficacy, perceived discrimination, perceived control over job search outcomes, and job search behaviors.

Voluntary Participation: Participation is completely voluntary. You are free to discontinue participation at any time, even after you have begun involvement with the study. You will not have any penalty for refusal or withdrawal of the consent.

New Developments: You will be told of any new information that develops during the course of this research that might affect your willingness to participate in this study.

Confidentiality of the Data: Complete confidentiality cannot be ensured as the transmission of online survey data is not secure. However, once survey data is received, your survey responses will be entirely confidential. Your e-mail address will be separated from data and kept in order to contact you only if you win the raffle prize. After notifying the winners of raffle prize, your e-mail address

will be destroyed.

Result Sharing: Results of this research may be published or presented and the findings will be presented in aggregate (group) form with no individual identifying information.

Benefits: After completing the survey, you will be able to download a comprehensive list of job search-related resources generated by the researcher. Twenty raffle prizes will be given to the participants. Thus, you will also have a chance to win one \$150 dollar raffle prize as well as one \$20 Amazon.com online gift certificate, if you decide to participate in the raffle drawing. The results of this study will have implications for the further career services for international students.

Risks: The risks of participating in this study are minimal. You may feel tired while completing the surveys, and may experience mild emotional discomfort while thinking about and rating your experiences as an international job seeker.

I have read and understand the terms and conditions of this study. If I have further questions, I will contact Yi-Jiun Lin at yl4xf@mizzou.edu or Dr. Lisa Flores at floresly@missouri.edu. For additional information regarding human participation in research, please contact the UMC Campus IRB Office at 573-882-9585.

If you agree to participate in this study, please click NEXT to start this survey.

APPENDIX D

Demographic Questionnaire

Please answer the following questions:

Age: _____

Sex: Male Female

Marital Status: Single Married Divorced

Major: _____

Degree pursued: Master Doctorate

Expected graduation date: _____ (month and year)

Country of origin: _____

Are you planning to look for a post-graduate job in U.S.? Yes No

Length of time that you have stayed in the U.S: _____ years _____ months

Length of time that you have worked in your home country: _____ years _____ months

Career preference: Academia Non-academic field Undecided

How long have you been learning English? _____ years

From 1(very poor) to 7 (very good), please self-rate your English fluency in your chosen field/career: _____

APPENDIX E

SOURCES OF JOB SEARCH SELF-EFFICACY SCALE

1. *Performance accomplishment:* (self-constructed, 8 items)

Please indicate the extent to which you agree or disagree with each of the following statements.

(1= Strongly Disagree, 2= Moderately Disagree, 3= Slightly Disagree, 4= Slightly Agree, 5= Moderately Agree, 6= Strongly Agree)

<i>I have successfully.....</i>						
found a job in my home country	1	2	3	4	5	6
applied for a paid job (e.g., assistantship, internship) in the U.S.	1	2	3	4	5	6
established networking in my professional field.	1	2	3	4	5	6
learned key components of writing a resume in American style.	1	2	3	4	5	6
learned basic interview questions.	1	2	3	4	5	6
learned the work regulation policies (e.g., Optional Practical Training, H1B work visa) placed upon international students in the U.S.	1	2	3	4	5	6
learned self-marketing skills.	1	2	3	4	5	6
learned how to discuss H1B work visa issues during a job interview.	1	2	3	4	5	6

2. *Vicarious learning:* (7 items) Inspiration/Modeling subscale adopted from the Influence of Others on Academic and Career Decisions Scale (IOACDS; Nauta & Kokaly, 2001)

Please indicate the extent to which you agree or disagree with each of the following statements.

(1= Strongly Disagree, 2= Moderately Disagree, 3= Slightly Disagree, 4= Slightly Agree, 5= Moderately Agree, 6= Strongly Agree)

In the process of my job search in the U.S.,.....

there is someone I am trying to be like	1	2	3	4	5	6
there is no one particularly inspirational to me. (R)	1	2	3	4	5	6
there is someone I can look up to.	1	2	3	4	5	6
there is no one I am trying to be like. (R)	1	2	3	4	5	6
there is someone guiding me.	1	2	3	4	5	6
I know someone who has a career I would like to pursue.	1	2	3	4	5	6
there is no one who inspires me. (R)	1	2	3	4	5	6

3. *Verbal persuasion:* (modified based on the Sources of Math Self-Efficacy (Lent et al., 1991; 8 items)

Please indicate the extent to which you agree or disagree with each of the following statements.

(1= Strongly Disagree, 2= Moderately Disagree, 3= Slightly Disagree, 4= Slightly Agree, 5= Moderately Agree, 6= Strongly Agree)

My family has discouraged me to seek employment in the U.S. (R)	1	2	3	4	5	6
My professor(s) have made positive comments on my capability to obtain the job I desire in the U.S.	1	2	3	4	5	6
My friend(s) have encouraged me to look for a job in the U.S.	1	2	3	4	5	6
I have received encouragement from my colleagues/classmates to pursue a career in the U.S.	1	2	3	4	5	6
My professor(s) have shared with me practical tips in job search in the U.S.	1	2	3	4	5	6
I feel discouraged after talking to other international students who have been looking for a job in the U.S. (R)	1	2	3	4	5	6
My family has encouraged me to work in the U.S. after I receive my degree.	1	2	3	4	5	6
I was often encouraged to consider job options in the U.S.	1	2	3	4	5	6

4. *Emotional arousal:* (self-constructed based on the job search-related tasks derived from the Career Search Efficacy Scale, 9 items)

Please rate your anxiety level if you are about to perform the following tasks

(1= not anxious at all; 6= very anxious)

Identify job openings	1	2	3	4	5	6
Conduct an informational interview, in which you would interview someone to gather information about a similar position you are interested	1	2	3	4	5	6
Market/sell your skills/qualifications to employers	1	2	3	4	5	6
Prepare for a job interview	1	2	3	4	5	6
Write an American style resume	1	2	3	4	5	6
Develop a cover letter to be mailed to employers	1	2	3	4	5	6
Meet new people in your field in a professional setting	1	2	3	4	5	6
Conduct a phone interview with an employer	1	2	3	4	5	6
Discuss H1B visa issues during a job interview	1	2	3	4	5	6

APPENDIX F
Career Search Efficacy Scale

From a scale 1 (not very confident at all) to 10 (very confident), please indicate how CONFIDENT you are in performing each of the tasks listed below.

(1= not confident at all; 10= very confident)

Meet new people in careers of interest.	1	2	3	4	5	6	7	8	9	10
Develop an effective cover letter to be mailed to employers.	1	2	3	4	5	6	7	8	9	10
Evaluate a job during an interview.	1	2	3	4	5	6	7	8	9	10
Conduct an information interview (informal information gathering from a professional in your field)	1	2	3	4	5	6	7	8	9	10
Utilize your social networks to gain employment.	1	2	3	4	5	6	7	8	9	10
Sell/Market your skills and abilities to an employer.	1	2	3	4	5	6	7	8	9	10
Use your social network to identify job opportunities.	1	2	3	4	5	6	7	8	9	10
Integrate your knowledge of yourself, the beliefs and values of others, and your career information into realistic and satisfying career planning	1	2	3	4	5	6	7	8	9	10
Develop realistic strategies for locating and securing employment.	1	2	3	4	5	6	7	8	9	10
Join organizations that can assist you in your career (e.g., networking, professional development).	1	2	3	4	5	6	7	8	9	10
Develop skills you can use across a lifetime of career planning.	1	2	3	4	5	6	7	8	9	10
Dress in a way that communicates success during a job interview.	1	2	3	4	5	6	7	8	9	10
Identify the resources you need to find in the career you want.	1	2	3	4	5	6	7	8	9	10
Contact a personnel office to secure a job interview.	1	2	3	4	5	6	7	8	9	10
Know where to find information about potential employers in order to make good career decisions.	1	2	3	4	5	6	7	8	9	10
Solicit help from an established career person to help you plan your career in a given field.	1	2	3	4	5	6	7	8	9	10
Achieve a satisfying career.	1	2	3	4	5	6	7	8	9	10
Find an employer that will provide you with the opportunities you want.	1	2	3	4	5	6	7	8	9	10
Know how to relate to your boss in order to enhance your career.	1	2	3	4	5	6	7	8	9	10
Evaluate the job requirements and work environment during a job interview.	1	2	3	4	5	6	7	8	9	10
Prepare for an interview.	1	2	3	4	5	6	7	8	9	10
Select helpful people at the workplace with whom to associate.	1	2	3	4	5	6	7	8	9	10
Identify your work skills.	1	2	3	4	5	6	7	8	9	10
Organize and carry out your career goals.	1	2	3	4	5	6	7	8	9	10
Deal effectively with societal barriers.	1	2	3	4	5	6	7	8	9	10
Research potential career options prior to searching for a job.	1	2	3	4	5	6	7	8	9	10
Deal effectively with personal barriers.	1	2	3	4	5	6	7	8	9	10
Develop effective questions for an information interview.	1	2	3	4	5	6	7	8	9	10
Understand how your skills can be effectively used in a variety of jobs.	1	2	3	4	5	6	7	8	9	10
Demonstrate your communication skills at work to the potential employers.	1	2	3	4	5	6	7	8	9	10
Discuss H1-B visa issues with an employer.	1	2	3	4	5	6	7	8	9	10
Conduct a job interview in English.	1	2	3	4	5	6	7	8	9	10

APPENDIX G
Perceived Control over Job Search Outcomes Scale

Please indicate the extent to which you agree or disagree with each of the following statements.

(1= Strongly Disagree, 2= Moderately Disagree, 3= Slightly Disagree, 4= Slightly Agree, 5= Moderately Agree, 6= Strongly Agree)

Finding a job is totally within my control.	1	2	3	4	5	6
My ability to find a job is controlled by the labor market. (R)	1	2	3	4	5	6
I can influence the outcomes of my job search.	1	2	3	4	5	6
I do not have very much control when it comes to finding a job. (R)	1	2	3	4	5	6
Finding a good job depends on things I can't control. (R)	1	2	3	4	5	6

APPENDIX H
Perceived Job Discrimination Scale

Please indicate the extent to which you agree or disagree with each of the following statements.

(1= Strongly Disagree, 2= Moderately Disagree, 3= Slightly Disagree, 4= Slightly Agree, 5= Moderately Agree, 6= Strongly Agree)

In my future job, I will probably....

be treated differently because I am not a native English speaker	1	2	3	4	5	6
experience negative comments about my English accent	1	2	3	4	5	6
have a harder time getting hired than English speakers	1	2	3	4	5	6
experience discrimination because I am not a native English speaker	1	2	3	4	5	6
be treated differently because of my nationality	1	2	3	4	5	6
experience negative comments about my nationality	1	2	3	4	5	6
have a harder time getting hired than people of other nationalities	1	2	3	4	5	6
experience discrimination because of my nationality	1	2	3	4	5	6

APPENDIX I

Job Search Behaviors Scale

Please indicate the frequency you have engaged in the following behaviors in the last 6 months.

1 = Never (0 times), 2 = Rarely (1 or 2 times), 3 = Occasionally (3 to 5 times), 4 = Frequently (6 to 9 times), and 5 = Very frequently (at least 10 times)

Identify job opening from newspapers, journals, websites, or professional organizations.	1	2	3	4	5
Prepare/revise your resume.	1	2	3	4	5
Gather information about getting a job in the U.S.	1	2	3	4	5
Talk with faculty, professional colleagues, friends, family about possible jobs.	1	2	3	4	5
Talk with previous employers or business acquaintances about their knowing of potential jobs.	1	2	3	4	5
Utilize resources on campus/department to generated potential job openings.	1	2	3	4	5
Obtained information about H1-B visa.	1	2	3	4	5
Listed yourself as a job applicant in a newspaper, journal, website, or professional association.	1	2	3	4	5
Sent out resumes to potential employers.	1	2	3	4	5
Filled out a job application.	1	2	3	4	5
Had a job interview with a prospective employer.	1	2	3	4	5
Contact an employment agency (e.g., monster.com, Head Hunter, local career center) for job openings.	1	2	3	4	5
Telephoned a prospective employer.	1	2	3	4	5

APPENDIX J

Top 20 Universities Host Most International Students (Open Doors 2006)

1. University of Southern California (CA)
2. Columbia University (NY)
3. Purdue University, Main Campus (IN)
4. New York University (NY)
5. University of Texas at Austin (TX)
6. University of Illinois-Urbana Champaign (IN)
7. Michigan University- Ann Arbor (MI)
8. Boston University (MA)
9. The Ohio State University (OH)
10. SUNY-University at Buffalo (NY)
11. University of California- Los Angeles
12. University of Florida (FL)
13. Cornell University (NY)
14. University of Pennsylvania (PA)
15. Harvard University (MA)
16. Texas A & M University (TX)
17. Indiana University at Bloomington (IN)
18. University of Maryland College Park (MD)
19. University of Houston (TX)
20. University of Minnesota- Twin Cities (MN)

VITA

Yi-Jiun Lin was born and raised in Taiwan. She graduated from the National Taiwan Normal University in 1998 with a Bachelor's Degree in Educational Psychology and Guidance, and a Minor in Chinese Literature. She earned a Master's Degree in School Counseling from University of Missouri-Columbia in 2003 and continued to pursue her Doctoral Degree in Counseling Psychology program at University of Missouri-Columbia. She will complete her pre-doctoral internship at The Ohio State University Counseling Center in 2008, and plans to pursue a career in a university counseling center as a staff psychologist.