

Antecedents of Career Decision-Making Self-Efficacy Among International Students in Japan: A Cross-Cultural Perspective

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Abstract: Grounded in social cognitive career theory and cross-cultural adjustment frameworks, cultural intelligence (CQ) and cross-cultural adjustment are expected to be positively associated with international students' career development during school-to-work transitions. However, the underlying mechanism of this association remains unclear. This study examines how CQ relates to career decision-making self-efficacy (CDMSE) through interaction adjustment among international students in Japan. An online survey was conducted with 91 international undergraduate students in Japan. Mediation analysis indicated that interaction adjustment mediated the positive relationship between CQ and CDMSE. The direct effect of CQ on CDMSE was positive but did not reach statistical significance after accounting for the mediating role of interaction adjustment. These findings suggest that CQ's association with CDMSE is closely associated with interpersonal experiences in the host culture. The results also provide theoretical insights into the intercultural foundations of career development and practical implications for supporting international students in their career transitions.

Introduction

With the global increase in international student enrollment, host countries encounter considerable challenges in integrating international graduates into their labor markets. As competition for global talent intensifies, higher education institutions are under growing pressure to provide career support that facilitates successful employment after graduation. Japan, which is currently experiencing a rapid demographic decline, serves as a prominent example of this issue. The Japanese government has identified career support for international students as a key objective, aiming to raise their employment rate in Japan to 60% by 2033 (Office of the Council for the Creation of Future Education, 2023). This policy context heightens expectations for higher education institutions in Japan to provide career services that meet the

needs of international students from diverse backgrounds. However, meeting this policy goal ultimately depends on international students' readiness to make career decisions. Such readiness cannot be assured solely through institutional career support; it also requires individual psychological capacity.

A successful school-to-work transition (STWT), which links education to stable early-career outcomes, is a core developmental task for international students (Blokker et al., 2023; Dong et al., 2025; Ng & Feldman, 2007). However, STWT is particularly complex in cross-cultural settings because cultural, linguistic, and institutional differences encountered in the host country can heighten uncertainty and limit access to career-relevant resources (Brunsting et al., 2018; Chai et al., 2022). Therefore, exploring the psychological mechanisms that facilitate effective career

decision-making under such conditions is necessary for a comprehensive understanding of international students' career development.

Career decision-making self-efficacy (CDMSE) has been consistently linked to successful career transitions (Betz, 2000; Hou et al., 2019; Kvasková et al., 2023). However, general antecedents of CDMSE identified in prior research may not fully reflect the additional psychological demands that international students face while simultaneously navigating an unfamiliar cultural environment (Choi et al., 2012). Intercultural competencies such as cultural intelligence (CQ), an individual's capability to function effectively in culturally diverse settings (Ang et al., 2007; Earley & Ang, 2003), are theorized to directly address these population-specific demands. CQ has been identified as a critical personal resource for making career decisions and entering the labor market in contexts of global mobility (Dong et al., 2025; Pham et al., 2024). This positions CQ as a distinct antecedent warranting closer examination in this context, and the present study adopts it as its focal operationalization of intercultural competencies.

Research on this topic has largely focused on the relationship between CQ and adjustment outcomes and on relationships between psychological resources and career attitudes or behaviors (Presbitero & Quita, 2017; Setti et al., 2022; Xiaoying et al., 2023). Nevertheless, the underlying developmental process linking CQ to CDMSE has not been sufficiently investigated, and little attention has been paid to how cross-cultural adjustment is associated with CDMSE among international students during STWT. This gap is theoretically important. While CQ equips individuals with cognitive, motivational, and behavioral resources to navigate culturally diverse situations successfully, CDMSE develops through accumulated learning experiences, raising the question of how CQ becomes internalized as CDMSE.

This study addresses this research gap by adopting a process-oriented perspective, that is,

examining not only whether CQ relates to CDMSE but also the specific interpersonal experience through which that relationship unfolds. Drawing on social cognitive career theory (SCCT; Lent et al., 1994), the present study proposes that interaction adjustment mediates the relationship between CQ and CDMSE. By distinguishing between CQ as a distal personal resource and interaction adjustment as a proximal psychological factor, this study examines how CQ relates to CDMSE through interaction adjustment among international students in Japan.

Literature Review

CDMSE in STWT

STWT encompasses more than the immediate change in employment status upon graduation. It involves a series of processes, including skill acquisition, job hunting, initial work experience, and psychosocial adaptation, that establish the foundation for long-term career development (Blokker et al., 2023; Ng & Feldman, 2007). CDMSE, the belief in one's ability to complete tasks necessary for making effective career decisions (Betz et al., 1996), is a key psychological resource during STWT. Building on SCCT (Lent et al., 1994), CDMSE is conceptualized as a proximal determinant of career-relevant proactive behaviors during STWT. Previous studies have found that high CDMSE is associated with successful career exploration and satisfaction (Gushue et al., 2006; Xin et al., 2020), whereas low CDMSE is associated with the avoidance of career decision-making (Akhtar et al., 2024; Santos et al., 2018).

For international students, CDMSE may be particularly salient given the greater uncertainty they face during STWT than domestic students (Xiong et al., 2025). It encourages information collection, goal setting, and, ultimately, career decision-making in cross-cultural settings (Chai et al., 2022; Xiong et al., 2025). A meta-analysis indicated that CDMSE is shaped by various individual and contextual factors, such as self-

esteem, vocational identity, peer support, and outcome expectations (Choi et al., 2012). Because these predictors have largely been established in domestic or culturally homogeneous populations, they may not sufficiently capture the demands that arise when career decision-making unfolds alongside ongoing cross-cultural adjustment, a defining feature of international students' STWT experience.

Although CDMSE has been widely recognized as a determinant of career-relevant behaviors among university students, relatively little attention has been paid to the process by which international students' CDMSE is shaped during STWT. Existing studies on international students' CDMSE have examined both direct predictors, including personality and socioeconomic factors (Jiang, 2014; Li et al., 2024), and, more recently, moderating or mediating factors. For instance, the moderating role of acculturation in the relationship between career decision-making difficulties and CDMSE (Li & Lindo, 2022) and the mediating role of bicultural self-efficacy in the relationship between acculturation and CDMSE (Jin et al., 2022) have been explored. Nevertheless, no study has examined the roles of CQ and interaction adjustment in relation to CDMSE through the theoretical lens of SCCT among international students in Japan. This study addresses this research gap by adopting the process-oriented perspective, situating CDMSE within the broader context of international students' adjustment experiences in host societies.

CQ as a Distal Career Resource

CQ refers to an individual's ability to function effectively in culturally diverse contexts (Earley & Ang, 2003). As a subdimension of social intelligence, alongside emotional intelligence, CQ is distinctive in its focus on cognitive and behavioral flexibility in culturally diverse situations (Crowne, 2009). Previous research has primarily examined CQ in

a business context (Earley & Ang, 2003; Li & Middlemiss, 2022).

Earley and Ang (2003) proposed that CQ comprises four dimensions. Metacognitive CQ refers to the psychological processes for acquiring and interpreting cultural knowledge. Cognitive CQ encompasses the knowledge of different cultural systems and values. Motivational CQ refers to individuals' interest, motivation, and confidence in intercultural interactions. Behavioral CQ is the ability to use appropriate verbal and nonverbal behaviors in intercultural settings. Empirical research has indicated that CQ has a positive relationship with cross-cultural adjustment and interpersonal functioning (Setti et al., 2022). Furthermore, CQ enables international students to overcome cultural barriers, facilitate adjustment, develop interpersonal relationships, and enhance academic performance (Iskhakova, 2018; Xiaoying et al., 2023). Nevertheless, little is known about CQ's effects on international students' career attitudes or behaviors (Balin et al., 2024; Chai & Park, 2025).

Interaction Adjustment as a Proximal Psychological Factor

Interaction adjustment represents one dimension of cross-cultural adjustment, which refers to the degree of psychological comfort individuals experience in a host culture (Black et al., 1991). Although cross-cultural adjustment was originally investigated as an indicator of expatriates' success during overseas assignments, its applicability to student populations has since been validated (Muzychenko & Morozova, 2025). Empirical research has highlighted the role of cross-cultural adjustment in success in cross-cultural environments (Han et al., 2022). More recently, the importance of cross-cultural adjustment in the career development of ethnic and racial minorities has been emphasized (Avalos & Flores, 2016; Ojeda et al., 2011).

Black et al.'s (1991) cross-cultural adjustment framework distinguishes the

subdimensions of general adjustment, work adjustment, and interaction adjustment. Interaction adjustment captures the quality of interpersonal relationships with host nationals. Given that career development in culturally unfamiliar environments fundamentally involves interpersonal processes, including networking, information seeking, and social learning (Nadermann & Eissenstat, 2018), interaction adjustment may be crucial for international students' STWT. Successful interactions with peers, university officials, local community members, and supervisors or coworkers at part-time jobs provide international students with social capital and career-relevant feedback and information.

Drawing on Bandura's (1986) social cognitive theory and its application to SCCT, CDMSE can develop through four types of experience: previous personal performance accomplishments, social persuasion, vicarious learning (or modeling), and psychological and affective states (Lent et al., 1994; Lent et al., 2017; Lent & Brown, 2019). From this perspective, interaction adjustment could serve as a proximal experiential mechanism that translates CQ into concrete learning opportunities within a host society. Unlike general adjustment, which encompasses everyday living situations, and work adjustment, which centers on institutional functions, interaction adjustment directly involves interpersonal engagement that fosters confidence in making career-relevant decisions.

Integrating CQ, Interaction Adjustment, and CDMSE

Together, CQ, interaction adjustment, and CDMSE are theoretically interconnected variables in the context of international students' STWT. A process-oriented perspective accounts for how individual cultural resources are linked to CDMSE. Within SCCT, learning experiences function as the central mechanism through which self-efficacy develops (Lent et al., 1994). Interaction adjustment can be understood as a

source of such learning experiences within the host cultural context, as interpersonal experiences in the host society facilitate relationship building, social interaction, and participation in community activities among international students (Nadermann & Eissenstat, 2018). Accordingly, interaction adjustment is positioned as the mediating pathway in the relationship between CQ and CDMSE.

CQ may facilitate successful interaction adjustment. Individuals with high levels of CQ demonstrate an ability to interpret culturally unfamiliar situations, adjust their behavior, and sustain motivation in intercultural environments (Ang et al., 2007; Earley & Ang, 2003; Li & Middlemiss, 2022). These abilities may facilitate daily communication with host nationals (Wawrosz & Jurásek, 2021). In turn, successful interaction adjustment promotes the career attitudes and behaviors needed to develop a career path, even in culturally unfamiliar contexts (Nadermann & Eissenstat, 2018).

Theoretically, CQ may also relate directly to CDMSE. SCCT further specifies that person inputs, which are relatively stable personal characteristics, are related to self-efficacy both directly and indirectly through learning experiences (Lent & Brown, 2019). As a distal personal resource, CQ may support the development of CDMSE. Metacognitive and motivational CQ, in particular, may help individuals interpret and regulate their approaches to complex, culturally embedded career decisions, consistent with previous findings that CQ relates to career confidence among culturally mobile populations (Presbitero & Quita, 2017). Interaction adjustment is therefore expected to partially, rather than fully, account for the relationship between CQ and CDMSE.

Research Gap and Hypotheses

Despite the growing interest in international students' career development, several gaps remain in the literature. First, empirical research on the relationships among CQ, cross-cultural

adjustment, and career development has largely been conducted among working professionals and expatriates (Setti et al., 2022; Sri Ramalu et al., 2010). Such studies examine outcomes such as work adjustment or performance, whereas less attention has been paid to international students as a study population (Chai & Park, 2025; Li & Middlemiss, 2022). Specifically, research on international students in Japan remains limited, even though they are expected to play an active role in the Japanese labor market.

Second, many previous studies have incorporated CDMSE into models as an independent, mediating, or moderating variable to examine its relationships with behavioral outcomes (Gushue et al., 2006; Santos et al., 2018; Zhou et al., 2024). SCCT positions learning experiences as central to the development of CDMSE. However, the understanding of how CQ translates into such learning experiences in the context of international students' STWT remains limited. Therefore, further research examining the development of CDMSE among student populations in cross-cultural settings is needed (Chai & Park, 2025).

Third, although cross-cultural adjustment is conceptualized as a multidimensional construct, research has not sufficiently clarified the roles of its subdimensions. In other words, the distinct roles of these subdimensions in career development remain poorly understood despite the recognized importance of cross-cultural adjustment in the career context. Given that interactions with the host society can be positively associated with international students' career development, understanding the role of interaction adjustment is critical (Nadermann & Eissenstat, 2018).

Considering these research gaps, comprehensively examining how CQ, as a distal personal resource, relates to CDMSE through interaction adjustment experiences remains essential. Additionally, SCCT indicates that such person inputs can also relate directly to self-

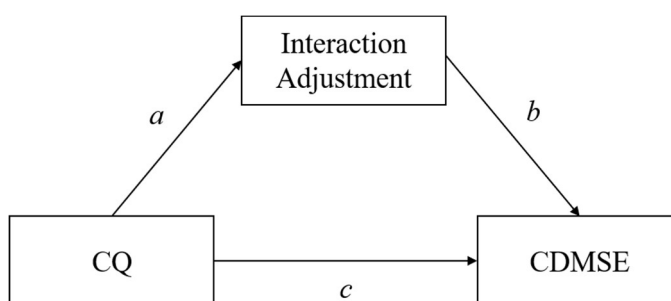
efficacy, independent of specific learning experiences (Lent & Brown, 2019); CQ may therefore also be directly associated with CDMSE. Addressing these gaps will help develop an integrated understanding of how CQ supports international students' career development. Therefore, this study proposes a mediation model that integrates CQ, interaction adjustment, and CDMSE (see Figure 1). Accordingly, this study proposes the following hypotheses.

Hypothesis 1. Interaction adjustment mediates the positive relationship between CQ and CDMSE.

Hypothesis 2. CQ is positively related to CDMSE.

Figure 1

Hypothesized Mediation Model



Note. $N = 91$. CQ = cultural intelligence; CDMSE = career decision-making self-efficacy.

Method

Participants

Ninety-one international undergraduate students enrolled as regular students at universities in Japan completed an online survey. Responses were considered invalid if the same response option was selected for all items within each scale; however, no such cases were identified. Therefore, all responses were treated as valid and included in the data analysis. Participants' ages ranged from 18 to 37 years (M

= 22.98, SD = 3.19), and they represented multiple academic years. Among the 91 respondents, 35 (38.5%) identified as male, and 56 (61.5%) identified as female. Participants reported academic majors in the social sciences and humanities (41.8%), STEM fields (46.2%), and other disciplines (12.1%). In terms of region of origin, 15 (16.5%) were from East Asia, 72 (79.1%) were from Southeast Asia, and four (4.4%) were from other regions. Self-rated Japanese language proficiency varied across participants, reflecting different levels of exposure to and experience in Japan.

Measures

Cultural Intelligence

CQ was measured using the Cultural Intelligence Scale (Ang et al., 2007), which comprises 20 items across the metacognitive, cognitive, motivational, and behavioral CQ subscales. A sample item is “I enjoy living in cultures that are unfamiliar to me.” Items are rated on a seven-point Likert scale ranging from one (strongly agree) to seven (strongly disagree). The original validation study reported subscale-level Cronbach’s alpha coefficients ranging from .70 to .88 across samples, consistent with the scale’s four-factor design (Ang et al., 2007). In the present study, internal consistency for the total 20-item CQ score was .94, indicating good internal consistency.

Interaction Adjustment

Interaction adjustment was assessed using the Cross-Cultural Adjustment Scale (Black & Stephens, 1989). Only the interaction adjustment subscale was used to align with the research aim. The interaction adjustment subscale, which assesses how well individuals feel adjusted to interacting with host nationals, comprises four items. A sample item is “Interacting with host nationals on a day-to-day basis.” Items are rated on a five-point Likert scale ranging from one (very well adjusted) to five (very unadjusted). The original study reported a reliability coefficient of .89 for this

subscale (Black & Stephens, 1989). In the present study, internal consistency for the subscale was .90, indicating good internal consistency.

CDMSE

Fifteen items were selected from the shortened CDMSE scale (Betz et al., 1996). Török et al. (2017) found that a model comprising three items from each of the five subdimensions of CDMSE (self-appraisal, gathering occupational information, planning, goal selection, and problem solving) fit the data better than the 25-item model while maintaining reliability. This 15-item structure was adopted in the present study to balance measurement reliability and respondent burden across multiple scales. A sample item is “Decide what you value most in an occupation.” Items are rated on a five-point Likert-type scale ranging from one (complete confidence) to five (no confidence at all). Török et al. (2017) reported subscale-level reliabilities ranging from .69 to .75 for the 15-item short form. In the present study, internal consistency for the scale was .93, indicating good internal consistency.

Demographic Variables

Information on respondents’ grades, majors, ages, genders, nationalities, length of residence in Japan, English and Japanese language proficiency, and intended postgraduation career paths was collected as demographic information.

Procedure

The questionnaire was administered in English and Japanese. The original English version of the questionnaire was translated into Japanese using the back-translation method. First, two native Japanese speakers, one of whom was the author, each prepared a separate Japanese version and then integrated the two versions into a single version. A native English speaker then back-translated the Japanese version into English. The original English version and the back-translated English version

were compared. Finally, based on a pilot test with six international students fluent in either English or Japanese, formatting adjustments were made. The items, which were originally presented in a grid format, were reformatted as individual questions based on participants' feedback that some items were difficult to read on screen.

Ethical approval was obtained from the institutional ethics committee of the author's university. Participants were recruited through online channels, bulletin boards, and in-person classes for international students at four universities in Japan: two national, one public, and one private. Because recruitment relied on open calls through these channels, a response rate could not be calculated. Of the 91 respondents, 61 (67%) completed the English version of the survey, and 30 (33%) completed the Japanese version. Data were collected from September 30, 2025, to January 11, 2026. All respondents provided informed consent before proceeding with the questionnaire.

All items in the CQ, interaction adjustment, and CDMSE scales were initially scored such that higher scores corresponded to lower levels of the underlying construct. All items were therefore reverse-scored before analysis so that higher scores consistently reflected higher levels of each construct. Given that high internal consistency ($\alpha = .90-.94$) was observed across all three scales, reverse-scoring was not considered to compromise data quality. Composite scores were then calculated for CQ, interaction adjustment, and CDMSE.

SPSS (version 30) was used to calculate descriptive statistics for all measures. The hypothesized mediation model was tested using the PROCESS macro for SPSS (Model 4). Internal consistency was assessed using Cronbach's alpha. The internal consistency of the total scales was satisfactory, with Cronbach's α values of .94 for CQ, .90 for interaction adjustment, and .93 for CDMSE. Cronbach's α coefficients for the CQ and CDMSE subscales ranged from .70 to .92. A bootstrapping

procedure was employed to address potential small-sample bias. Indirect effects were estimated using 5,000 bias-corrected bootstrap samples with 95% confidence intervals. Multicollinearity was assessed before conducting the mediation analysis. Variance inflation factor values for all explanatory variables in each regression equation were less than two, indicating that multicollinearity was not a concern. Given the modest sample size ($N = 91$), a Monte Carlo sensitivity power analysis (Schoemann et al., 2017) indicated that the present approach had 80% power to detect a standardized indirect effect of approximately .10-.12, well below the observed standardized indirect effect of .27.

Results

Descriptive Statistics and Correlation Analysis

Table 1 presents the descriptive statistics and Pearson correlation coefficients for CQ, interaction adjustment, and CDMSE. The correlation analyses indicated that CQ was moderately to highly correlated with interaction adjustment ($r = .56$) and CDMSE ($r = .48$). Interaction adjustment was also strongly correlated with CDMSE ($r = .62$). By conventional benchmarks (Cohen, 2013), the correlations between CQ and interaction adjustment and between interaction adjustment and CDMSE represent large effect sizes, while the correlation between CQ and CDMSE represents a medium effect size.

Mediation Analysis

In the mediation analysis, CQ was specified as the independent variable, interaction adjustment was specified as the mediator, and CDMSE was specified as the dependent variable. Because gender, length of residence in Japan, and Japanese language proficiency may influence international students' access to interpersonal exchanges and career-relevant information, they were included as covariates.

Table 1*Descriptive Statistics and Correlation Analysis**Results*

	Range	<i>M</i>
1. CQ	1–7	5.26
2. Interaction Adjustment	1–5	3.66
3. CDMSE	1–5	3.57

Note. *N* = 91. Scores reflect values after reverse-scoring the original survey items, such that higher scores indicate greater CQ, interaction adjustment, and CDMSE.

*** $p < .001$

High levels of language proficiency and exposure to the host culture can promote social integration (Wei, 2025). Furthermore, previous research has documented gender differences in CDMSE or other career exploration behaviors (Kleine et al., 2021).

The results indicated that CQ was a statistically significant positive predictor of interaction adjustment ($b = 0.50$, $SE = 0.09$, 95% CI [0.32, 0.67], $p < .001$), even after controlling for covariates. None of the covariates (gender, length of residence in Japan, and Japanese language proficiency) significantly predicted interaction adjustment in this model. When predicting CDMSE, interaction adjustment had a statistically significant positive effect ($b = 0.42$, $SE = 0.08$, 95% CI [0.26, 0.59], $p < .001$). In contrast, the direct effect of CQ on CDMSE was positive but did not reach statistical significance ($b = 0.15$, $SE = 0.08$, 95% CI [−0.01, 0.31], $p = .069$). Among the covariates, gender significantly predicted CDMSE ($b = -0.25$, $SE = 0.12$, 95% CI [−0.49, −0.03], $p = .046$; gender was coded 0 = male, 1 = female), indicating that male participants reported higher CDMSE than female participants. Length of residence in Japan and Japanese language proficiency were not significant predictors of CDMSE.

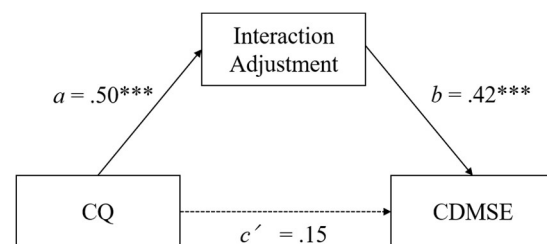
CQ had a statistically significant total effect on CDMSE ($b = 0.36$, $SE = 0.08$, 95% CI [0.20,

0.51], $p < .001$). The indirect effect of CQ on CDMSE through interaction adjustment was also statistically significant ($b = 0.21$), with a 95% bootstrap confidence interval that did not include zero [0.10, 0.47]. These findings indicate that interaction adjustment significantly mediates the relationship between CQ and CDMSE.

Summary of Hypothesis Testing

The results supported Hypothesis 1, which proposed that interaction adjustment mediates the positive relationship between CQ and CDMSE. Hypothesis 2, which proposed a direct positive relationship between CQ and CDMSE, was not supported: the direct effect was positive but did not reach statistical significance ($p = .069$).

Based on the results, Figure 2 illustrates the tested mediation model.

Figure 2*Tested Mediation Model*

Note. *N* = 91. CQ = cultural intelligence; CDMSE = career decision-making self-efficacy. Path a = CQ → interaction adjustment; path b = interaction adjustment → CDMSE; path c' = direct effect of CQ on CDMSE. Values are unstandardized path coefficients. The dashed line indicates the direct path from CQ to CDMSE, which did not reach statistical significance ($p = .069$). The indirect effect ($a \times b$) was 0.21, with a 95% bias-corrected bootstrap CI of [0.10, 0.47], based on 5,000 bootstrap samples

*** $p < .001$.

Discussion

This study examined the relationships among CQ, interaction adjustment, and CDMSE among international undergraduate students in Japan, with a particular focus on the mediating role of interaction adjustment. The findings are consistent with a process-oriented model in which CQ relates to CDMSE in part through interaction adjustment within the cultural context of the host country, suggesting that interpersonal engagement may play a role in the development of international students' CDMSE in culturally unfamiliar environments.

The results suggest that interaction adjustment significantly mediates the relationship between CQ and CDMSE, supporting Hypothesis 1. The direct effect of CQ on CDMSE did not reach statistical significance after accounting for interaction adjustment ($p = .069$). However, given the modest sample size, this result should not be interpreted as conclusive evidence that CQ has no meaningful direct effect on CDMSE. This pattern is consistent with interaction adjustment functioning as a proximal mechanism through which CQ, a distal personal resource, may be linked to concrete developmental experiences. Future research with larger samples is needed to clarify whether an independent direct effect of CQ exists.

Previous research similarly indicates that CQ facilitates cross-cultural adjustment. For example, Sri Ramalu et al. (2010) found that CQ was positively associated with all subdimensions of cross-cultural adjustment among Malaysian expatriates, and Setti et al. (2022) demonstrated that CQ was related to performance directly and indirectly through work adjustment among expatriates working in the oil and gas industry. Although these studies differ from the present study in the sample and dependent variable, their findings are consistent with the present study's theoretical model, in which CQ and interaction adjustment together

may relate to career-relevant outcomes. The present study also extends recent research on international students, suggesting that culturally oriented competencies relate to CDMSE through various pathways. Specifically, acculturation is indirectly linked to CDMSE through networking among Korean international students in the United States (Nadermann & Eissenstat, 2018), and integrated orientation buffers the negative relationship between career decision-making difficulties and CDMSE (Li & Lindo, 2022).

According to SCCT, CDMSE develops through career-relevant learning experiences. Interaction adjustment may represent the contextual pathway through which learning experiences are developed in a cross-cultural environment. Successful interpersonal engagement with host nationals can provide positive learning experiences, such as personal performance accomplishments through collaborative activities, social persuasion through feedback or encouragement from others, and vicarious learning through observation of peers who undertake job-hunting activities. In this sense, interaction adjustment reflects psychological comfort in the host culture and functions as an important factor in the developmental process that supports CDMSE within social interactions. This study contributes to the application of SCCT in cross-cultural contexts by identifying interaction adjustment as a source of career-relevant learning experiences for international students in Japan.

Distinguishing between distal and proximal factors clarifies the theoretical contribution of the present study. CQ can be considered a distal personal resource that provides cognitive, motivational, and behavioral support for navigating culturally diverse situations. These capabilities appear to be associated with career outcomes through interpersonal engagement. Therefore, interaction adjustment can be considered a proximal contextual factor that provides access to career-relevant learning experiences. This conceptual differentiation

clarifies the mechanism linking CQ and CDMSE.

An additional finding was that gender was related to CDMSE. Male participants showed higher CDMSE than female participants after controlling for CQ, interaction adjustment, and other covariates. Prior research examining the effect of gender on CDMSE has reported inconsistent results: some studies have reported higher CDMSE among males than among females, while others have found no gender difference or higher CDMSE among females, depending on the study population and cultural context (Kleine et al., 2021). Because the present study treated gender as a covariate rather than a focal variable, this finding should be interpreted with caution. Future research examining gender as a primary predictor could clarify its role in CDMSE among international students.

The findings should also be interpreted in light of the Japan-specific cultural and institutional context. The Japanese labor market has a highly structured and time-bound recruitment system for new graduates (Conrad & Meyer-Ohle, 2019). For international students, participation in this system depends not only on formal qualifications but also on Japanese language proficiency and familiarity with Japanese workplace norms, which are typically acquired through sustained interaction with host nationals (Breaden, 2014). In this context, the role of interaction adjustment in linking CQ and CDMSE may become particularly salient.

Collectively, these findings indicate that international students' career development cannot be captured solely by individual capabilities or contextual factors. Rather, CDMSE is shaped through the dynamic interplay between cross-cultural resources and successful social adaptation. By integrating CQ, interaction adjustment, and CDMSE, this study provides refined insights into how STWT unfolds in cross-cultural contexts.

Practical Implications

The study's findings have several practical implications for career support practitioners at higher education institutions. First, interventions to improve international students' knowledge or awareness of the host culture may not be sufficient on their own to develop CDMSE. Although such interventions may strengthen the cognitive aspect of CQ, the findings suggest that the developmental impact of CQ depends on the quality of interpersonal engagement with host nationals. Therefore, higher education institutions should design structured cross-cultural experiences to promote effective interpersonal engagement, including peer mentoring, community-based collaborative learning, and employer engagement activities, thereby providing the social conditions necessary for international students to translate CQ into CDMSE. Second, career support services could be made more effective by integrating career education and cross-cultural adjustment strategies. Creating environments that enable international students to have successful interpersonal experiences helps them build the confidence to take action and engage in career decision-making. For instance, experiential programs that connect international students with professionals in the community may simultaneously provide career-relevant learning and enhance adjustment to the host society. This strategy aligns with the developmental perspective of SCCT, which emphasizes experiential learning over information or skill training (Lent & Brown, 2019).

Limitations and Future Research Directions

Several limitations of this study should be acknowledged. First, because of its cross-sectional design, the direction of the observed relationships among variables cannot be identified. For instance, international students with high CDMSE may be able to navigate interpersonal relationships in the host culture confidently, thereby promoting better

interaction adjustment. The present study cannot eliminate the possibility of such a reverse or reciprocal pathway. Although the proposed mediation model is theoretically grounded, future research could employ a longitudinal design to examine developmental trajectories. Second, the proposed model did not account for other established predictors of CDMSE, such as personality, social support, career adaptability, career barriers, and prior international experiences. Future research could consider such variables as covariates or antecedents in the model. Third, self-report measures may be subject to common-method bias. Although the present study employed validated scales and the results were robust, future research could collect and analyze multisource data to further strengthen measurement validity. Fourth, the study's sample size was limited given the size of Japan's international student population. The sample composition was skewed: 79% of participants were from Southeast Asia, while the proportions of participants from East Asia and other regions were low. Additionally, institutional differences among the four universities were not examined. Such differences, including institutional support for international students and the diversity of students and faculty members, could influence international students' adjustment experiences. These characteristics limit the generalizability of the findings across regional and institutional contexts. Fifth, because the present study focused on international students in Japan, it remains unclear whether the observed CQ–interaction adjustment–CDMSE pathway reflects a general psychological process or one shaped by characteristics unique to Japanese higher education or labor market contexts. Cultural distance between students' home countries and the host country, for example, has been shown to influence the salience of CQ or cross-cultural adjustment (Setti et al., 2022). This suggests that the pathway observed in the present study may vary across host-country contexts. Future research comparing this model

across host countries could help clarify its generalizability beyond the present sample.

Conclusion

This study indicates that interaction adjustment mediates the positive relationship between CQ and CDMSE among international students in Japan. Identifying this mediation pathway contributes to the theoretical understanding of how intercultural capabilities are associated with the self-beliefs needed for career decision-making. Specifically, the findings suggest that interaction adjustment may function as a key experiential learning process associated with CDMSE through relationship building, socializing, and community engagement. This study highlights the importance of considering both individual CQ and contextual cross-cultural adjustment processes in understanding STWT among international students. From a practical perspective, universities and career support professionals should provide opportunities for interpersonal engagement, such as peer mentoring, collaborative learning experiences, and structured cross-cultural experiences, in addition to enhancing international students' intercultural knowledge.

References

- Akhtar, M. N., Mahmood, A., & Işık, E. (2024). Testing the social cognitive model of well-being among international students in China. *Current Psychology*, 43(11), 9944–9954. <https://doi.org/10.1007/s12144-023-04962-x>
- Ang, S., Van Dyne, L., Koh, C., Ng, K. Y., Templer, K. J., Tay, C., & Chandrasekar, N. A. (2007). Cultural intelligence: Its measurement and effects on cultural judgment and decision making, cultural adaptation and task performance. *Management and Organization Review*, 3(3), 335–371. <https://doi.org/10.1111/j.1740-8784.2007.00082.x>
- Arévalo Avalos, M. R., & Flores, L. Y. (2016). Nontraditional career choices of Mexican American men: Influence of acculturation, enculturation, gender role traits, self-efficacy, and interests. *Journal of Latina/o Psychology*, 4(3), 142–157. <https://doi.org/10.1037/lat0000048>

- Balin, E., Liu, Y., Xu, X., Scharinger, J., Jackson, E., Goldman, E. Z., & Anderson, N. M. (2024). An exploration of cultural competence in career services with international students. *The Career Development Quarterly*, 72(3), 255–273. <https://doi.org/10.1002/cdq.12360>
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall.
- Betz, N. E. (2000). Self-efficacy theory as a basis for career assessment. *Journal of Career Assessment*, 8(3), 205–222. <https://doi.org/10.1177/106907270000800301>
- Betz, N. E., Klein, K. L., & Taylor, K. M. (1996). Evaluation of a short form of the career decision-making self-efficacy scale. *Journal of Career Assessment*, 4(1), 47–57. <https://doi.org/10.1177/106907279600400103>
- Black, J. S., Mendenhall, M., & Oddou, G. (1991). Toward a comprehensive model of international adjustment: An integration of multiple theoretical perspectives. *Academy of Management Review*, 16(2), 291–317. <https://doi.org/10.5465/amr.1991.4278938>
- Black, J. S., & Stephens, G. K. (1989). The influence of the spouse on American expatriate adjustment and intent to stay in Pacific Rim overseas assignments. *Journal of Management*, 15(4), 529–544. <https://doi.org/10.1177/014920638901500403>
- Blokker, R., Akkermans, J., Marciniak, J., Jansen, P. G. W., & Khapova, S. N. (2023). Organizing school-to-work transition research from a sustainable career perspective: A review and research agenda. *Work, Aging and Retirement*, 9(3), 239–261. <https://doi.org/10.1093/workar/waad012>
- Breaden, J. (2014). Global attributes or local literacy? International students in Japan's graduate employment system. *Japan Forum*, 26(4), 417–440. <https://doi.org/10.1080/09555803.2013.865661>
- Brunsting, N. C., Zachry, C., & Takeuchi, R. (2018). Predictors of undergraduate international student psychosocial adjustment to US universities: A systematic review from 2009–2018. *International Journal of Intercultural Relations*, 66, 22–33. <https://doi.org/10.1016/j.ijintrel.2018.06.002>
- Chai, D. S., Chae, C., & Lee, J. (2022). International students' psychological capital in Japan: Moderated mediation of adjustment and engagement. *Journal of Student Affairs Research and Practice*, 59(1), 101–115. <https://doi.org/10.1080/19496591.2021.1943417>
- Chai, D. S., & Park, S. (2025). Personal factors and career decision self-efficacy of postsecondary international students: The moderating role of cultural adjustment. *The Career Development Quarterly*, 73(3), 162–171. <https://doi.org/10.1002/cdq.12381>
- Choi, B. Y., Park, H., Yang, E., Lee, S. K., Lee, Y., & Lee, S. M. (2012). Understanding career decision self-efficacy: A meta-analytic approach. *Journal of Career Development*, 39(5), 443–460. <https://doi.org/10.1177/0894845311398042>
- Cohen, J. (2013). *Statistical power analysis for the behavioral sciences* (2nd ed.). Routledge. <https://doi.org/10.4324/9780203771587>
- Conrad, H., & Meyer-Ohle, H. (2019). Transnationalization of a recruitment regime: Skilled migration to Japan. *International Migration*, 57(3), 250–265. <https://doi.org/10.1111/imig.12529>
- Crowne, K. A. (2009). The relationships among social intelligence, emotional intelligence and cultural intelligence. *Organization Management Journal*, 6(3), 148–163. <https://doi.org/10.1057/omj.2009.20>
- Dong, D., Akkermans, J., & Khapova, S. N. (2025). Navigating a double school-to-work transition: How do Chinese graduate students decide where to start their careers after studying abroad? *Career Development International*, 30(2), 139–159. <https://doi.org/10.1108/CDI-03-2024-0107>
- Earley, P. C., & Ang, S. (2003). *Cultural intelligence: Individual interactions across cultures*. Stanford University Press. <https://doi.org/10.1515/9780804766005>
- Gushue, G. V., Scanlan, K. R. L., Pantzer, K. M., & Clarke, C. P. (2006). The relationship of career decision-making self-efficacy, vocational identity, and career exploration behavior in African American high school students. *Journal of Career Development*, 33(1), 19–28. <https://doi.org/10.1177/0894845305283004>
- Han, Y., Sears, G. J., Darr, W. A., & Wang, Y. (2022). Facilitating cross-cultural adaptation: A meta-analytic review of dispositional predictors of expatriate adjustment. *Journal of Cross-Cultural Psychology*, 53(9), 1054–1096. <https://doi.org/10.1177/00220221221109559>
- He, X., Baharom, S., & Liao, S. (2023). A systematic literature review of the relationship between cultural intelligence and academic adaptation of international students. *Social Sciences & Humanities Open*, 8(1), Article 100622. <https://doi.org/10.1016/j.ssaho.2023.100622>
- Hou, C., Wu, Y., & Liu, Z. (2019). Career decision-making self-efficacy mediates the effect of social support on career adaptability: A longitudinal study. *Social Behavior and Personality: An International Journal*, 47(5), Article e8157. <https://doi.org/10.2224/sbp.8157>
- Iskhakova, M. (2018). Does cross-cultural competence matter when going global? Cultural intelligence and its impact on performance of international students in Australia. *Journal of Intercultural Communication Research*, 47(2), 121–140. <https://doi.org/10.1080/17475759.2018.1437463>
- Jiang, Z. (2014). Emotional intelligence and career decision-making self-efficacy: National and gender

- differences. *Journal of Employment Counseling*, 51(3), 112–124. <https://doi.org/10.1002/j.2161-1920.2014.00046.x>
- Jin, Y. Y., Ahn, S., & Lee, S. M. (2022). The mediating effect of bicultural self-efficacy on acculturation and career decision-making self-efficacy for international students in South Korea. *Frontiers in Psychology*, 13, Article 602117. <https://doi.org/10.3389/fpsyg.2022.602117>
- Kleine, A.-K., Schmitt, A., & Wisse, B. (2021). Students' career exploration: A meta-analysis. *Journal of Vocational Behavior*, 131, Article 103645. <https://doi.org/10.1016/j.jvb.2021.103645>
- Kvasková, L., Hlado, P., Palíšek, P., Šašinka, V., Hirschi, A., Ježek, S., & Macek, P. (2023). A longitudinal study of relationships between vocational graduates' career adaptability, career decision-making self-efficacy, vocational identity clarity, and life satisfaction. *Journal of Career Assessment*, 31(1), 27–49. <https://doi.org/10.1177/10690727221084106>
- Lent, R. W., & Brown, S. D. (2019). Social cognitive career theory at 25: Empirical status of the interest, choice, and performance models. *Journal of Vocational Behavior*, 115, Article 103316. <https://doi.org/10.1016/j.jvb.2019.06.004>
- Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior*, 45(1), 79–122. <https://doi.org/10.1006/jvbe.1994.1027>
- Lent, R. W., Ireland, G. W., Penn, L. T., Morris, T. R., & Sappington, R. (2017). Sources of self-efficacy and outcome expectations for career exploration and decision-making: A test of the social cognitive model of career self-management. *Journal of Vocational Behavior*, 99, 107–117. <https://doi.org/10.1016/j.jvb.2017.01.002>
- Li, D., & Lindo, N. A. (2022). Acculturation moderating between international students' career decision-making difficulties and career decision self-efficacy. *The Career Development Quarterly*, 70(1), 38–51. <https://doi.org/10.1002/cdq.12284>
- Li, G., & Middlemiss, W. (2022). Effects of cultural intelligence and social support on adjustment of international students in higher education. *International Journal of Teaching and Learning in Higher Education*, 33(2), 143–152. <https://www.isetl.org/ijtlhe/ijtlhe-article-view.php?mid=3907>
- Li, J., Liu, X., & Mullins, P. (2024). Exploring the career development challenges and expectations of international students during the COVID-19 pandemic. *Journal of International Students*, 14(4), 591–605. <https://doi.org/10.32674/jis.v14i4.6511>
- Muzychenko, Y., & Morozova, O. (2025). Personality and cross-cultural adjustment: The moderating role of cross-cultural motivation in Chinese students' adjustment to life in Russia. *International Journal of Intercultural Relations*, 108, Article 102231. <https://doi.org/10.1016/j.ijintrel.2025.102231>
- Nadermann, K., & Eissenstat, S. J. (2018). Career decision making for Korean international college students: Acculturation and networking. *The Career Development Quarterly*, 66(1), 49–63. <https://doi.org/10.1002/cdq.12121>
- Ng, T. W. H., & Feldman, D. C. (2007). The school-to-work transition: A role identity perspective. *Journal of Vocational Behavior*, 71(1), 114–134. <https://doi.org/10.1016/j.jvb.2007.04.004>
- Office of the Council for the Creation of Future Education. (2023). *J-MIRAI: Japan-mobility and internationalisation: Re-engaging and accelerating initiative for future generations* [Brochure]. Cabinet Secretariat, Government of Japan. <https://www.cas.go.jp/jp/seisaku/kyouikumirai/pdf/230427jmirai.pdf>
- Ojeda, L., Flores, L. Y., & Navarro, R. L. (2011). Social cognitive predictors of Mexican American college students' academic and life satisfaction. *Journal of Counseling Psychology*, 58(1), 61–71. <https://doi.org/10.1037/a0021687>
- Pham, T., Soltani, B., & Singh, J. K. N. (2024). Employability capitals as essential resources for employment obtainment and career sustainability of international graduates. *Journal of Further and Higher Education*, 48(4), 436–448. <https://doi.org/10.1080/0309877X.2024.2344771>
- Presbitero, A., & Quita, C. (2017). Expatriate career intentions: Links to career adaptability and cultural intelligence. *Journal of Vocational Behavior*, 98, 118–126. <https://doi.org/10.1016/j.jvb.2016.11.001>
- Santos, A., Wang, W., & Lewis, J. (2018). Emotional intelligence and career decision-making difficulties: The mediating role of career decision self-efficacy. *Journal of Vocational Behavior*, 107, 295–309. <https://doi.org/10.1016/j.jvb.2018.05.008>
- Schoemann, A. M., Boulton, A. J., & Short, S. D. (2017). Determining power and sample size for simple and complex mediation models. *Social Psychological and Personality Science*, 8(4), 379–386. <https://doi.org/10.1177/1948550617715068>
- Setti, I., Sommovigo, V., & Argentero, P. (2022). Enhancing expatriates' assignments success: The relationships between cultural intelligence, cross-cultural adaptation and performance. *Current Psychology*, 41(7), 4291–4311. <https://doi.org/10.1007/s12144-020-00931-w>
- Sri Ramalu, S., Che Rose, R., Kumar, N., & Uli, J. (2010). Doing business in global arena: An examination of the relationship between cultural intelligence and cross-cultural adjustment. *Asian Academy of Management Journal*, 15(1), 79–97.

https://ejournal.usm.my/aamj/article/view/aamj_vol15-no-1-2010_5

- Török, R., Tóth-Király, I., Bőthe, B., & Orosz, G. (2017). Analyzing models of career decision self-efficacy: First-order, hierarchical, and bifactor models of the Career Decision Self-Efficacy Scale. *Current Psychology*, 36(4), 764–773. <https://doi.org/10.1007/s12144-016-9464-9>
- Wawrosz, P., & Jurásek, M. (2021). Developing intercultural efficiency: The relationship between cultural intelligence and self-efficacy. *Social Sciences*, 10(8), Article 312. <https://doi.org/10.3390/socsci10080312>
- Wei, X. (2025). Sociocultural adaptation of Chinese international students in the United States and its influencing factors. *Frontiers in Psychology*, 16, Article 1607241. <https://doi.org/10.3389/fpsyg.2025.1607241>
- Xin, L., Tang, F., Li, M., & Zhou, W. (2020). From school to work: Improving graduates' career decision-making self-efficacy. *Sustainability*, 12(3), Article 804. <https://doi.org/10.3390/su12030804>
- Xiong, Z., Zeng, M., Xu, Y., Gao, B., & Shen, Q. (2025). Linking career-related social support to job search behavior among college students: A moderated mediation model. *Behavioral Sciences*, 15(3), Article 260. <https://doi.org/10.3390/bs15030260>
- Zhou, A., Liu, J., Xu, C., & Jobe, M. C. (2024). Effect of social support on career decision-making difficulties: The chain mediating roles of psychological capital and career decision-making self-efficacy. *Behavioral Sciences*, 14(4), Article 318. <https://doi.org/10.3390/bs14040318>