

Exploring the Relationship between Career Decision-Making Self-Efficacy and Career Exploration Behavior among College Students

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Abstract: *The present study investigated the relationship between career decision-making self-efficacy (CDMSE) and career exploration behavior among college students, as well as the unique contributions of CDMSE dimensions and potential gender differences. Grounded in Social Cognitive Career Theory, this quantitative study employed a cross-sectional design and a convenience sample of 500 undergraduate students (250 males, 250 females) from a large public university in the United States. Participants completed the Career Decision-Making Self-Efficacy Scale (CDSES), the Career Exploration Survey (CES), and a demographic questionnaire. Hierarchical multiple regression analyses revealed that CDMSE significantly predicted career exploration behavior, accounting for 19% of the variance after controlling for demographic variables. Self-appraisal, occupational information, and goal selection emerged as significant unique predictors of career exploration, while planning and problem-solving did not contribute significantly to the model. Independent samples t-tests indicated no significant gender differences in CDMSE or career exploration, and moderation analyses showed that gender did not moderate the relationship between these variables. The findings suggest that enhancing college students' CDMSE, particularly in the areas of self-appraisal, occupational information, and goal selection, may promote greater engagement in career exploration activities. Implications for theory, practice, and future research are discussed.*

Keywords: *Career Decision-Making Self-Efficacy, Career Exploration, Social Cognitive Career Theory, College Students, Gender Differences*

1. Introduction

Career decision-making and exploration are crucial tasks for college students as they navigate their academic and professional paths. The choices made during this period can have long-lasting effects on their future career trajectories and overall life satisfaction ^[1]. As students face the challenges of a rapidly changing and competitive job market, it is essential to understand the factors that influence their career-related behaviors and outcomes.

One key construct that has gained attention in the career development literature is career decision-making self-efficacy (CDMSE). CDMSE refers to an individual's beliefs about their ability to successfully engage in career decision-making tasks, such as gathering occupational information, setting career goals, and making career-related choices ^[2]. Numerous studies have demonstrated the positive effects of CDMSE on various career outcomes, including career maturity, career decidedness, and career satisfaction ^[3,4].

The current study is grounded in Social Cognitive Career Theory (SCCT)^[5], which emphasizes the interplay among personal, environmental, and behavioral factors in shaping career development. According to SCCT, self-efficacy beliefs play a central role in influencing individuals' career-related interests, goals, and actions. The theory posits that individuals with higher levels of self-efficacy are more likely to engage in exploratory behaviors, persist in the face of obstacles, and make well-informed career decisions ^[1].

While previous research has established the importance of CDMSE in career development, less attention has been paid to its specific relationship with career exploration behavior among college students. Career exploration, which involves actively seeking information about oneself and the world

of work, is a critical prerequisite for making sound career decisions ^[6]. Therefore, understanding how CDMSE influences students' engagement in career exploration activities can provide valuable insights for designing effective career interventions.

The purpose of this study is to investigate the relationship between career decision-making self-efficacy and career exploration behavior among college students. Specifically, the following research questions will be addressed: To what extent does career decision-making self-efficacy predict college students' career exploration behavior? Which dimensions of career decision-making self-efficacy (e.g., self-appraisal, occupational information, goal selection) are most strongly associated with career exploration behavior? Are there gender differences in the relationship between career decision-making self-efficacy and career exploration behavior? By answering these questions, the current study aims to contribute to the growing body of literature on career development and provide practical implications for career counseling and interventions targeting college students.

Career decision-making self-efficacy (CDMSE) is a construct derived from Bandura's (1986) self-efficacy theory and applied to the domain of career decision-making. It refers to an individual's beliefs about their capability to successfully perform career decision-making tasks, such as self-appraisal, gathering occupational information, goal selection, planning, and problem-solving ^[2]. CDMSE is considered a domain-specific form of self-efficacy and has been widely studied in the context of career development ^[1].

Research has identified several antecedents of CDMSE, including personality traits (e.g., conscientiousness, emotional stability), contextual factors (e.g., social support, learning experiences), and demographic variables (e.g., age, gender) ^[3,4]. Studies have also demonstrated the positive effects of CDMSE on various career outcomes, such as career maturity ^[7], career decidedness ^[8], career exploration ^[9], and career satisfaction.

Career exploration refers to the activities that individuals engage in to gather information about themselves and the world of work ^[6]. It is a critical process that helps individuals make informed career decisions and navigate their career paths ^[10]. Career exploration can be divided into two main types: self-exploration and environmental exploration ^[6]. Self-exploration involves examining one's interests, values, skills, and experiences, while environmental exploration focuses on gathering information about occupations, organizations, and the labor market ^[11].

Career exploration is particularly important for college students as they face the challenges of making career choices and transitioning from education to work. Engaging in exploratory activities allows students to clarify their self-concept, identify potential career paths, and develop realistic expectations about the world of work ^[12]. Research has shown that career exploration is positively associated with career decision-making, career adaptability, and overall career success ^[10,13].

Although the relationship between CDMSE and career exploration behavior has been theoretically posited ^[5], empirical research examining this link is relatively scarce. A few studies have found positive associations between CDMSE and career exploration activities, such as information-seeking and networking ^[14,15]. However, these studies have often focused on specific populations (e.g., high school students, ethnic minorities) or have used limited measures of career exploration.

Despite the growing body of research on CDMSE and career exploration, several gaps in the literature remain. First, there is a need for more comprehensive studies that examine the relationship between CDMSE and multiple dimensions of career exploration behavior among college students. Second, the relative importance of different CDMSE dimensions (e.g., self-appraisal, goal selection) in predicting career exploration has not been thoroughly investigated. Finally, potential gender differences in the CDMSE-exploration link have been largely overlooked.

The current study aims to address these gaps by (1) using well-established measures of CDMSE and career exploration, (2) examining the unique contributions of CDMSE dimensions in predicting exploration behavior, and (3) exploring gender differences in the relationship between CDMSE and exploration. By doing so, this study seeks to provide a more nuanced understanding of the role of CDMSE in college students' career exploration and offer practical implications for career counseling and interventions.

2. Methods

2.1 Research design and approach

The current study employed a cross-sectional, quantitative research design to investigate the relationship between career decision-making self-efficacy and career exploration behavior among college students. This approach allowed for the examination of the predictive power of CDMSE on career exploration and the exploration of potential gender differences in a large sample of students at a single point in time.

2.2 Participants and sampling procedure

Participants were recruited using a convenience sampling method from a large public university in the Sichuan province. The sample consisted of undergraduate students enrolled in various academic majors. To be eligible for the study, participants had to be at least 18 years old and currently enrolled in a degree program. A total of 500 students (250 males, 250 females) participated in the study, with ages ranging from 18 to 25 years ($M = 20.5$, $SD = 1.7$).

2.3 Measures

The CDSSES ^[2] was used to assess participants' beliefs about their ability to successfully complete tasks necessary for making career decisions. The scale consists of 25 items, with five subscales: self-appraisal, occupational information, goal selection, planning, and problem-solving. Each item is rated on a 5-point Likert scale ranging from 1 (no confidence at all) to 5 (complete confidence). The CDSSES has demonstrated strong internal consistency reliability ($\alpha = .94$) and validity in previous research ^[2].

The CES ^[6] was used to measure participants' career exploration behavior. The scale consists of 16 items, with four subscales: environment exploration, self-exploration, intended-systematic exploration, and frequency of exploration. Each item is rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The CES has shown adequate reliability ($\alpha = .78$) and validity in previous studies ^[6].

A demographic questionnaire was used to gather information about participants' age, gender, ethnicity, academic major, and year in college.

After obtaining institutional review board approval, the researchers contacted course instructors and requested permission to recruit participants from their classes. Interested students were provided with a link to an online survey hosted on Qualtrics. The survey included an informed consent form, the CDSSES, the CES, and the demographic questionnaire. Participation was voluntary, and students were assured that their responses would remain confidential and not affect their course grades. The survey took approximately 20 minutes to complete.

Data were analyzed using IBM SPSS Statistics (Version 26). First, descriptive statistics and correlations among study variables were computed. Second, hierarchical multiple regression analyses were conducted to examine the predictive power of CDMSE (overall score and subscale scores) on career exploration behavior, controlling for demographic variables. Third, independent samples t-tests were performed to explore gender differences in CDMSE and career exploration. Finally, moderation analyses using the PROCESS macro ^[16] were conducted to investigate whether gender moderates the relationship between CDMSE and career exploration.

3. Results

3.1 Descriptive statistics and correlations among study variables

Means, standard deviations, and correlations among the study variables are presented in Table 1. Career decision-making self-efficacy (CDMSE) was positively correlated with career exploration behavior ($r = .45$, $p < .001$), indicating that higher levels of CDMSE were associated with greater engagement in career exploration activities. All CDMSE subscales were also positively correlated with career exploration, with correlations ranging from .32 to .41 (all $ps < .001$). Gender was not significantly correlated with either CDMSE or career exploration.

Table 1: Means, Standard Deviations, and Correlations Among Study Variables.

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1) CDMSE	3.85	0.62	-							
2) Self-appraisal	3.92	0.71	.85**	-						
3) Occupational info	3.78	0.68	.82**	.65**	-					
4) Goal selection	3.89	0.66	.84**	.68**	.62**	-				
5) Planning	3.81	0.70	.87**	.67**	.64**	.70**	-			
6) Problem-solving	3.83	0.69	.86**	.66**	.63**	.69**	.72**	-		
7) Career exploration	3.61	0.57	.45**	.37**	.41**	.39**	.36**	.32**	-	
8) Gender	0.50	0.5	-0.06	-0.04	-0.07	-0.05	-0.06	-0.04	-0.04	-

Note. *N* = 500. CDMSE = Career Decision-Making Self-Efficacy. Gender: 0 = male, 1 = female. **p* < .05. ***p* < .01.

3.2 Regression analysis results

A hierarchical multiple regression analysis was conducted to examine the predictive power of CDMSE on career exploration behavior, controlling for demographic variables (age, gender, and year in college). As shown in Table 2, CDMSE significantly predicted career exploration behavior ($\beta = .44$, $p < .001$), accounting for 19% of the variance in career exploration after controlling for demographic variables ($\Delta R^2 = .19$, $\Delta F(1, 495) = 118.62$, $p < .001$). This finding suggests that students with higher levels of CDMSE are more likely to engage in career exploration activities.

A second hierarchical multiple regression analysis was conducted to examine the unique contributions of CDESES subscales (self-appraisal, occupational information, goal selection, planning, and problem-solving) in predicting career exploration behavior. As shown in Table 3, self-appraisal ($\beta = .15$, $p < .01$), occupational information ($\beta = .18$, $p < .001$), and goal selection ($\beta = .14$, $p < .01$) were significant unique predictors of career exploration, while planning and problem-solving did not contribute significantly to the model. Together, the CDESES subscales accounted for 22% of the variance in career exploration ($\Delta R^2 = .22$, $\Delta F(5, 491) = 27.84$, $p < .001$).

Table 2: Regression Analysis Results for the Predictive Role of CDMSE on Career Exploration Behavior.

	Predictor	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>
Step 1	Age	0.01	0.01	0.03	0.71	0.48
	Gender	-0.04	0.05	-0.04	-0.89	0.38
	Year in college	0.02	0.02	0.04	0.88	0.38
Step 2	CDMSE	0.41	0.04	0.44	10.89	< 0.001

Table 3: Unique Contributions of CDMSE Subscales in Predicting Career Exploration Behavior.

	Predictor	B	SE	β	<i>t</i>	<i>p</i>
Step 1	Age	0.01	0.01	0.03	0.73	0.47
	Gender	-0.05	0.05	-0.04	-1.01	0.31
	Year in college	0.02	0.02	0.04	0.92	0.36
Step 2	Self-appraisal	0.12	0.04	0.15	2.92	<0.01
	Occupational info	0.15	0.04	0.18	3.81	<0.001
	Goal selection	0.12	0.04	0.14	2.81	<0.01
	Planning	0.06	0.04	0.07	1.37	0.17
	Problem-solving	0.02	0.04	0.02	0.41	0.68

Note. $N = 500$. $\Delta R^2 = .22$ for Step 2 ($p < .001$).

3.3 Additional analyses

Independent samples *t*-tests were conducted to explore gender differences in CDMSE and career exploration. The results showed no significant differences between males and females in either CDMSE ($t(498) = 1.23, p = .22$) or career exploration ($t(498) = 0.87, p = .39$). These findings suggest that male and female college students have similar levels of CDMSE and engage in career exploration activities to a similar extent.

A moderation analysis using the PROCESS macro (Hayes, 2018) was conducted to investigate whether gender moderates the relationship between CDMSE and career exploration. The results indicated that the interaction term between CDMSE and gender was not significant ($b = -.08, 95\% \text{ CI } [-.22, .06], t = -1.14, p = .26$), suggesting that the relationship between CDMSE and career exploration does not differ significantly between male and female students.

In summary, the results of this study demonstrate that career decision-making self-efficacy is a significant predictor of career exploration behavior among college students, with self-appraisal, occupational information, and goal selection being the most important dimensions of CDMSE in explaining career exploration. Additionally, no significant gender differences were found in CDMSE or career exploration, and gender did not moderate the relationship between CDMSE and career exploration.

4. Discussion

4.1 Overview of the main findings

The present study investigated the relationship between career decision-making self-efficacy (CDMSE) and career exploration behavior among college students, as well as the unique contributions of CDMSE dimensions and potential gender differences. The results showed that CDMSE significantly predicted career exploration behavior, with self-appraisal, occupational information, and goal selection being the most important dimensions. No significant gender differences were found in CDMSE or career exploration, and gender did not moderate the relationship between these variables.

4.2 Interpretation of the findings in light of previous research

The finding that CDMSE positively predicts career exploration behavior aligns with the theoretical propositions of Social Cognitive Career Theory [5] and extends previous research on the role of self-efficacy in career development [3]. This study provides further evidence that college students with

higher levels of CDMSE are more likely to engage in career exploration activities, which are crucial for making informed career decisions and achieving positive career outcomes^[10].

The unique contributions of self-appraisal, occupational information, and goal selection in predicting career exploration highlight the importance of these specific dimensions of CDMSE. These findings suggest that students who feel more confident in their ability to assess their own interests and abilities, gather relevant occupational information, and set career goals are more likely to explore potential career paths^[14, 15].

The lack of significant gender differences in CDMSE and career exploration contradicts some previous studies that have found gender disparities in these variables^[4, 17]. However, this finding aligns with other research suggesting that gender differences in career self-efficacy and exploration may be diminishing due to changing societal norms and increased access to career resources for both men and women^[3, 18].

4.3 Implications for theory and practice

The current study contributes to the growing body of literature on Social Cognitive Career Theory by providing empirical support for the role of CDMSE in predicting career exploration behavior among college students. The findings highlight the importance of fostering students' self-efficacy beliefs in relation to career decision-making tasks, as this may promote greater engagement in career exploration activities and ultimately lead to more successful career outcomes.

In terms of practical implications, the results suggest that career counselors and educators should focus on enhancing college students' CDMSE, particularly in the areas of self-appraisal, occupational information, and goal selection. This can be achieved through various interventions, such as providing structured career exploration experiences, offering workshops on self-assessment and goal-setting, and facilitating access to relevant occupational information^[2, 19].

4.4 Strengths, limitations, and directions for future research

The strengths of this study include the use of well-established measures, a large and diverse sample of college students, and the examination of both overall CDMSE and its specific dimensions in relation to career exploration. However, the study also has several limitations that should be addressed in future research.

First, the cross-sectional design limits the ability to draw causal inferences about the relationship between CDMSE and career exploration. Future studies should employ longitudinal designs to examine how these variables interact over time and to establish the directionality of the relationships^[1].

Second, the reliance on self-report measures may have introduced response biases, such as social desirability. Future research could incorporate additional data sources, such as behavioral measures of career exploration or reports from career counselors, to corroborate the findings^[6].

Third, while the sample was diverse in terms of ethnicity, it was limited to students from a single university in the United States. Future studies should replicate these findings with more diverse samples, including students from different geographic regions and cultural backgrounds, to enhance the generalizability of the results.

Finally, future research could investigate potential mediators and moderators of the relationship between CDMSE and career exploration, such as personality traits, contextual supports, and barriers^[1]. This would provide a more comprehensive understanding of the complex interplay among personal, environmental, and behavioral factors in shaping students' career development.

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