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Exploring the Career Development Challenges and Expectations of International Students During the COVID-19 Pandemic

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ABSTRACT

In this study, the interrelations between locus of control, perceived social support, career decision self-efficacy, and career outcome expectations among international students in the United States during the COVID-19 pandemic was investigated through the lens of Social Cognitive Career Theory (SCCT). Based on structural equation modeling, data from 194 international students at a large Midwestern research institution in the United States, revealed that career decision self-efficacy plays a significant mediating role in the relationships between age, locus of control, and career outcome expectations. These results provide valuable insights into the career development process of international students during a global pandemic. The implications of these findings and directions for future research are thoroughly discussed.

Keywords: social cognitive career theory, career outcome expectations, international students, covid-19 pandemic

Outcome expectations, a fundamental component of Social Cognitive Career Theory (SCCT; Lent et al., 1994), pertain to the beliefs regarding the consequences of performing specific behaviors. This concept has become a cornerstone in vocational psychology research, with numerous studies exploring its role across various contexts and populations (Dahl et al., 2021; Fouad et al., 1997; Franco et al., 2019). Despite extensive research on outcome expectations,

studies focusing on international students, particularly those seeking employment opportunities in foreign countries, have been relatively limited (Franco et al., 2019; Reynolds & Constantine, 2007). Unlike their domestic counterparts, international students face unique challenges related to career outcome expectations, such as acculturative stress and visa issues (Leah, 2021; Franco et al., 2019). Recognizing these challenges, career scholars have called for a broader understanding of career outcome expectations, emphasizing the influence of personal, cultural, and contextual factors within the SCCT framework (Sheu & Bordon, 2017). Examining the experiences of international students during the COVID-19 pandemic can deepen the understanding of their career development process and how SCCT variables function in this unique context.

LITERATURE REVIEW

Social-cognitive Variables

SCCT emphasizes the importance of outcome expectations, self-efficacy, contextual factors, and personal goals in shaping an individual's career trajectory. The theory proposes that a complex interaction of personal factors (such as self-efficacy and personal goals), contextual factors (like social support and financial resources), and learning experiences collectively influence career outcomes.

In the general sense, outcome expectations are the predicted results of behaviors and motivation across contexts (Bandura, 1977, 1989; Betz & Vuyten, 1997). The SCCT framework, however, built upon this concept to define career outcome expectations (COE) as the beliefs about the outcomes of various courses of career related actions (Lent et al., 2013). These beliefs about a person's actions as they relate to their career direction have the potential to impact the person's overall career trajectory either positively or negatively. For example, a person with high self-efficacy in a particular career field, coupled with positive outcome expectations and aligned interests, is more likely to pursue a career in that particular field (Brown & Lent, 1996). Conversely, negative outcome expectations may act as obstacles in the career decision-making process, hindering career adjustment (Lindley, 2005; Swanson et al., 1996).

Career Decision Self-Efficacy (CDSE) is defined as an individual's belief in their ability to successfully execute tasks necessary for making career decisions (Taylor & Betz, 1983). Within the SCCT, CDSE is identified as a pivotal element in both career development and decision-making processes (Creed et al., 2007; Taylor & Betz, 1983). SCCT posits that CDSE moderates career decision-making by facilitating the implementation of an individual's career beliefs (Lent et al., 1994). A recent study by Li and Lindo (2022) revealed a negative correlation between CDSE and career decision-making difficulties among international students. Additionally, existing literature consistently demonstrates associations between CDSE and various factors such as COE (Gushue, 2006), social support (Choi et al., 2012), and locus of control (Lease & Dahlbeck, 2009) across diverse racial and ethnic groups.

Rotter (1996) defined locus of control (LOC) as an individual's belief about the source of control over outcomes of their behavior. Individuals with an internal LOC attribute the outcomes of their actions to their own abilities and efforts. In contrast, those with an external LOC believe that external factors such as fate or luck determine their outcomes (Rotter, 1996). Empirical studies have established a connection between LOC and several psychological constructs. Specifically, LOC has been associated with Career Decision Self-Efficacy (CDSE) (Strauser & Ketz, 2002; Ulas & Yildirim, 2019), Career Outcome Expectations (COE) (Taylor & Betz, 1983), and Perceived Social Support (PSS) (Llamas et al., 2018).

In the context of Social Cognitive Career Theory (SCCT), LOC is particularly focused on the perception of control over career outcomes (Strauser & Ketz, 2002). Meanwhile, CDSE emphasizes an individual's belief in their ability to take effective career-related actions. Research indicates that individuals with a high internal LOC are more likely to take responsibility for their career decision-making processes (Hartman et al., 1988). Conversely, those with a high external LOC tend to exhibit indecisiveness (Salomone, 1982) and a fear of commitment in their career choices (Betz & Serling, 1993).

Perceived social support (PSS) is defined as the psychological or practical assistance individuals gain through their social relationships (Cobb, 1976). When looking at this from a career development lens, PSS encompasses various forms of support, including advice and information about career planning, financial assistance for career development, and emotional support during periods of career uncertainty or following unsuccessful job interviews (Isik, 2013; Lent et al., 2000). This support can come from a range of social connections, such as parents, friends, and significant others (Isik, 2013; Jiang et al., 2017). Within the framework of SCCT, PSS is considered a form of contextual affordance that aids in the development and execution of an individual's career choices (Lent et al., 2000). Research (Franco et al., 2019; Isik, 2013) has demonstrated that PSS, particularly within the host country, positively correlates with COE among international students.

Challenges and Adaptation of International Students

In 2022-2023, there was a total of 1,057,188 international students studying in the United States, a marked decrease of 11.5% (Institute of International Education [IIE], 2023). This decline, primarily attributed to the COVID-19 pandemic (Sustarsic & Zhang, 2022; Whatley & Fischer, 2022), has significantly impacted the experiences of these students. During the pandemic, international students encountered numerous uncertainties in their student lives, including challenges related to international travel, self-quarantine, social distancing, vaccines, and increased instances of racism (Gomes & Forbes-Mewett, 2021; Leah, 2021; Son et al., 2020). These difficulties compounded the stress and anxiety for international students and their families (Leah, 2021), highlighting the importance of locus of control and perceived social support. Students with an internal locus of control might actively seek solutions and adapt to these new challenges, while those with an external locus of control may feel more

overwhelmed and reliant on external assistance. Moreover, the role of social support during this period cannot be understated. Support from peers, faculty, and local communities has likely been crucial in helping these students navigate the pandemic's challenges, offering both emotional backing and practical advice, especially in terms of adapting to new modes of learning and living in a foreign country.

In addition to pandemic-related challenges, international students who desire to work in the U.S. face complex visa regulations. They typically hold an F-1 student visa, allowing them to work in specific campus roles (e.g., teaching assistant, office assistant) and apply for a U.S. social security number for tax purposes (Nonimmigrant Classes, 2011). They may also pursue off-campus employment through Curricular Practical Training (CPT) and Optional Practical Training (OPT), with the former being campus-approved and the latter requiring authorization from U.S. Citizenship and Immigration Services (USCIS, 2021). The pursuit of an H-1B visa post-graduation presents further challenges, with the number of petitions (398,269 in 2021) far exceeding the annual cap set by Congress (65,000) (USCIS, 2022). This limitation poses a significant barrier for those needing to work during their studies and post-graduation, potentially impacting their future employment opportunities in the United States (Nonimmigrant Classes, 2011).

The Present Study

Current research exploring COE of international students, particularly in relation to variables such as CDSE, PSS, and LOC within the SCCT framework, is notably sparse, especially during the COVID-19 pandemic. This study aims to fill this gap by examining the COE among international students preparing to enter the workforce as international students navigate a multitude of challenges. Drawing upon SCCT and extant literature on COE across various cohorts, this study proposes that CDSE serves as a mediating factor in the relationship between personal factors (such as gender, age, LOC, and CDSE) and environmental factors (PSS), and their collective impact on COE within the sample. hypotheses are as follows:

- H₁: Based on SCCT, there is a significant positive correlation between LOC, PSS, and CDSE. Specifically, individuals with a higher internal LOC and greater PSS are expected to report higher levels of CDSE.
- H₂: Drawing from the SCCT framework, CDSE is positively related to COE suggesting that higher CDSE will lead to more optimistic COE.
- H₃: LOC and PSS have an indirect positive effect on COE through their impact on CDSE. This mediating role of CDSE aligns with SCCT, which posits that self-efficacy beliefs mediate the influence of personal and contextual factors on career-related outcomes.

METHOD

Participants and Procedures

The sample consisted of 203 university-enrolled international students in a large Midwestern research institution in the United States, ranging age from 19 to 41 years ($M = 26.66$, $SD = 4.73$). Nine participants were excluded from the analyses because they had missing data for one or more of the variables of the study. Of the sample ($N = 194$), 41.9% ($n = 85$) were female, 45.8% ($n = 93$) were male, and 12.3% ($n = 16$) did not report their gender identification. Regarding education level, 49.7% ($n = 89$) identified as undergraduate, 36.3% ($n = 65$) identified as master's, and 14% ($n = 25$) identified as doctoral students. Regarding race/ethnicity, 55.2% ($n = 107$) were Asian, 5.2% ($n = 10$) Caucasian, 9.3% ($n = 18$) Latino/Hispanic, 6.7% ($n = 13$) African, and 23.7% ($n = 46$) chose not to respond to the question. International students came from a total of 42 countries. Regarding the top five countries of the international students were India ($n = 40$), Vietnam ($n = 29$), Malaysia ($n = 17$), Nepal ($n = 12$), and China ($n = 7$). Data was collected between 2020 and 2021.

Prior to data collection, Institutional Review Board (IRB) approval was secured, ensuring that all research activities adhered to their prescribed guidelines. Participants were recruited through the Office of International Students at the targeted institution. Interested students were able to register for participation via the department's research participation website. The eligibility criteria for inclusion in the study required participants to: (a) self-identify as international students, (b) be 18 years or older, and (c) be currently enrolled at the target institution. Those who expressed interest were provided with a link to the survey, hosted on the online survey platform Qualtrics. It was emphasized to participants that their involvement in the study was entirely voluntary and that they had the option to withdraw at any point without any consequences. Prior to survey commencement, all participants provided signed informed consents. Participants received the opportunity to enter a raffle for a \$25 electronic Amazon gift card upon completing the survey.

Measures

The survey included various measures to collect data on international students' career outcome expectations and potential predictive variables. These specific measures were selected due to their effectiveness in similar research contexts, unless otherwise noted.

A demographic questionnaire was specifically designed for this study. Participants were asked to provide information on their racial and ethnic background, place of birth, age, gender, financial resources, and level of education. This data aimed to capture a comprehensive demographic profile of each participant, which is essential for analyzing the impact of these factors on career outcome expectations.

Locus of Control

LOC was measured using a forced-choice, 29-item scale (LOC; Rotter, 1966), which was devised specifically to access the extent to which an individual possesses internal or external reinforcement beliefs. According to Rotter (1966), individuals can be categorized into two types: internal and external. A sample item is “(a) many of the unhappy things in people’s lives are partly due to bad luck and (b) people’s misfortunes result from the mistakes they make (response options: True and False)”. Higher scores are indicative of externality while lower scores are indicative of internality. Ng et al. (2006) reported a good average reliability of .79 based on a meta-analysis of 120 studies using the scale. In the present study, the internal consistency for total scores was .81.

Perceived Social Support

To assess perceived social support, the 12-item multidimensional scale of Perceived Social Support (PSS; Zimet et al., 1988) was used. This scale covers three dimensions: family, friends, and significant others and each item is rated on a seven-point Likert-type response format (1= very strongly disagree to 7 = very strongly agree). A total score is calculated by summing the results for all items. A sample item is “there is a special person who is around when I am in need”. Higher scores indicated greater perceived support. Işık (2013) reported alpha coefficient ranged between .80 and .95 with a sample of college students and found social support to be related positively to career outcome expectations. The 12-item scale yielded a reliability ($\alpha = .86$) for the current study.

Career Outcome Expectation

Career outcome expectations were measured using the 12-item revised Vocational Outcome Expectations Scale (COE; Metheny & McWhirter, 2013), which assesses respondents’ level of positive expectations regarding the outcomes of their career choice (sample question: “my career planning will lead to a satisfying career for me”; response options: 1 = strongly disagree to 4 = strongly agree). The scale has been evidenced as having high internal reliability ($\alpha = .87$) and, in support of validity, to be associated with career decision self-efficacy (Işık, 2013). The internal consistency reliability of this scale was .91 in this study.

Career Decision Self-Efficacy

The Career Decision Self-Efficacy Scale Short Form (CDSES-SF, Betz et al., 1996), a 25-item measure, was used to assess the individuals’ career decision self-efficacy based on five dimensions (self-appraisal, occupational information, goal selection, planning, and problem solving). A sample item is “finding information in the library about occupations you are interested in” (response options: 1 = no confidence at all to 5 = complete confidence). The internal consistency α for the CDSES-SF ranges from .93 to .94 (Betz & Luzzo, 1996). The current data revealed an alpha coefficient of .87.

Data Analysis

To investigate the mediation effects and relationships among variables, data analysis commenced with the computation of descriptive statistics for all measurement model indicators using SPSS (Version 27). An initial assessment of skewness and kurtosis statistics for these indicators informed the decision to employ maximum likelihood estimation methods through the Structural Equation Modeling (SEM) analyses, conducted using Mplus (Version 7.0). Consistent with the recommendation by Kochanska et al. (2008), a saturated model in SEM was utilized to estimate total, indirect, and direct effects among the variables. A saturated model, which specifies all possible paths between all variables, is instrumental in minimizing model misspecification (Preacher & Hayes, 2004). This approach was particularly relevant for testing the mediating role of CDSE on COE, as informed by both the review of pertinent literature (e.g., Hui & Lent, 2018; Urbanaviciute et al., 2016) and the guiding principles of SCCT (Lent et al., 1994). To ensure the robustness of the model, multiple fit indicators were examined, analyzing parameter estimates for both plausibility and statistical significance (Kline, 2011).

RESULTS

In assessing the normality of the data for each variable, Cook's distance with a significance level of $p < .001$ was used for multivariate tests of skewness and kurtosis. This analysis revealed no multivariate outliers. The observed significant correlations were below .51, indicating low to moderate relationships among the variables, which suggests that multicollinearity is not a significant concern (Tabachnick & Fidell, 2007). The descriptive statistics and zero-order correlations are detailed in Table 1. Notably, LOC exhibited a positive correlation with CDSE, $r = .23, p < .05$. PSS was positively correlated with both CDSE, $r = .26, p < .01$, and COE, $r = .45, p < .01$. Furthermore, a significant relationship was found between CDSE and COE, $r = .51, p < .01$.

To determine the indirect effects at varying levels of CDSE (full, partial, and none), the bootstrapping method as described by Shrout and Bolger (2002) was employed. A total of 1000 bootstrap samples were generated from the dataset to assess the significance of the mediated pathways involving CDSE. These samples were used to establish a 95% confidence interval for each indirect effect. An indirect effect was deemed statistically significant at $p < .01$ if the 95% confidence interval did not include zero.

The relationships, both indirect and direct, within the hypothesized multiple mediation model are presented in Table 2. The mediation effects that were statistically significant are as follows: PSS predicted COE both directly ($B = .11, p < .01$) and indirectly (95% CI [.02, .07], $p < .01$) through CDSE, although these effects were small in magnitude. Additionally, both age (95% CI [.03, .23], $p < .01$) and LOC (95% CI [.05, .53], $p < .05$) were found to fully mediate COE through CDSE, with the direct effects of these variables on COE being non-significant. These indirect effects ranged from small to moderate in size. Lastly,

gender did not demonstrate a significant predictive relationship with COE through CDSE, nor did it directly influence CDSE.

Table 1: Descriptive Statistics, Cronbach’s Alphas, and Correlations Among the Variables

Variable	<i>M</i>	<i>SD</i>	Skew	Kurt	LOC	PSS	CDSE	COE
LOC	89.60	2.27	- 0.23	- 0.42	–			
PSS	80.02	16.47	- 0.90	- 0.58	.72	–		
CDSE	285.92	64.28	- 0.70	- 0.25	.23*	.26**	–	
COE	39.42	5.42	- 0.02	- 0.72	.61	.45**	.51**	–

Note. *N* = 194. Skew = skewness; Kurt = kurtosis; LOC = locus of control; PSS = perceived social support; CDSE = career decision self-efficacy; COE = career outcome expectation. **p* < .05. ***p* < .01.

Table 2: Direct and Indirect Relationships in the Hypothesized Mediation Model

Path	Direct	Indirect	95% CI	Mediation Result
G → COE	-.90	-	-	-
G → CDSE → COE	-	.06	[-.64, .89]	No
A → COE	-.15	-	-	-
A → CDSE → COE	-	.13**	[.03, .23]	Full
LOC → COE	-.29	-	-	-
LOC → CDSE → COE	-	.25*	[.05, .53]	Full
PSS → COE	.11**	-	-	-
PSS → CDSE → COE	-	.04**	[.02, .07]	Partial

Note. CI = confidence interval; G = gender; A = age; COE = career outcome expectations; CDSE = career decision self-efficacy; LOC = locus of control; PSS = perceived social support. **p* < .05. ***p* < .01.

DISCUSSION

In this study, grounded in SCCT, the intricate mediation among COE, LOC, PSS, and CDSE was explored within a diverse group of 194 international students during the COVID-19 pandemic. This research project extended the SCCT

model's application, traditionally focusing on the interplay between LOC, PSS, and CDSE, to an international context under unique pandemic-related challenges.

The findings supported Hypothesis 1 as a positive correlation between both LOC and PSS with CDSE was observed, echoing the findings of Llamas et al. (2018) and Strauser & Ketz (2002). Notably, international students with a high internal LOC exhibited greater career decision-making self-efficacy compared to those with a high external LOC. This aligns with prior research (Hartman et al., 1988; Strauser & Ketz, 2002) and underscores the relevance of internal LOC in enhancing CDSE. Further, consistent with studies by Franco et al. (2019) and Isik (2013), a strong link was evidenced between positive PSS, particularly familial support, and higher CDSE. This is particularly significant considering that 96.4% of the current sample relied on family for financial support, highlighting the importance of family in the career decision-making processes of international students.

Secondly, a positive association was found between CDSE and COE which supported Hypothesis 2. This is in line with the theoretical propositions of Lent and Brown (1996) who evidenced that CDSE predicts COE. This finding is crucial, especially under the unique pressures of the COVID-19 pandemic, suggesting that international students with high CDSE maintained positive career expectations and were proactive in pursuing their career goals.

Finally, Hypothesis 3 was supported by demonstrating that CDSE is a pivotal mediator in the relationship between both LOC and PSS with COE. This is in alignment with previous studies that have demonstrated similar associations (Choi et al., 2012; Lease & Dahlbeck, 2009; Ulas & Yildirim, 2019). Specifically, international students who received positive family support and possessed a high internal LOC were more likely to develop strong CDSE and positive career expectations. Intriguingly, this study contributes to the existing literature by evidencing that CDSE fully mediated the relationship between age and COE in international students. This finding suggests the need for future research to examine how age interacts with CDSE, potentially comparing international students with their domestic counterparts to uncover broader implications for career development theory and practice.

Implications for Research and Practice

The findings of this study offer several key implications for both research and practice in the context of career development among international students during the COVID-19 pandemic. Firstly, this research reinforces the SCCT by illustrating that CDSE is a pivotal mediator linking age, PSS, LOC, and COE in this demographic. This underscores the relevance of SCCT in understanding the unique career development and decision-making processes of international students, particularly under the challenging circumstances of a global pandemic.

In terms of practice, these insights suggest that career counseling services should incorporate considerations of internal LOC and familial support when assessing international students. By focusing on these areas, career counselors can gain a more nuanced understanding of their clients' career decision-making

processes. Additionally, given the significant influence of high internal LOC and family support on CDSE, practitioners are encouraged to recognize how international students may differ from their domestic peers in aspects like LOC, family dynamics, identity development, and acculturation, as highlighted in previous research (Li et al., 2016; Sue et al., 2019).

Lastly, this study highlights the urgent need for continued research on the long-term impacts of the pandemic on the career development and decision-making of international students. Many participants reported experiencing heightened anxiety and stress due to pandemic-related restrictions in the United States. For instance, the Department of Homeland Security's (2022) policy allows only one online course to count toward a full course of study per semester for international students. However, the pandemic-induced shift to online learning posed a significant risk to their F-1 visa status due to campus shutdowns (Gallagher & Palmer, 2020). This scenario underscores the necessity for policy adjustments and further research to explore the evolving challenges faced by international students and their implications for career development and educational policies.

Limitations and Future Research

This study, while providing valuable insights, is subject to several limitations that suggest avenues for future research. Firstly, the cross-sectional design precludes the establishment of causality, despite the hypotheses being grounded in theoretical frameworks. To address this, future studies could employ longitudinal designs to more effectively discern causal relationships among the key variables of COE, LOC, PSS, and CDSE. Secondly, the reliance on self-report measures for assessing study variables raises the possibility of common-method bias. Future research might consider incorporating more objective or mixed method approaches to mitigate this concern. Thirdly, the generalizability of findings may be limited due to the sample composition. Participants were drawn from a diverse group of undergraduate, master's, and doctoral international students at a large Midwestern research institution in the United States. This raises questions about the applicability of these findings to international students in different educational settings or geographical locations. Further research could focus on more homogeneous populations, such as East Asian undergraduate international students, to explore the variability of these relationships across different demographic groups. Lastly, the study design did not encompass all aspects of the SCCT model. Key variables from the model such as learning experiences, interests, choice goals, and choice actions were not analyzed. Future research should aim to incorporate these elements to provide a more comprehensive understanding of the SCCT model's applicability to international students, particularly in the context of the unique challenges posed by the COVID-19 pandemic. By addressing these limitations, future research can build on these findings to deepen the understanding of the career development processes of international students and enhance the applicability and effectiveness of career counseling practices tailored to this group.

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Some sections, with minimal or no editing

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