

Development of Vocational Identity of Skilled Chinese Migrants in Japan with and without Previous Educational Experience in the Host Country

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Abstract: This study compared the vocational identity statuses of skilled migrants who had prior educational experience in Japan to those who did not by using the Vocational Identity Status Assessment. A total of 417 former international students and 97 skilled migrant workers who had entered the Japanese labor market directly from China completed a self-report online survey. Results revealed six vocational identity statuses among the former international student group: achieved, searching moratorium, foreclosed, moratorium, diffused, and carefree diffused. Meanwhile, among the migrant worker population, only four vocational identity statuses were discernible: achieved, foreclosed, moratorium, and diffused. The findings also showed variations in the relationships between the vocational identity development and career outcomes, such as job performance, career satisfaction, and intention to leave the organization, between the two samples. Therefore, this is the first study to assess how prior educational experience in the host country could influence the skilled migrants' vocational identity development.

Keywords: Vocational identity, skilled migrants, educational experience, career development, Japan

1. Introduction

Even though the COVID-19 pandemic has had a profound impact on global mobility and causes individuals to reevaluate the meaning of their work, roles, and careers as a result of a career shock, the growing trend of international labor has not been affected (Baruch & Sullivan, 2022; Mello, 2023). According to the latest available estimates (International Organization for Migration [IOM], 2022), approximately 281 million global migrants were recorded in 2020, representing close to 4% of the world's 7.8 billion people. Most people migrate internationally for work, family, and study reasons. The International Labor Organization (ILO, 2021) estimated that the number of international migrant workers was 169 million in 2019, who possess different skill levels across sectors.

Although studies of migrant careers have predominantly focused on samples of lower-skilled migrants, researchers have developed an increased interest in migrants possessing advanced education or a high level of skill in recent years, owing to the favorable impact they have had on economic growth and technological advancement (Hajro et al., 2017; Kerr et al., 2017; Latukha et al., 2019). However, existing research found that skilled migrants faced numerous barriers while developing their career in the host country, such as discrimination, underemployment, and struggle in re-establishing their professional identity (Crowley-Henry et al., 2018; Zikic & Richardson, 2016). To surmount these obstacles and achieve success in their professional career in the host country, skilled migrants must

obtain proficient foreign language skills, recognition of foreign credentials, robust social networks, and familiarity with the host country's labor market (Pearson et al., 2012). Therefore, some skilled migrants choose to return to education to gain destination-specific skills and address qualification devaluation problems and poor language skills (Chiswick et al., 2005; Chiswick & Miller, 2009; Zikici et al., 2010).

Japan, one of the most advanced economies in Asia, has now become a major receiving country of both skilled and lower-skilled migrants. As of October 2022, the number of immigrant laborers reached approximately 1.82 million, the highest ever in Japan (Ministry of Health, Labor and Welfare, 2023). Indeed, Japan has been expanding its immigration gates to accommodate skilled migrant workers since the 1980s by revising immigrant policies. This contrasts with the Japanese government's longstanding reputation for enforcing stringent measures regarding unskilled immigration (Conrad & Meyer-Ohle, 2019; Ye-Yuzawa & Harasawa, 2020). In recent years, the Japanese government has classified and accepted skilled migrants according to the following 12 work visa categories: professor, highly skilled professional, investor/business manager, legal/accounting services, medical services, researchers, instructor, engineer/specialist in humanities/international service, intra-company transferees, skilled labor, nursing care, and specified skilled worker. As of October 2022, there were 479,000 skilled migrants working in Japan, which equates to 26.3% of the total migrant labor (Ministry of Health, Labor, and Welfare, 2023). Moreover, the actual number of skilled migrants in Japan may be higher. Japan is home to millions of permanent residents, naturalized citizens, their foreign spouses, and the spouses of former Japanese citizens who also hold the "skilled migrant" status, but they are no longer counted statistically (Oishi, 2021).

The Japanese labor market has been open to skilled migrants for decades. However, the true issue has been identified: skilled migrants did not view Japan as an appealing destination, and they were met with numerous obstacles when developing their career here (Komine, 2018; Suzuki, 2022). The latest data from the Ministry of Education, Culture, Sports, Science and Technology (2020) have revealed that although over 60% of international students hoped to stay and work in Japan after graduation, nearly half of them were unable to realize their goals. Even among those who could find a job in Japan, there was a tendency to resign after a few years (DISCO, 2019). As an illustration, Yorozu (2020) found that over 70% of foreign employees who held a university degree from a Japanese institution reported a higher turnover rate than their Japanese counterparts of comparable age.

Simultaneously, skilled migrants reported an average low satisfaction with the Japanese-style management system and found it difficult to adjust to their companies (Hennings et al., 2022; Ye-Yuzawa & Nebashi, 2022). For example, a report from the Ministry of Internal Affairs and Communications (MIC, 2019) revealed that former international students who entered the local labor market after graduating were most dissatisfied with their unclear career path while working in Japan. According to the same report, they pointed out 17 difficulties that they faced while working in Japanese companies (MIC, 2019). Ten of these were related to the Japanese employment systems and the working environment of companies, such as the ambiguity of promotion criteria and long working hours. Additional problems they encountered included poor Japanese language ability, the content of their jobs, and communication styles, such as unclear instructions from their superiors (Inai, 2012; Komatu et al., 2017). Meanwhile, some former international students

attempted to maintain the behavioral rules of their culture of origin while being compelled by their surroundings to adopt the host culture; this pattern led to negative outcomes, such as low job satisfaction and high turnover rate (Suzuki, 2022; Ye-Yuzawa & Nebashi, 2018).

Existing literature demonstrated the barriers skilled migrants, especially those who graduated from colleges or graduate schools in Japan, were facing. Moreover, few studies have been conducted to assess their vocational identity development except Ye-Yuzawa (2021). Vocational identity was considered a core construct for career development and an accurate predictor of other career outcomes (Gupta et al., 2014; Hirschi, 2011). Using the lens of vocational identity, we could better capture the whole career progression of skilled migrants in Japan. Conversely, Ye-Yuzawa (2021) only shed light on the development of vocational identity and its relationships with the career outcomes of foreign employees with educational experiences in Japan, so-called former international students. Previous research has rarely explored the differences in career development process between former international students and migrant workers who entered the local labor market directly without gaining educational experience in Japan.

This study contributes to research in two main ways. First, this study answers repeated calls for more research on the careers of skilled migrants in the individual perspective (O'Connor & Crowley-Henry, 2019). By adopting a vocational identity framework, this study could more effectively encompass the process of career development of skilled migrants who move to Japan from China, as vocational identity was considered an essential element in advancing one's career (Gupta et al., 2014; Hirschi, 2011). Second, this study contributes to deepening our understanding of the complexity of skilled migrants' careers by examining the distinct characteristics of two subgroups. Therefore, this study could provide practical implications on how organizations handle diverse types of skilled migrants from China in Japan.

2. Vocational Identity and Its Effect on Career Development Process

Vocational identity, alternatively used as occupational, work, professional, or career identity, is defined as “the possession of a clear and stable picture of one's goals, interests, and talents” (Holland et al., 1993, p. 1). It also refers to “the conscious recognition of oneself as a worker” (Skorikov & Vondracek, 2011, p. 693). Vocational identity comprises an individual's subjective assessment of their professional aspirations, capabilities, motivations, and values, constituting an intricate structure of personal significance in which acceptable roles are associated with motivation and competencies (Creed et al., 2020; Skorikov & Vondracek, 2011). Although vocational identity plays an important role in the career development of the adolescents and emerging adults, it also represents an ongoing process throughout one's life, involving the construction, shaping, and reshaping of the self concerning work (Skorikov & Vondracek, 2011).

Based on Erikson's (1968) and Marcia's (1966, 1993) identity paradigm, the formation of vocational identity consists of four identity statuses determined by a combination of commitment and exploration dimensions: achieved, foreclosed, moratorium, and diffused. Drawing on recent models of identity (Crocetti et al., 2008; Crocetti et al., 2012; Luyckx et al., 2005), Porfeli et al. (2011) proposed a model of vocational identity, comprising three

dimensions, namely, commitment, exploration, and reconsideration, each defined by two processes. Career commitment includes career commitment making and identification with career commitment. Meanwhile, career exploration encompasses in-depth and in-breadth exploration. The career reconsideration dimension includes career commitment flexibility and career self-doubt.

As defined by Luyckx et al. (2008), career commitment making refers to the extent to which individuals have made choices regarding important identity-related matters. Identification with career commitment relates to the certainty, identification, and internalization of individuals' career choices. Meanwhile, in-depth exploration pertains to examining a particular career option, whereas in-breadth exploration encompasses investigating a wide range of career possibilities. As defined by Porfeli et al. (2011), career commitment flexibility pertains to the proactive exploration of alternative paths and acknowledging and accepting the result of future changes in one's career choices, interests, and values due to learning and experience. Concern, unease, and uncertainty regarding one's current career choice characterize career self-doubt; there is also a perception that others have similar feelings and ideas (Porfeli et al., 2011).

Meanwhile, a scale named the "Vocational Identity Status Assessment" (VISA) was developed based on Porfeli et al.'s (2011) model. Studies using VISA identified six vocational identity statuses among US high school and university students (Porfeli et al., 2011; Weigold et al., 2021): (1) achieved (high on the career commitment and exploration dimensions, but low on the reconsideration of commitment dimension); (2) searching moratorium (high on all dimensions); (3) moratorium (high on the career exploration and reconsideration of commitment dimensions, but low on the career commitment dimension); (4) foreclosed (high on the career commitment dimension, but low on the career exploration and reconsideration of commitment dimensions); (5) diffused (high on the reconsideration of commitment dimension, but low on the career commitment and exploration dimensions); and (6) undifferentiated status (moderate on all dimensions).

Based on studies of French and Romanian adolescents and emerging adults, searching moratorium, moratorium, and foreclosure statuses were confirmed, but the undifferentiated status was not identified, whereas two distinct, diffused statuses were reported (Lannegrand-Willem et al., 2016; Marinica & Negru-Subtirica, 2020). Lannegrand-Willem et al. (2016) clarified by characterizing the diffused diffusion and moratorium statuses as murkier facets of vocational identity, attributing this to their negative correlations with psychosocial adjustment and well-being. This study also found a positive relationship between the identification and career commitment factor and life satisfaction, whereas the self-doubt factor exhibited a negative relationship with the same. Moreover, there was an additional correlation between elevated levels of depression and the self-doubt factor.

Furthermore, Zhang et al. (2019) developed a Chinese version of the VISA scale and found significant correlations between career commitment and exploration dimensions and various career-related indicators, including career adaptability, career exploration, and self-efficacy in talent development, among a sample of Chinese university students. Meanwhile, following Zhang et al. (2019), Yuan et al. (2022) revealed that achieved and foreclosed statuses among Chinese emerging adults were associated with healthy psychological positive affect, high self-esteem, and life satisfaction, whereas the negative affect was least prevalent. In contrast, the diffused group showed the most concerning pattern, with negative affect predominating over self-esteem, life satisfaction, and positive affect.

In the realm of employed individual research, vocational identity has been identified as a noteworthy determinant of career outcomes, encompassing both objective and subjective aspects. For objective career outcomes, vocational identity strongly impacts job performance (Baruch & Cohen, 2007; Kotama & Fukada, 2005; Suutari & Mäkelä, 2007). Conversely, there exists a body of research that demonstrates favorable correlations between vocational identity and subjective career outcomes, including organizational commitment, job and career satisfaction, intrinsic motivation, turnover intention, and achievement motivation (Baruch & Cohen, 2007; Kotama & Fukada, 2005; Suutari & Mäkelä, 2007; Takeuchi & Takahashi, 2010). Additionally, Yu et al. (2018) found a correlation between identification with the commitment factor and subjective and objective career outcomes, including job performance, career satisfaction, and turnover intention. Furthermore, focusing on Chinese former international students in Japan, Ye-Yuzawa (2021) identified six vocational identity statuses: achieved, diffused, doubtful commitment making, searching moratorium, moratorium, and foreclosed. This study also found that individuals with diffused and moratorium vocational identity statuses exhibited diminished levels of career satisfaction, job performance, yearly income, and higher intention to leave their current employment. On the contrary, those with an achieved status reported the highest levels of career satisfaction, job performance, and yearly income, albeit with a higher turnover intention.

Except for Ye-Yuzawa's (2021) study, there has been a scarcity of research on the vocational identity development of skilled migrants in Japan, even though it is recognized as a crucial determinant of career outcomes and an overall indicator of career development progress (Hirschi, 2011; Skorikov & Vondracek, 2011). Furthermore, although the impact of destination-specific skills in the host country and local labor market knowledge on the professional advancement of skilled migrants has been acknowledged (Chiswick et al., 2005; Chiswick & Miller, 2009; Zikici et al., 2010), the distinctions between skilled migrants with and without prior educational experience in Japan regarding vocational identity development remain poorly understood. As a result, we expanded our sample in this study to include migrant workers and former international students, the two distinct groups of skilled migrants from China. The objectives of this study were (1) to clarify how vocational identity statuses differed in these two groups; and (2) to demonstrate how the relationships between vocational identity and career outcomes would be different between these two groups.

3. Methodology

3.1 Sample

The present study made use of data collected using an online, self-report survey. The survey was distributed primarily through Chinese Facebook groups and WeChat groups related to businesses and/or hobbies in Japan. Among the 907 surveys returned, 393 (43.3%) were excluded because the respondents did not work as full-time employees or did not complete the survey. As a result, a total of 514 (56.7%) full-time employees had a Chinese cultural background; of these, 417 former international students and 97 migrant workers were included in the analysis. As shown in Table 1, the former international

student sample included 155 male and 258 female participants. Four participants did not indicate their gender. Of these participants, 85.9% were between 20 and 30 years old and 14.1% were over 40 years old. Moreover, 28.8% of the participants held a four-year university degree, 65.7% had master's degrees or higher, and 5.5% graduated from the two-year college or vocational school. There were 399 (95.7%) participants who reported their nationality as Chinese, 17 (4.1%) reported that they had acquired Japanese nationality, and 1 (0.2%) reported their nationality as Canadian. Simultaneously, 76.0% of this group worked in a nonmanagerial position and 24.0% worked in a managerial position. Furthermore, the majority (36.0%) of the participants' primary job descriptions involved technological development (Table 1). The proportion of employees employed by large firms with over 300 members was 63.1%. Furthermore, the average work experience of the participants in Japan was 5.28 years ($SD = 4.93$).

Regarding the group of migrant workers who did not gain educational experience in Japan but entered the work market directly, 57 (58.8%) were women and 40 (41.2%) were men. Of these participants, 57.7% were in the 30s, 29.9% were in the 20s and 12.4% were over 40 years old. In terms of their educational attainment, a proportion of the participants were as follows: 73.2% were graduates of four-year course at a university, 24.7% held post-graduate degrees or higher, 1.0% attended a two-year college, and 1.0% completed a vocational school. Of the total participants, 86.6% reported their nationality as Chinese; 12.4%, Japanese; and 1.0%, Malaysian. Moreover, an analysis of this cohort revealed that 81.4% were employed in non-managerial roles, whereas 18.6% were in managerial positions. As shown in Table 1, the primary responsibility of 53.6% of participants was technological development. Meanwhile, 47.4% of the employees worked for large firms with over 300 employees. Furthermore, the participants' average work experience in Japan was 6.07 years ($SD = 5.27$).

Table 1. Characteristics of the Participants

Variable	Former international student group		Migrant worker group	
	N	Percentage (%)	N	Percentage (%)
Gender				
Female	258	61.9	57	58.8
Male	155	37.1	40	41.2
No answer	4	1.0	0	0.0
Age				
20s	190	45.6	29	29.9
30s	168	40.3	56	57.7
Over 40s	59	14.1	12	12.4
Education				
vocational school/Two-year college	23	5.5	2	2.1
Four-year university	120	28.8	71	73.2

Graduate school	274	65.7	24	24.7
Nationality				
Chinese	399	95.7	84	86.6
Japanese	17	4.1	12	12.4
Other countries	1	0.2	1	1.0
Current role in organization				
Non-managerial position	317	76.0	79	81.4
Managerial position	100	24.0	18	18.6
Job description				
Technological development	150	36.0	52	53.6
Sales	35	8.4	8	8.2
Management	34	8.2	1	1.0
International business	31	7.4	5	5.2
Education and learning support	26	6.2	1	1.0
Design	19	4.6	3	3.1
Trade	18	4.3	5	5.2
Translation	17	4.1	6	6.2
Medical career	15	3.6	2	2.1
Accounting	13	3.1	6	6.2
Research	10	2.4	2	2.1
International financial business	9	2.2	3	3.1
Advertisement	7	1.7	0	0.0
Counseling	6	1.4	0	0.0
Others	27	6.5	3	3.1
Organization size				
More than 300 employees	263	63.1	46	47.4
1–299 employees	154	36.9	51	52.6

3.2 Measures

3.2.1 Vocational Identity

According to Ye-Yuzawa (2021), the Chinese version of VISA (Porfeli et al., 2011) developed by Zhang et al. (2019) with slight modification was used to examine the

vocational identity in this study. The 30-item modified Chinese version was comprised of five items representing each of the six factors. The six factors under consideration are as follows: career commitment making (e.g., “I know what kind of work is best for me”), identification with career commitment (e.g., “My career will help me satisfy deeply personal goals”), in-breadth career exploration (e.g., “Right now I am keeping my options open as I learn about many different careers”), in-depth career exploration (e.g., “Right now I am identifying my strongest talents as I think about careers”), career self-doubt (e.g., “I may not be able to get the job I really want”), and career commitment flexibility (e.g., “I will probably change my career goals”). A five-point Likert scale (ranging from 1 = *strongly disagree* to 5 = *strongly agree*) was used.

3.2.2 Career Outcomes

In this study, career satisfaction and turnover intention were chosen to access subjective career outcomes, whereas job performance was employed to evaluate the objective dimension. Five items based on Greenhaus et al. (1990) were used to measure career satisfaction. The level of agreement among the participants was assessed using a five-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). One example of an item is “I feel content with the level of success I have attained in my career.” To evaluate intention to leave, three items that were originally developed by Konovsky and Cropanzano (1991) were utilized. The level of agreement among the participants was assessed using a 5-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). An example item is: “I am considering searching for job opportunities outside of this organization within the next year.” Job performance was evaluated using three items developed by Motowidlo and Scotter (1994). Participants rated their performance on a 5-point Likert scale, ranging from 1 (*very low*) to 5 (*excellent*). The items included: “Compared to standards for job performance,” “Compared to others of the same rank,” and “Contribution to unit effectiveness.”

The study incorporated control variables based on previous research (Takeuchi & Takahashi, 2010; Yu et al., 2018; Ye-Yuzawa, 2021). These control variables encompassed age, tenure on the current workplace in years, gender (0 = *female*, 1 = *male*), educational level (1 = *vocational school or junior college*, 2 = *bachelor’s degree*, 3 = *master’s degree or higher*), and organization size (0 = *under 300 employees*, 1 = *over 300 employees*). Additionally, the ability to speak Japanese was also evaluated (1 = *I cannot speak Japanese*, 2 = *beginner level*, 3 = *intermediate level*, 4 = *advanced level*, 5 = *I can speak Japanese and I can speak my native language*).

3.3 Measurement Reliability and Validity

Confirmatory factor analysis (CFA) was performed in Amos 27 on both groups of the vocational identity to assess its validity and reliability. Based on the recommended fit indices, we found support for the hypothesized six-factor model of vocational identity ($\chi^2 = 819.996$, CFI = 0.903, GFI = 0.901, RMSEA = 0.048, AIC = 991.996), as shown in Table 2 (Hu & Bentler, 1999).

Table 2. Results of Confirmatory Factor Analysis for Three Models of the VISA

	χ^2	CFI	GFI	RMSEA	AIC
A: Six-factor model ^a	819.996***	0.903	0.901	0.048	991.996
B: Three-factor model ^b	1350.648***	0.791	0.825	0.068	1476.648
C: One-factor model ^c	2873.527***	0.456	0.572	0.109	2993.527

Note: Structural equation modeling was used to perform a CFA. RMSEA = root mean square error of the approximation, GFI = goodness of fit, AIC = Akaike information criterion.

^a In Model A, career commitment making, identification with commitment, in-breadth exploration, in-depth exploration, career self-doubt, and career commitment flexibility were calculated as one factor each.

^b In Model B, the two subscales of the career commitment dimension, including commitment making and identification with commitment, were measured as a factor. The second factor was computed using the two components of the career exploration dimension: in-depth exploration and in-breadth exploration. The two subscales of career reconsideration dimension including career self-doubt and career commitment flexibility were evaluated as the third factor.

^c In Model C, each VISA item was incorporated into a single factor calculation.

*** $p < 0.001$.

SPSS 26 was utilized to conduct a reliability analysis on the six factors of vocational identity, career satisfaction, turnover intention, and job performance. The reliability (Cronbach's alpha) for career commitment making was $\alpha = 0.71$; career commitment identification, $\alpha = 0.75$; in-breadth career exploration, $\alpha = 0.70$; in-depth career exploration, $\alpha = 0.67$; career self-doubt, $\alpha = 0.80$; and career commitment flexibility, $\alpha = 0.72$. Meanwhile, the reliability for career satisfaction, turnover intention, and job performance was $\alpha = 0.86$, $\alpha = 0.85$, and $\alpha = 0.86$, respectively. The reliability analysis and the CFA results showed good reliability and validity.

4. Results

4.1 Preliminary Mean-Level and Correlational Analyses

The means, standard deviations, and Pearson's correlation coefficients of the two samples' variables are shown. As represented in Table 3, the results of the former international student group revealed that career commitment making was highly correlated with identification with career commitment ($r = 0.62$, $p < 0.01$). Meanwhile, in-depth exploration factor was highly correlated with the in-depth exploration factor ($r = 0.58$, $p < 0.01$). The career self-doubt factor was highly correlated with career commitment

flexibility ($r = 0.51, p < 0.01$). Moreover, the participants' age was highly correlated with their tenure at the current workplace ($r = 0.63, p < 0.01$). Furthermore, the participants' job performance was positively related to their age, tenure on the current workplace, Japanese language ability, career commitment making, identification with career commitment, in-breadth exploration, and career satisfaction. By contrast, it was correlated negatively related to their career self-doubt, career commitment flexibility and turnover intention. Meanwhile, their career satisfaction was positively correlated with their level of education, proficiency in Japanese, career commitment making, identification with career commitment, in-breadth exploration, in-depth exploration, whereas it was correlated negatively with their career self-doubt, career commitment flexibility and turnover intention. Finally, their turnover intention was negatively correlated with their age, proficiency in Japanese, career commitment making, and identification with commitment, whereas it was positively related with their in-breadth exploration, career self-doubt, and career commitment flexibility.

Table 3. Means, Standard Deviations, and Correlation of the Former International Student Group

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Age	32.03	6.78	1														
2. Tenure at the current workplace	3.55	3.66	0.63**	1													
3. Gender	1.62	0.49	0.03	-.03	1												
4. Educational level	4.60	0.59	-0.16**	-.11*	-0.03	1											
5. Organization size	4.02	1.85	-0.25**	-.12*	0.02	0.32**	1										
6. Japanese language ability	4.12	0.80	0.09	0.21**	0.01	0.12*	0.14**	1									
7. CCM	3.38	0.62	0.13**	0.08	0.04	-0.00	-0.06	0.06	1								
8. ICC	3.67	0.60	0.12*	0.05	0.07	0.05	0.02	0.09	0.62**	1							
9. IDE	3.69	0.51	-0.06	-0.08	0.00	0.10*	-0.07	-0.10*	0.27**	0.28**	1						
10. IBE	3.70	0.55	-0.08	-0.06	0.03	0.03	-0.01	0.01	0.18**	0.22**	0.58**	1					
11. CSD	2.91	0.80	-0.09	-0.02	0.01	-0.19**	-0.04	-0.19*	-0.30**	-0.41**	-0.05	0.01	1				
12. CF	3.61	0.59	-0.26**	-0.16**	-0.08	-0.06	-0.00	-0.08	-0.24**	-0.23**	0.21**	0.31**	0.51**	1			
13. Job performance	3.72	0.73	0.12*	0.15**	0.00	-.01	-0.07	0.13*	0.34**	0.34**	0.08	0.14**	-0.23**	-0.13**	1		
14. Career satisfaction	3.51	0.75	-0.00	0.03	0.03	0.18**	0.02	0.18**	0.30**	0.39**	0.27**	0.29**	-0.34**	-0.17**	0.24**	1	
15. Turnover intention	2.89	1.00	-0.15**	-0.04	-0.06	-0.06	-0.03	-0.12*	-0.26**	-0.31**	0.02	0.12*	0.40**	0.34**	-0.13**	-0.30**	1

Note: CM = Career commitment making, IC = identification with commitment, BE = in-breadth exploration, DE = in-depth exploration, SD = career self-doubt, and CF = career commitment flexibility.

** $p < .01$, * $p < .05$.

Meanwhile, as shown in Table 4, the results of the migrant worker group revealed that career commitment making was highly correlated with the identification with career commitment ($r = 0.62, p < 0.01$). The in-breadth exploration factor was highly correlated with in-depth exploration factor ($r = 0.76, p < 0.01$). Their age was highly correlated with their tenure in the current workplace ($r = 0.55, p < 0.01$). Furthermore, the job performance of the members was positively related to their age, career commitment making, identification with career commitment, in-depth exploration, in-breadth exploration, career satisfaction. However, it was negatively related to their career self-doubt and career commitment flexibility. A positive correlation existed between their career satisfaction to their gender, career commitment making, identification with career commitment, in-breadth exploration, and in-depth exploration. However, there was an inverse correlation

between it and both career self-doubt and career commitment flexibility. Finally, their turnover intention was found to be inversely correlated with both gender and identification with career commitment, but positively correlated with their career commitment flexibility.

Table 4. Means, Standard Deviations, and Correlation of the Migrant Worker Group

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Age	33.18	7.05	1														
2. Tenure at the current workplace	3.71	3.92	0.55**	1													
3. Gender	1.59	0.49	0.15	0.01	1												
4. Educational level	4.21	0.46	0.03	0.05	-0.13	1											
5. Organization size	3.36	1.86	-0.16	-0.02	-0.16	0.12	1										
6. Japanese language ability	3.61	0.97	0.11	0.12	-0.01	0.04	-0.04	1									
7. CCM	3.40	0.62	0.14	0.20*	0.02	0.04	-0.08	0.02	1								
8. ICC	3.57	0.54	0.11	0.11	-0.03	0.08	-0.05	-0.01	0.62**	1							
9. IDE	3.65	0.61	0.02	-0.03	0.05	-0.02	-0.16	-0.03	0.34**	0.41**	1						
10. IBE	3.57	0.62	-0.07	-0.06	-0.01	0.18	-0.01	0.05	0.20	0.38**	0.76**	1					
11. CSD	2.84	0.74	-0.28**	-0.14	-0.12	0.00	0.11	-0.01	-0.38**	-0.50**	-0.18	-0.04	1				
12. CF	3.54	0.50	-0.16	-0.11	-0.17	0.17	0.13	0.14	-0.33**	-0.22*	0.01	0.12	0.45**	1			
13. Job performance	3.73	0.66	0.25*	0.11	0.08	-0.02	0.03	0.05	0.36**	0.47**	0.28**	0.28**	-0.40**	-0.23*	1		
14. Career satisfaction	3.55	0.61	0.04	0.06	0.31**	-0.12	-0.01	0.06	0.27*	0.35**	0.43**	0.33**	-0.32**	-0.25*	0.29**	1	
15. Turnover intention	2.77	0.95	-0.16	-0.14	-0.27*	-0.03	-0.04	0.18	-0.15	-0.22*	-0.06	-0.07	0.18	0.28**	-0.02	-0.13	1

Note: CM = Career commitment making, IC = identification with commitment, BE = in-breadth exploration, DE = in-depth exploration, SD = career self-doubt, and CF = career commitment flexibility.

** $p < .01$, * $p < .05$.

4.2 Vocational Identity Statuses of the Two Groups of Skilled Migrants from China in Japan

According to previous research (Luyckx et al., 2010; Porfeli et al., 2011), by utilizing a two-step cluster analysis, we can determine the vocational identity statuses of the two distinct groups of skilled Chinese migrants residing in Japan. For both groups, in the first step, the z-scores for the six factors were subjected to a hierarchical cluster analysis using the Ward method based on squared Euclidean distances. A six-cluster solution was subsequently maintained based on the stopping rule. The initial cluster centers computed in the first step were utilized as non-arbitrary starting points for a k-means clustering procedure in the second step.

As shown in Figure 1, the international student group exhibited the following six clusters: (1) achieved (high on career commitment and exploration dimensions, moderately low on career commitment flexibility, and low on career self-doubt); (2) searching moratorium (moderately high on all factors); (3) foreclosed (very high on commitment dimension, moderate high on in-depth career exploration, but low on in-breadth exploration and very low on the two factors of the reconsideration of career commitment dimension); (4) moratorium (low on career commitment but moderately high on other two dimensions); (5) diffused (low on the career commitment dimension, moderately low on the career exploration dimension, but high on reconsideration of commitment dimension), and (6) carefree diffused (low-moderate on all factors). At the same time, the highest ratio was found in the moratorium cluster (24.0%), followed by the achieved cluster (22.8%), the carefree diffused cluster (18.2%), the searching moratorium cluster (16.3%), the diffused cluster (10.5%), and the foreclosed (8.2%) cluster.

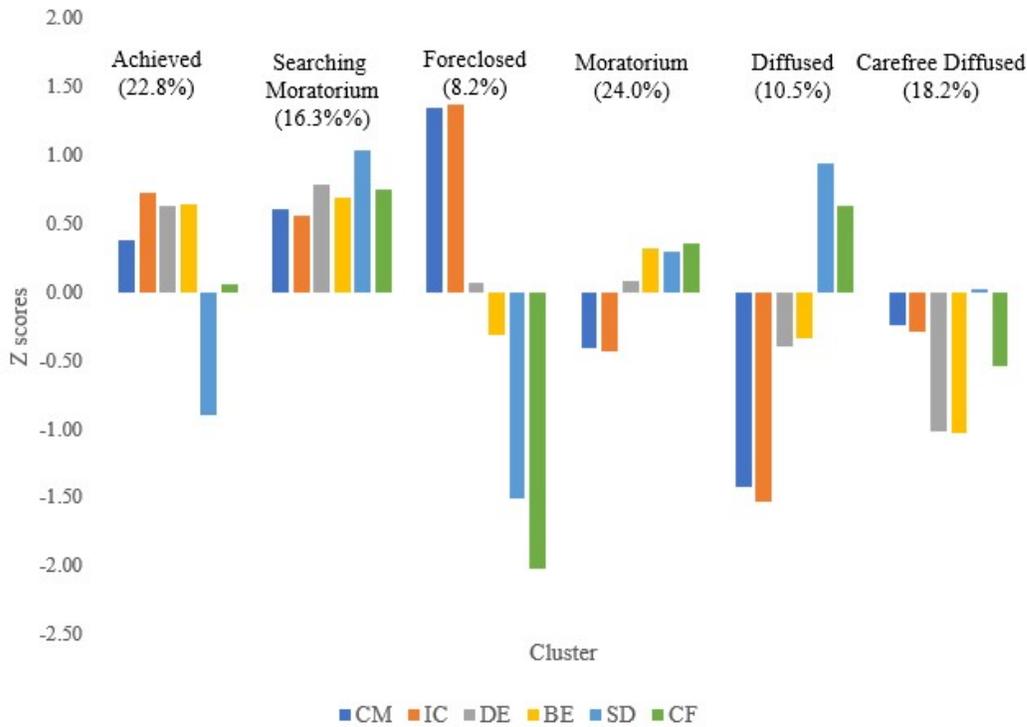


Figure 1. Final Cluster Solution for the Vocational Identity of the Former International Student Group

Note: Z-scores for career commitment making (CM), identification with commitment (IC), in-breadth exploration (BE), in-depth exploration (DE), career self-doubt (SD), and career commitment flexibility (CF). *N* = 417.

Meanwhile, the vocational identity statuses of the migrant worker group were assessed using the identical procedures as the former international student sample. Figure 2 illustrates that this group exhibited the emergence of four clusters: achieved, foreclosed, moratorium, and diffused. The moratorium cluster had the highest percentage (42.3%), followed by the foreclosed (26.8%) and the diffused (26.8%) clusters. The achieved cluster (4.1%) had the lowest ratio.

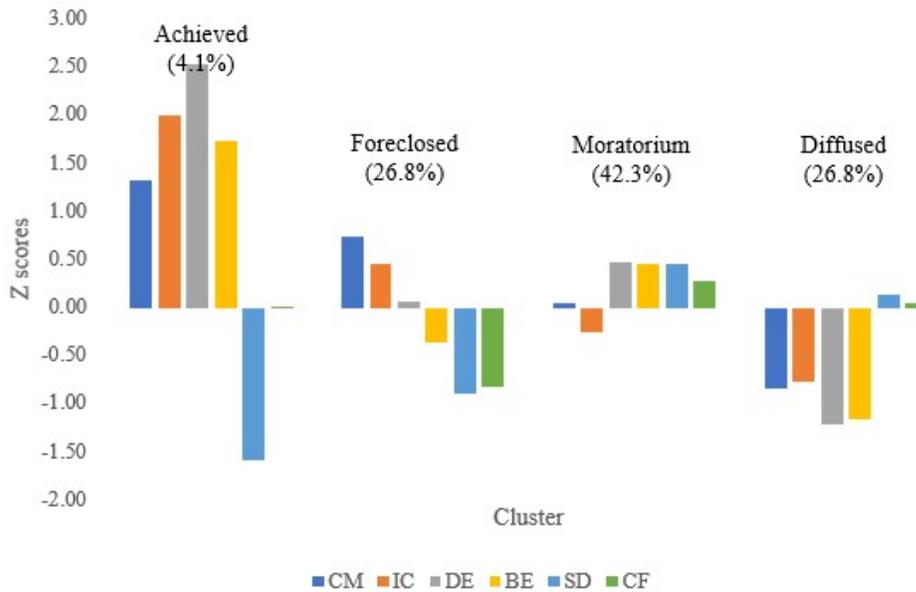


Figure 2. Final Cluster Solution for Vocational Identity of the Migrant Worker Group ($N = 97$)

Note: Z-scores for career commitment making (CM), identification with commitment (IC), in-breadth exploration (BE), in-depth exploration (DE), career self-doubt (SD), and career commitment flexibility (CF).

4.3 Relationships between Vocational Identity and Career Outcomes of Two Groups of Skilled Migrants from China in Japan

As shown in Table 5, the analysis of variance (ANOVA) results revealed significant effects of vocational statuses on job performance, career satisfaction, and turnover intention in the former international group. Participants classified as carefree diffused and diffused exhibited lower job performance scores in Tukey post-hoc tests than those classified as achieved, foreclosed, and searching moratorium. Participants in the moratorium status scored higher than those in the diffused status but lower than those in the foreclosed status. In terms of career satisfaction, individuals classified as carefree diffused and diffused reported lower scores compared to those classified as achieved, foreclosed, and searching moratorium. Members in diffused status also scored lower than those in moratorium and carefree diffused statuses. Former international students within moratorium status scored lower than those in achieved and foreclosed statuses. Furthermore, the individuals within the searching moratorium scored lower than those within the foreclosed status. Participants in the diffused status exhibited higher turnover intention scores compared to those in the following statuses: carefree diffused, achieved, moratorium, and searching moratorium. Conversely, individuals in the foreclosed, and achieved statuses reported lower scores than those in the moratorium and searching moratorium statuses. The achievement scores of participants who were carefree diffused were higher than those who were in the foreclosed status.

Table 5. Relationships Between Vocational Identity Statuses and Career Outcomes of the Former International Student Group ($N = 417$)

Variable	Vocational identity statuses						<i>F</i> value
	Achieved	Foreclosed	Searching moratorium	Moratorium	Carefree Diffused	Diffused	
Job performance	3.88 ^{bc}	4.19 ^c	3.89 ^{bc}	3.66 ^b	3.53 ^{ab}	3.25 ^a	10.11 ^{***}
Career satisfaction	3.89 ^{cd}	4.01 ^d	3.59 ^{bc}	3.42 ^b	3.26 ^b	2.82 ^a	22.19 ^{**}
Turnover intention	2.60 ^b	2.00 ^a	3.14 ^c	3.08 ^c	2.71 ^{bc}	3.67 ^d	17.18 ^{***}

Note. Pairwise comparisons were conducted using Tukey post-hoc tests. The means sharing a common subscript within each row are not statistically different at $p < .05$. ** $p < 0.01$, *** $p < 0.001$.

As shown in Table 6, the ANOVA results reveal significant effects of the vocational statuses on the job performance and career satisfaction of the migrant worker group. Tukey post-hoc tests revealed that individuals in the diffused and moratorium statuses exhibited lower job performance scores compared to those in the achieved and foreclosed statuses. In contrast, those in the diffused status exhibited lower levels of career satisfaction when compared to those in the achieved and foreclosed status groups.

Table 6. Relationships between Vocational Identity Statuses and Career Outcomes of Migrant Worker Group ($N = 97$)

Variable	Vocational identity statuses				<i>F</i> value
	Achieved	Foreclosed	moratorium	Diffused	
Job performance	4.66 ^b	4.03 ^{ab}	3.62 ^a	3.45 ^a	7.76 ^{***}
Career satisfaction	4.05 ^b	3.76 ^{ab}	3.58 ^{ab}	3.22 ^a	5.27 ^{**}
Turnover intention	2.75	2.42	2.86	2.97	.17

Note. Pairwise comparisons were conducted using Tukey post-hoc tests. The means sharing a common subscript within each row are not statistically different at $p < .05$.

** $p < 0.01$, *** $p < 0.001$.

To clarify the role of the six factors of vocational identity in career outcomes, hierarchical multiple regression analyses were conducted separately for the former sample of international students and the sample of migrant workers. Regarding the former international student group (Table 7), the job performance analysis demonstrated that the tenure at the current workplace and the Japanese language level were positively associated with job performance in Model 1. Model 2 exhibited a significant ΔR^2 ($\Delta R^2 = 0.16$, $p < 0.001$) when six vocational identity factors were entered. Career commitment making,

identification with commitment, and exploration of the depth were found to have a positive effect, while career self-doubt harmed job performance in Model 2. Additionally, tenure at the current workplace was also found to positively affect job performance in Model 2. Simultaneously, Table 5 also showed that the educational level and Japanese language level of skilled migrants with educational experience in Japan were positively associated with their career satisfaction in Model 1. Model 2 exhibited a significant ΔR^2 ($\Delta R^2 = 0.27, p < 0.001$) when vocational identity factors were entered. In Model 2, identification with commitment, in-depth exploration, in-depth exploration, as well as educational level and Japanese language level, positively affected career satisfaction. However, career self-doubt hurt career satisfaction. In addition, the examination of turnover intention unveiled that both age and linguistic proficiency in Japanese had an adverse effect on Model 1. Model 2 exhibited a significant ΔR^2 ($\Delta R^2 = 0.19, p < 0.001$) when vocational identity factors were incorporated. Career self-doubt and extensive exploration had a positive effect while identification with commitment and age was found to have a negative effect on turnover intention in Model 2.

Table 7. Regression Results for the Former International Student Group

Variable	Job performance						Career satisfaction						Turnover intention						
	Model 1			Model 2			Model 1			Model 2			Model 1			Model 2			
	B	SE	β	B	SE	β	B	SE	β	B	SE	β	B	SE	β	B	SE	β	
Constant	3.12	0.32		2.14	0.51		2.37	0.32		1.32	0.48		4.67	0.43		2.71	0.68		
Age	0.00	0.01	0.04	0.00	0.01	-0.02	0.00	0.01	-0.01	-0.01	0.01	-0.08	-0.03	0.01	-0.21**	-0.02	0.01	-0.10 [†]	
Tenure at the current workplace	0.02	0.01	0.12 [†]	0.03	0.01	0.14*	0.00	0.01	0.02	0.01	0.01	0.05	0.03	0.02	0.10	0.02	0.02	0.08	
Gender	-0.01	0.07	-0.01	0.02	0.07	0.01	-0.05	0.07	-0.04	-0.02	0.07	-0.01	0.10	0.10	0.05	0.08	0.09	0.04	
Educational level	-0.01	0.06	-0.01	-0.05	0.06	-0.04	0.22	0.06	0.18**	0.12	0.06	0.10*	-0.12	0.09	-0.07	0.00	0.08	0.00	
Organizational size	0.01	0.08	0.01	0.04	0.07	0.02	-0.05	0.08	-0.03	-0.01	0.07	-0.01	-0.04	0.11	-0.02	-0.05	0.10	-0.03	
Japanese language level	0.10	0.05	0.11*	0.06	0.04	0.07	0.16	0.05	0.17**	0.13	0.04	0.14**	-0.14	0.06	-0.11*	-0.09	0.06	-0.07	
Career commitment making				0.25	0.07	0.21**				0.08	0.07	0.07				-0.13	0.09	-0.08	
Identification with commitment				0.18	0.08	0.14*				0.21	0.07	0.17**				-0.24	0.10	-0.14*	
In-depth exploration				-0.11	0.08	-0.08				0.15	0.08	0.1 [†]				-0.02	0.11	-0.01	
In-breadth exploration				0.15	0.08	0.11 [†]				0.26	0.07	0.19**				0.23	0.10	0.13*	
Career self-doubt				-0.12	0.05	-0.13*				-0.17	0.05	-0.19**				0.31	0.07	0.25***	
Career commitment flexibility				0.03	0.07	0.02				-0.12	0.07	-0.09				0.16	0.10	0.10	
R ²			0.04			0.19			0.07		0.29			0.05		0.23		0.23	
Adjusted R ²			0.02 [†]			0.16***			0.05		0.27***			0.03		0.21***		0.21***	
ΔR^2			0.04			0.15			0.07		0.23			0.05		0.19		0.19	
F			2.71*			7.68***			4.78***		13.82***			3.37**		10.18***		10.18***	

Note. [†] $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

As shown in Table 8, the analysis of job performance of the migrant worker group showed that only their age was positively associated with job performance. In Model 2, both age and commitment identification were positively associated with job performance when vocational identity factors were entered. Model 2 exhibited a significant ΔR^2 ($\Delta R^2 = 0.24, p < 0.001$). As can also be seen in Table 8, the career satisfaction analysis of this group revealed that gender has a negative effect. In Model 2, when vocational identity factors were entered, in-depth exploration positively affected career satisfaction, while age still has a negative effect. Model 2 exhibited a significant ΔR^2 ($\Delta R^2 = 0.30, p < 0.001$). Finally, the analysis of turnover intention demonstrated that their gender and Japanese language level had a positive effect in Model 1. While Model 2 did not show a significant ΔR^2 ($\Delta R^2 = 0.08, p = 0.25$) when vocational identity factors were entered, their gender and career commitment flexibility were found to have a positive effect on turnover intention.

Table 8. Regression Results for the Migrant Worker Group

Variable	Job performance						Career satisfaction						Turnover intention					
	Model 1			Model 2			Model 1			Model 2			Model 1			Model 2		
	B	SE	β	B	SE	β	B	SE	β	B	SE	β	B	SE	β	B	SE	β
Constant	2.92	0.53		2.03	0.90		3.90	0.47		3.21	0.80		2.69	0.74		2.63	1.42	
Age	0.03	0.01	0.27 [†]	0.02	0.01	0.21 [†]	0.00	0.01	-0.05	-0.01	0.01	-0.12	-0.01	0.02	-0.09	-0.01	0.02	-0.07
Tenure at the current workplace	-0.01	0.02	-0.03	-0.01	0.02	-0.06	0.01	0.02	0.08	0.01	0.02	0.09	-0.03	0.03	-0.11	-0.02	0.03	-0.09
Gender	-0.08	0.14	-0.06	-0.05	0.13	-0.04	-0.40	0.13	-0.32 ^{**}	-0.35	0.11	-0.29 ^{**}	0.44	0.20	0.23 [†]	0.41	0.20	0.22 [†]
Educational level	-0.05	0.15	-0.04	-0.13	0.14	-0.09	-0.13	0.13	-0.10	-0.12	0.12	-0.09	-0.09	0.21	-0.04	-0.13	0.22	-0.06
Organizational size	0.16	0.14	0.12	0.16	0.12	0.12	0.11	0.12	0.09	0.13	0.11	0.11	-0.16	0.19	-0.08	-0.17	0.19	-0.09
Japanese language level	0.02	0.07	0.03	0.02	0.06	0.04	0.04	0.06	0.06	0.06	0.06	0.10	0.19	0.10	0.20 [†]	0.16	0.10	0.16
Career commitment making				0.09	0.13	0.08				-0.11	0.12	-0.11				0.09	0.21	0.06
Identification with commitment				0.29	0.16	0.24 [†]				0.22	0.14	0.20				-0.41	0.26	-0.23
In-depth exploration				-0.06	0.17	-0.05				0.32	0.15	0.32 [†]				0.03	0.26	0.02
In-breadth exploration				0.25	0.16	0.24				0.05	0.14	0.06				-0.02	0.26	-0.01
Career self-doubt				-0.15	0.11	-0.16				-0.09	0.09	-0.11				-0.09	0.17	-0.07
Career commitment flexibility				-0.10	0.14	-0.08				-0.21	0.13	-0.17				0.42	0.23	0.22 [†]
R ²			0.08			0.36			0.12			0.39			0.12			0.20
Adjusted R ²			0.02			0.24 ^{***}			0.06			0.30 ^{***}			0.06			0.08
ΔR ²						0.26			0.12			0.26			0.12			0.08
F			1.32			3.53 ^{***}			2.06 [†]			4.34 ^{***}			2.06 [†]			1.73 [†]

Note: [†] $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

5. Discussion

This study examined the vocational identity statuses of skilled migrants with previous educational experience in Japan and those without it using the VISA. The study’s results indicated that among the former international student population, six vocational identity statuses emerged: achieved, searching moratorium, foreclosed, moratorium, diffused, and carefree diffused. The migrant worker group was found to have only four identified vocational identity statuses: achieved, foreclosed, moratorium, and diffused. Compared to previous research (Porfeli et al., 2011), one notable difference was the absence of the undifferentiated status in our sample. The undifferentiated status is more applicable to adolescents and college students, which reflects a kind of “wait and see” approach (Adams et al., 2006, p. 89), as a result of their participation in an educational system that restricts their access to substantial work opportunities (Luyckx et al., 2008; Sestito et al., 2015). Simultaneously, five of these identity statuses exhibited similarities to those documented by Ye-Yuzawa (2021); however, the status of doubtful commitment making was absent from this sample. In its place, carefree diffused status was found in this study. This status seems to resemble the diffused one, since these two statuses scored both low on exploration and commitment dimensions. However, the diffused status integrated a higher level on the reconsideration of commitment dimension than the carefree diffused status. As Luyckx et al. (2008) described, “they do not feel the urge to start exploring identity-related issues or to thoroughly commit themselves to a certain option; they seem to rather enjoy their uncommitted status” (p. 65).

Simultaneously, this study revealed that more than 50% of these two groups of skilled migrants in Japan experienced “the dark sides” (Lannegrand-Willems et al., 2016, p. 215) of vocational identity when taking account of the moratorium, carefree diffused, and diffused statuses. This is because these statuses symbolized diminished job performance and

career dissatisfaction. A greater propensity for turnover intention was observed among the former international student population in these three statuses than in other statuses. These findings implied that most of the skilled migrants in Japan were not satisfied with their career development here, based on previous research (Komine, 2018; Suzuki, 2022). However, congruent with previous investigations (Ye-Yuzawa, 2021; Yu et al., 2018), identification with commitment demonstrated a robust correlation with both objective and subjective career outcomes. This study found a correlation between this particular factor and the job performance, career satisfaction, and turnover intention of the former international student group, as well as the job performance of the migrant worker sample.

Furthermore, the present study also revealed disparate results between the two cohorts. First, commitment making, career self-doubt and in-breadth exploration were found to have a unique effect on the career outcomes of former international students. More notably, commitment making represented a positive effect on job performance. Career self-doubt was negatively associated with job performance and career satisfaction, while positively associated with turnover intention. This finding supported previous research (Lannegrand-Willem et al., 2016; Porfeli et al., 2011; Ye-Yuzawa, 2021) that commitment making might be related to favorable aspects of individuals' career progression, whereas career self-doubt might be associated with unfavorable aspects. Interestingly, in-breadth exploration was found to be positively related to all career outcomes, although prior research indicated that this factor was associated with negative aspects of adjustment and psychosocial functioning (Luyckx et al., 2005, 2008). It is revealed that when individuals actively question and seek out information about their career possibilities, they might eagerly strengthen commitments. This could improve job performance and career satisfaction; however, it could lead to greater intention to change jobs.

Furthermore, when examining the frequency of identity statuses in these two groups, we observed that the migrant worker group comprised a higher percentage of individuals with the foreclosed status and a lower percentage of individuals with the achieved status. In contrast, the former international student sample reflected the opposite trend. This finding suggested that members of the migrant worker group may have a lower propensity for exploration compared to the sample of former international students. Simultaneously, the outcomes of carefree diffused and searching moratorium statuses were verified exclusively in the sample of former international students. These findings might explain why the in-breadth exploration factor affected career outcomes of the former international student sample rather than the migrant worker sample. Previous research indicated that migrant workers lacked good host country language proficiency, recognition of foreign qualifications, social networks, and knowledge of the host country's labor market to gain their labor market success (Pearson et al., 2012), so some skilled migrants chose to return to education to overcome these barriers (Chiswick et al., 2005; Chiswick & Miller, 2009; Zikici et al., 2010). When considering these results, this study revealed that members of the migrant worker group lack opportunities to learn about various jobs or explore the different possibilities of their career in Japan.

6. Conclusions and Implications

The vocational identity statuses of two subgroups of skilled migrants from China residing in Japan were examined in the present study. These subgroups comprised former

international students and migrant workers. This study also indicated the different associations between vocational identity development and career outcomes between these two samples. Thus, this study clarifies the career development process of skilled Chinese migrants in Japan by using the lens of vocational identity. To date, no study has focused on developing the vocational identity of two different groups of skilled Chinese migrants working in Japan. Therefore, this is the first study to provide an opportunity to discuss how previous educational experience in the host country could influence the vocational identity development of skilled migrants and advance our understanding of the complex nature of skilled migrants' career development in Japan.

The present study also has important practical implications. First, the study implied that more than half of skilled migrants exhibited the less favorable pattern of vocational identity, job performance, career satisfaction, and turnover intention. Therefore, the VISA could be helpful for career counselors to better understand the current career commitment, exploration, and reconsideration patterns of individuals and how they relate to career outcomes (Weigold et al., 2020). This study also helps companies recognize the situations of skilled migrants from China in Japan and provides additional career support to help them resolve their problems. Second, the two subgroups of skilled migrants in Japan exhibited distinct patterns concerning their vocational identity and its relationships with the career outcomes. Thus, it should be a major concern for Japanese companies to determine the difference between the career guidance requirements of migrant workers and former international students in order to meet those needs. For instance, within the sample of former international students, identification with commitment, in-breadth exploration, and career self-doubt factors were found to have a strong effect on their career outcomes including job performance, career satisfaction, and turnover intention. Thus, they can be guided toward improving their certainty, identification, and internalization of their career choices, which will help them construct their vocational identity and the development of their career. Meanwhile, identification with commitment and in-depth exploration were significantly correlated with the career outcomes of the migrant worker group. It implies that by providing migrant workers with more opportunities to access diverse job-related information and explore opportunities for career advancement in Japan, their overall career satisfaction could be enhanced.

Finally, some limitations of the present research should be noted. This study was predominately concerned with the associations between the vocational identity and career outcomes of two subgroups of skilled migrants from China in Japan; however, we did not investigate more deeply the influence of demographic variables, such as their age, gender, and educational level, when examining the associations of vocational identity and career outcomes. Further investigation into the influence of demographic variables on these two subgroups could be the subject of future research. Such an endeavor could yield more precise guidelines and ramifications regarding promoting professional growth among various categories of skilled Chinese migrants residing in Japan. A second limitation of the study is its reliance on a small sample of migrant workers; caution should be exercised about the imbalance of the two samples. Further research is warranted to gather a more extensive sample of the migrant worker group to replicate and extrapolate the key findings presented in this study.

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