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Research Note
研究ノート

Development of the Japanese version of career crafting assessment scale

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The purposes of this research were to (1) examine the reliability and validity of the Japanese version of the Career Crafting Assessment Scale (CCA) and (2) assess the measurement invariance across different culture groups. A study was conducted for each objective. Reliability and validity were examined in Study 1, and the results support the same factor structure as the original scale. Cronbach's alpha and higher-order omega were also sufficiently high, and the results showed medium to strong correlations with related constructs, including protean career attitudes, job crafting, and subjective career success. Study 2 examined measurement invariance across Japanese and Anglo samples of the CCA, with the results supporting scalar (strong) invariance between the two samples. These results show that the Japanese version of the CCA has sufficient reliability and validity and is measurement-invariant across Japanese (Confucian Asian) and Anglo samples.

Keywords：career crafting, reliability, validity, measurement invariance

1 Introduction

1.1 Career development in contemporary contexts

Career development has become a lifelong issue in an era of rapid change in work settings. Due to rapid technological innovation, including developments in artificial intelligence, work-related knowledge and skills can quickly become outdated (Lim et al., 2020). Individuals must adapt not only to environmental changes but also to changes within themselves. For instance, professionals often face crises of identity in middle age or when approaching retirement due to physical and psychological changes or organizational transitions (Okamoto, 1999).

In Japan, structural changes in employment practices have further heightened the importance of self-directed career development. Tradi-

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tionally, companies directed employees' careers through seniority-based and long-term employment systems (Horiuchi & Okada, 2016). However, since the collapse of the bubble economy in the 1990s, these systems have weakened, requiring employees to proactively manage their careers. In addition, the membership-type employment system frequently assigns individuals to departments without considering their personal preferences, creating mismatches between aspirations and actual work (Tsuru, 2017). Indeed, surveys indicate that nearly 60% of employees experiencing company-led transfers are dissatisfied with their jobs (Persol Research and Consulting, 2021). These changes make proactive career behaviors increasingly necessary in Japan.

1.2 Concept of career crafting (CC)

Against this backdrop, career crafting (CC) has emerged as an important construct. Building on the idea of job crafting (Wrzesniewski & Dutton, 2001), CC refers to a set of proactive and congruence-seeking behaviors that broaden career-relevant resources and align one's career with evolving values and interests (Lee et al., 2021). Unlike prior research, which tended to focus on either proactivity or congruence, CC emphasizes the integration of both. Empirical studies suggest that CC contributes to outcomes such as subjective career success, employability, and work meaning (Ge et al., 2023). In this sense, CC provides a valuable lens for understanding adaptive career development in dynamic environments.

1.3 Measurement of career crafting and the CCA

To study CC empirically, Lee et al. (2021) developed the Career Crafting Assessment (CCA), which consists of four first-order factors—changing relational boundaries, utilizing relational resources, reflecting positive career meaning, and expanding task boundaries—and one higher-order CC factor. The CCA has shown adequate reliability and validity in Anglo contexts and has been translated into other languages (e.g., Romanian version: Chifor & Oprea, 2023). Despite this progress, a Japanese version of the CCA has not yet been developed, leaving a gap in both domestic research and cross-cultural comparison.

1.4 Cross-cultural concerns in measurement

It is also unknown whether the scale functions similarly across cultural contexts (Schmitt & Kuljanin, 2008). Due to differences in cultural background, the same factor structure may not be supported, and even if the factor structure is the same, it may not have the same meaning (Putnick & Bornstein, 2016). In House et al.'s (2004) cultural classification, Japan is considered part of Confucian Asia, and the original CCA scale was developed based on samples from Anglo countries. There are two key differences between Anglo culture and Confucian Asian culture: (1) The former is individualistic, while the latter is collectivist, and (2) Confucian Asian countries are more future-oriented than Anglo countries (House et al., 2004). In individualistic cultures, personal goals and aspirations are prioritized, encouraging individuals to actively build professional networks and expand their job roles to advance their careers (Volmer et al., 2018). In contrast, collectivistic cultures emphasize group harmony and maintaining interpersonal relationships, making it more challenging for individuals to modify their work boundaries or establish new professional

connections unilaterally (Boehnlein & Baum, 2022; Volmer et al., 2018). People may perceive such actions as disruptive or risky within the social and organizational context. These cultural differences may lead to differences in interpretation and reactions to items in the physical aspects of CC, including changing relational boundaries, utilizing relational resources, and expanding task boundaries. Differences in whether a culture is future-oriented may also influence responses in the subdimension of CCA, such as "reflecting positive career meaning." In societies with a high degree of future orientation, individuals tend to engage in long-term planning and invest in their future, placing greater emphasis on future satisfaction than on immediate gratification (Boehnlein & Baum, 2022). Since "reflecting positive career meaning" involves considering the relationship between one's long-term career trajectory and current work or life, this behavior will likely be more familiar and natural in future-oriented societies. In sum, the CCA scale may not be measurement-invariant in Japan and Anglo countries.

1.5 The Purpose of This Study

In sum, although the CCA is a validated instrument in Anglo contexts, it is not yet available in Japanese, and its cultural robustness remains untested. This study aims to address these gaps. In Study 1, we develop a Japanese version of the CCA and examine its reliability and validity. In Study 2, we test configural, metric, and scalar measurement invariance between Japanese and Anglo samples. Through these two studies, we provide a psychometrically sound Japanese instrument while also exploring whether CC represents a universal set of behaviors or one shaped by cultural nuances.

2 Study 1

2.1 Purpose of Study 1

The purpose of Study 1 was to establish the psychometric foundation of the Japanese version of the CCA. Specifically, we sought to determine whether the translated scale replicates the higher-order factor structure reported in the original study by Lee et al. (2021) and whether it demonstrates sufficient internal consistency. In addition, and consistent with prior research (e.g., Lee et al., 2021), we examined its convergent validity by testing correlations with theoretically related constructs such as protean career attitudes, job crafting, and subjective career success.

2.2 Methods

Survey subjects and procedures

In August 2023, we conducted a web-based survey with the online monitors of FastAsk, targeting full-time employees aged 20-64 in private companies with at least 300 employees, and obtained 430 responses. Prior research indicates that company size influences career development experiences such as job changes and company-led transfers (Sato, 2022). In Japan, firms with 100-300 employees are generally classified as small or medium enterprises, though this varies by industry; this study focused on large companies with 300 or more employees. Following Miura and Kobayashi (2015), we excluded eight respondents who gave inconsistent answers to paired items designed to detect careless responses (e.g., a four-point discrepancy between an item and its reworded counterpart). The final sample consisted of 422 employees: 277 men (65.6%) and 145 women (34.4%), with a mean age of 41.98 years (SD = 11.25). Of these, 289 (64.5%) were university

graduates or higher, their average tenure was 13.83 years (SD = 10.61), and 98 (23.2%) held management positions.

Measures

Career crafting: We used fifteen items from Lee et al.'s (2021) CCA and translated them into Japanese (Table 1). Three authors independently forward translated the items, and the first

Table 1　List of items and descriptive statistics

		M	*SD*
CCA 1	I make an effort to get to know people whose career I admire. 自分が憧れるキャリアを歩んでいる人たちと知り合えるように努力している	3.647	1.617
CCA 2	I make connections with people who share my career interests. キャリアの関心が一致する人たちとのつながりを作るようにしている	3.694	1.577
CCA 3	I make connections with people who have the skills that I want to possess. 自分が求めているスキルをもっている人たちとのつながりを作るようにしている	3.832	1.505
CCA 4	I build contacts with people in areas where I would like to work. 自分が働きたいと思っている分野の人たちとの接点を作るようにしている	3.77	1.5
CCA 5	I seek professional coaching from those whose careers I admire. 自分が尊敬するキャリアを歩んでいる人からの専門的な助言を求めるようにしている	3.673	1.636
CCA 6	I attend events that will help me to explore different career paths. キャリアの多様な歩み方を探索するのに役立つイベントに参加するようにしている	3.547	1.656
CCA 7	I ask others to introduce me to people who can positively influence my career. 自分のキャリアに良い影響を与えてくれそうな人を紹介してくれるよう，頼むようにしている	3.436	1.594
CCA 8	I ask others for feedback on my career development. 自分のキャリア形成について，フィードバックを求めるようにしている	3.68	1.526
CCA 9	I think about the ways in which my career positively impacts my life. キャリアが自分の人生に良い影響を与えるための方法を考えるようにしている	3.81	1.531
CCA 10	I remind myself that my career has personal significance. 私のキャリアは自分自身にとって意義があることを忘れないようにしている	3.844	1.57
CCA 11	I reflect on the role of my career in my overall well-being. 自分のキャリアが私の幸せ全般にどのような役割を果たしているかを考えるようにしている	3.709	1.544
CCA 12	I look at a career as a means of expressing myself. 自分を表現する手段としてキャリアを捉えている	3.806	1.573
CCA 13	I choose to take on additional tasks at work. 追加的業務を引き受けることを自分で決めている	4.088	1.538
CCA 14	I take on extra tasks that contribute to my career even if I do not receive extra pay for them. たとえ報酬が上乗せされなくても，自分のキャリアに資するような追加的業務は引き受ける	3.848	1.521
CCA 15	Added work responsibilities excite me when they are relevant to my career interests. 自分のキャリア上の関心に関わるものであれば，責任が増えることにもワクワクできる	3.794	1.557

author integrated these into one version. The remaining two authors then reviewed and modified it. A professional translator back-translated the Japanese version into English, which was compared with the original scale. We confirmed that the final version accurately reflected the intended meaning and used it in the survey. Items were rated on a seven-point Likert scale.

Protean career attitudes: We used fourteen items from Umezaki et al. (2023), a Japanese translation of the Protean Career Attitudes Scale developed by Briscoe et al. (2006). The scale has two latent dimensions: self-directed attitudes (e.g., "Freedom to choose my own career path is one of my most important values.") and values-driven attitudes (e.g., "What's most important to me is how I feel about my career success, not how other people feel about it."). Items were rated on a five-point Likert scale.

Job crafting: We used nine items from Sekiguchi et al.'s (2017) [1] scale, which measures the three crafting dimensions (task, relational, cognitive) proposed by Wrzesniewski and Dutton (2001). Example items include "Add or reduce tasks so that my job can be performed more smoothly" (task crafting), "Actively interact with people through my job" (relational crafting), and "Reframe my job as significant and meaningful" (cognitive crafting). Items were rated on a seven-point Likert scale.

Subjective career success: We used the Japanese version of Greenhaus et al.'s (1990) five-item Career Satisfaction Scale (Yamamoto, 1994). An example item is "I am satisfied with the success I have achieved in my career." Items were rated on a five-point Likert scale.

Data analysis

We first conducted a confirmatory factor analysis (CFA) to examine whether the Japanese CCA replicated the factor structure reported by Lee et al. (2021). Following their approach, we compared the higher-order factor model with alternative models. The higher-order factor model included four first-order factors (changing relational boundaries, utilizing relational resources, reflecting positive career meaning, and expanding task boundaries) and one second-order factor (CC). The four-factor model included only the first-order factors, while the three-factor model combined "changing relational boundaries" and "utilizing relational resources." For model selection, we relied on fit indices that are commonly used in previous research such as RMSEA ≤ .08, CFI ≥ .90, and SRMR ≤ .08 (Acock, 2013; Bentler, 1990; Hu & Bentler, 1999), because the χ^2 test and related likelihood ratio tests are highly sample-size dependent and may be misleading in large samples (Schermelleh-Engel et al., 2003).

Second, we assessed reliability using Cronbach's alpha and McDonald's omega coefficients. Third, we examined convergent validity by conducting a CFA including protean career attitudes, job crafting, and subjective career success, testing whether factors were distinct and positively correlated with the Japanese CCA. All analyses were performed in R (version 4.4.1; R Core Team, Vienna, Austria) using the lavaan package (version 0.6-12; Rosseel, 2012).

2.3 Results

Confirmatory factor analysis

We conducted CFAs to examine the factor structure of the scale. For this analysis, we compared the four-factor, higher-order factor, and three-factor models examined by Lee et al. (2021). All models showed acceptable fit (Table 2), with the four-factor model performing best, followed by the three-factor and higher-order

models. However, inter-factor correlations were very high (.894-.990 for the four-factor model; .917-.968 for the three-factor model). Given these results and Lee et al.'s (2021) adoption of the higher-order model, we also selected this model for the Japanese CCA. In this model, loadings ranged from .765 to .878 for first-order factors and .933 to .991 for the higher-order factor (Figure 1).

Table 2　Comparison of confirmatory factor analysis goodness of fit

Model	χ2	*df*	CFI	SRMR	RMSEA 90%CI	AIC
1 Four-factor model	143.950	84	.982	.024	.054 [.04, .07]	17,955.099
2 Higher-order model	156.030	86	.979	.026	.057 [.04, .07]	17,972.398
3 Three-factor model	150.970	87	.981	.025	.054 [.04, .07]	17,961.596

N = 422

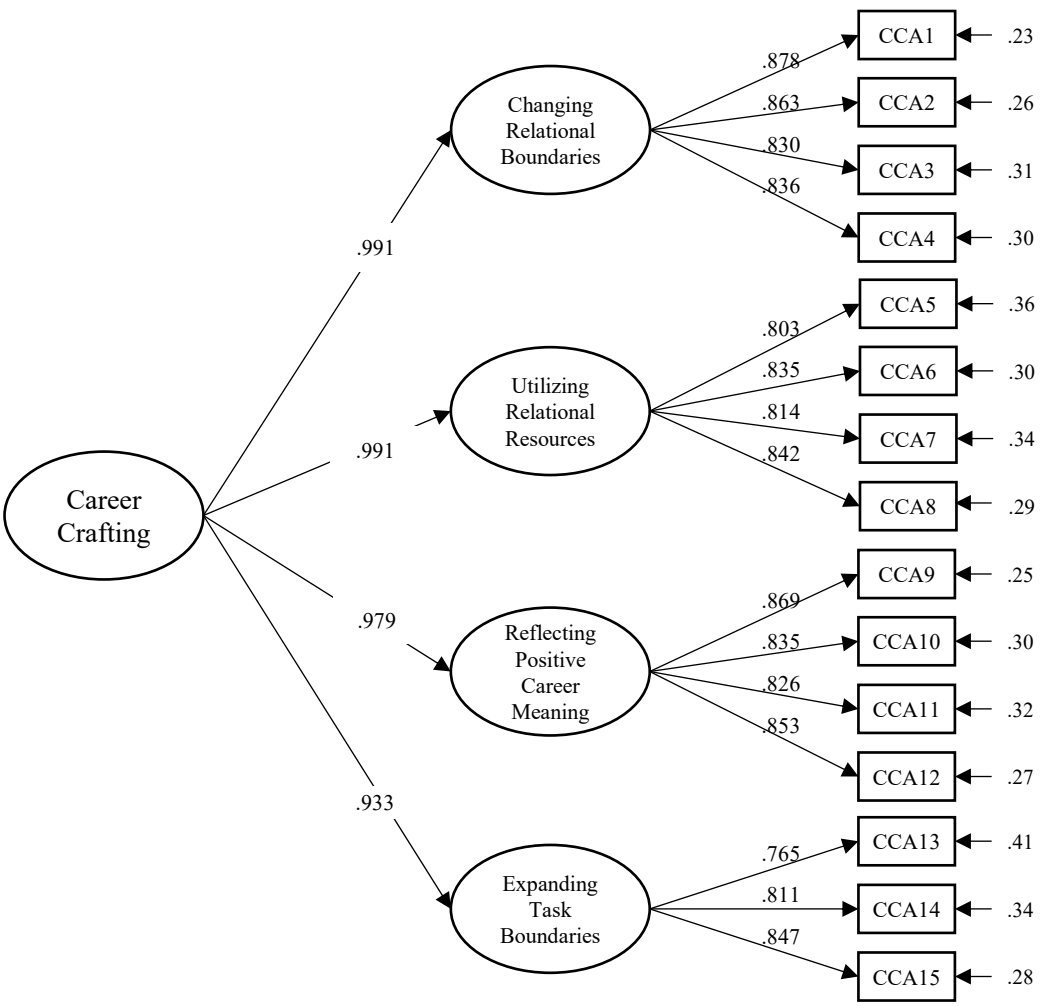

Figure1　Results of confirmatory factor analysis

Reliability

We examined reliability using alpha and omega coefficients. For the four first-order factors (changing relational boundaries, utilizing relational resources, reflecting positive career meaning, and expanding task boundaries), Cronbach's alphas were .913, .914, .914, and .915, and McDonald's omegas were .910, .909, .909, and .908. For overall CCA, alpha was .968 and higher-order omega was .960.

Convergent validity

We conducted a CFA to test whether the CCA was distinct from protean career attitudes, job crafting, and subjective career success. The best-fitting model specified the CCA as independent of these constructs (see Table 3). The CCA latent factor correlated positively with protean career attitudes ($r = .74, p < .01$), job crafting ($r = .77, p < .01$), and subjective career success ($r = .63, p < .01$).

2.4 Discussion

Study 1 examined the reliability and validity of the Japanese CCA. The factor structure was tested with four-factor, higher-order, and three-factor models, all of which showed good fit. Although the four-factor model fit best, we adopted the higher-order model to allow comparison with Lee et al. (2021). The adoption of the higher-order model was also reasonable given the high inter-factor correlations. Reliability was confirmed with alpha and omega coefficients, both above .80. The Japanese CCA correlated moderately and significantly with protean career attitudes, job crafting, and subjective career success, consistent with Lee et al. (2021), supporting convergent validity while showing that the construct is distinct from these related concepts.

3 Study 2

3.1 Purpose of Study 2

Study 2 tested the measurement invariance of the CCA across Japanese and Anglo samples. We sequentially evaluated configural, metric, and scalar invariance models to examine whether the factor structure, factor loadings, and item intercepts were equivalent across cultures. This procedure allowed us to determine whether the Japanese version of the CCA enables valid cross-cultural comparisons.

3.2 Methods

Survey subjects and procedures

From February 2024 to March 2024, we conducted an online survey through Cross Marketing Inc, targeting employees aged 20-64

Table 3 Comparison of confirmatory factor analysis goodness of fit

Model	$\chi 2$	*df*	CFI	SRMR	RMSEA 90%CI	AIC
1 Four-factor model (CCA, PCA, JC and SCS)	1493.121	850	.939	.050	.049 [.04, .05]	47,266.379
2 Three-factor model (CCA and PCA combined)	1552.423	852	.934	.063	.051 [.05, .06]	47,342.163
3 Three-factor model (CCA and JC combined)	1515.718	852	.937	.056	.050 [.05, .05]	47,293.988
4 Three-factor model (CCA and SCS combined)	1535.699	852	.936	.060	.050 [.05, .05]	47,318.658
5 One-factor model	3511.862	860	.746	.084	.099 [.10, .10]	49,993.168

N = 422, PCA=protean career attitudes, JC=job crafting, and SCS=subjective career success

in companies with at least 100 employees.[2] We received responses from 10,000 Japanese speakers and 1,000 English speakers (400 in Australia, 200 in the US, 200 in the UK, and 200 in Singapore), and limited the analysis to the Japanese and Anglophone samples to assess whether the Japanese scale functions similarly to the original. To exclude careless responses (Miura & Kobayashi, 2015), we excluded those with incomplete responses per the infrequency and inconsistency subscale (Maniaci & Rogge, 2014). Specifically, referring to Maniaci and Rogge (2014), we considered responses that differed from the two sets of questions in the Attentive Responding Scale to be careless responses and excluded them from the analysis. The question sets were (1) "I am an active person" and "I lead an active life" and (2) "I would rather be disliked than liked by others" and "I don't like being made fun of or embarrassed." For the Japanese sample, we further calculated the speed factor (median response time divided by the individual's response completion time) for each question (Leiner, 2019). Responses that exceeded the cutoff value of 2 for more than eight questions (more than one-third of the questions) were excluded from the analysis. To align with Study 1, we analyzed only full-time employees in firms with over 300 employees, resulting in 5,192 valid Japanese and 445 valid Anglo responses (Australia = 203, US = 125, UK = 117; Table 4).

Measures

As part of the Career Development through Job Crafting Project (JSPS KAKENHI Grant Numbers: 23K25545), we conducted a survey that included questions on demographic factors

Table 4　Survey Overview Breakdown of sample

Survey Overview

	Japanese sample	Australia sample	US sample	UK sample
Survey Overview				
Sample size	10000	400	200	200
Valid responses	5192	203	125	117
Survey Content*				
Demographic factors	age, gender, occupation, position, length of service, education			
Career-related concepts	CCA, person–job fit, job crafting, meaningful work, career plateau			

Breakdown of sample

	Japanese sample		Australia sample		US sample		UK sample	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Age	43.523	10.271	37.325	9.270	41.296	9.438	39.068	10.088
Length of service	16.373	10.935	6.793	6.031	7.760	5.603	7.701	6.401
	%		%		%		%	
Gender (Male)	67.62%		63.05%		63.20%		51.28%	
Managers	45.36%		71.92%		76.80%		65.81%	
Education (bachelor's degree or higher)	69.90%		78.33%		72.00%		75.21%	

*The questionnaire items for the four samples are common.

(e.g., age, gender, occupation, position, length of service, education) and other career-related concepts (e.g., person-job fit, job crafting, meaningful work, career plateau). Details of the survey outline are shown in Table 4.

Career crafting: We used the Japanese version of the CCA developed in Study 1. Items were rated on a seven-point Likert scale. Example items include "I look at a career as a means of expressing myself" and "I make connections with people who share my career interests."

Data analysis

To examine measurement invariance, we first conducted a separate CFA on the Japanese and Anglo samples. The purpose was to ascertain whether the data supported the higher-order one-factor structure suggested in Study 1. Subsequently, we tested the configural invariance model (equal factor structure), the metric (weak) invariance model (equal factor loadings), and the scalar (strong) invariance model (equal intercept) through simultaneous multiple group structural equation modeling. The analysis procedure followed the approach outlined by Rudnev et al. (2018). Specifically, we began by conducting a multi-group analysis (MGA) using a model with no restrictions. Second, we carried out simultaneous MGAs using a model with the restriction that only the factor loadings of the first-order are equal across groups. Third, we conducted an MGA using a model with the constraint that all factor loadings, including the second-order, were equal across groups. Fourth, we conducted an MGA using a model with the restriction that first-order intercepts are equal across groups, in addition to the restrictions of the previous model. Finally, we performed an MGA using a model with the constraint that second-order intercepts are equal across groups.

In comparing the models, we first checked the goodness of fit using the same criteria as Study 1. Then, we adopted the more restrictive model when the changes in fit indices did not exceed the cutoff values: ΔCFI $\leq$ 0.01, ΔRMSEA $\leq$ 0.015, and ΔSRMR $\leq$ 0.03 for metric invariance and $\leq$ 0.15 for scalar invariance (Chen, 2007). Given the chi-square test's sensitivity to sample size and its limitations in reliability, alternative fit indices (shown above) have been widely supported and adopted in prior research, and we likewise employed them in the present study (Putnick & Bornstein, 2016). We employed the lavaan 0.6-12 package in R for the analysis and used the robust maximum likelihood method for estimation.

3.3 Results

First, we conducted CFAs separately for the Japanese and Anglo samples. The results showed that both samples demonstrated a good fit (Japanese samples: χ^2 = 849.932, df = 86, CFI = .979, RMSEA = .064 [CI .06-.07], SRMR = .025; Anglo samples: χ^2 = 165.24, df = 86, CFI = .979, RMSEA = .059 [CI .05-.07], SRMR = .028), suggesting that the scale structure was well captured in both cultural contexts.

Second, we then tested measurement invariance using multi-group CFA. As shown in Table 5, the configural model (χ^2 = 1162.92, df = 172, CFI = .978, RMSEA = .063, SRMR = .026) showed acceptable fit, confirming that the same factor structure holds across cultures. The metric models, which constrain factor loadings to be equal, also fit well (first-order metric: χ^2 = 1,210.04, df = 183, CFI = .978, RMSEA = .062, SRMR = .026; first- and second-order metric: χ^2 = 1,219.82, df = 186, CFI = .978, RMSEA = .061, SRMR = .026). The changes in fit relative to the configural model were negligible (ΔCFI = .000, ΔRMSEA

Table 5　Results of measurement invariance tests

	χ2	df	CFI	RMSEA	SRMR	ΔCFI	ΔRMSEA	ΔSRMR	Decision
Model1. Configural	1,162.92	172	.978	.063	.024				
Model2. First-order metric	1,210.04	183	.978	.062	.026	.000	.001	-.002	Accept
Model3. First- and second-order metric	1,219.82	186	.978	.061	.026	.000	.001	.000	Accept
Model4. First-order scalar	1,313.20	197	.977	.061	.027	.001	.000	-.001	Accept
Model5. First- and second-order scalar	1,323.20	200	.977	.060	.027	.000	.001	.000	Accept

= .001, ΔSRMR = -.002-.000), all far below the cutoffs proposed by Chen (2007). This indicates that constraining factor loadings to equality across groups did not meaningfully reduce model fit, supporting the conclusion that items contributed similarly to the latent construct in both cultures.

Third, the scalar models, which additionally constrain intercepts, likewise fit the data (first-order scalar: χ^2 = 1,313.20, df = 197, CFI = .977, RMSEA = .061, SRMR = .027; first- and second-order scalar: χ^2 = 1,323.20, df = 200, CFI = .977, RMSEA = .060, SRMR = .027) . Again, the changes in fit relative to the less-constrained models were minimal (ΔCFI = .000-.001, ΔRMSEA = .000-.001, ΔSRMR = -.001-.000), well within Chen's (2007) recommended cutoffs. This means that imposing equality constraints on both loadings and intercepts did not deteriorate model fit in any meaningful way.

Taken together, these results indicate that configural, metric, and scalar invariance were all supported. In practical terms, this means that the Japanese and Anglo respondents interpreted the CCA items in an equivalent manner, and any observed differences between the two groups can be attributed to genuine latent differences in career crafting rather than measurement artifacts. Therefore, latent mean comparisons across cultures are valid (Manabe et al., 2022).

As scalar invariance was established, we further examined latent mean differences within the scalar invariance model. With the Japanese sample specified as the reference group (latent mean fixed to zero), the Anglo sample showed a significantly higher latent mean (ΔM = 1.76, SE = 0.07, z = 24.71, $p < .001$), corresponding to a large standardized mean difference (Cohen's d = 1.29).

3.4 Discussion

Study 2 found strong evidence for scalar invariance between the Japanese and Anglo samples. This indicates that factor loadings and intercepts were statistically equivalent across groups, allowing valid comparisons of latent means. The confirmation of scalar invariance means that observed group differences cannot be attributed to measurement bias but instead reflect true differences in the underlying construct. Latent mean comparisons showed that Anglo participants reported significantly higher levels of career crafting than Japanese participants. This result can be interpreted as reflecting the idea that proactive behaviors such as expanding job roles and building professional networks are more normative in Anglo contexts, whereas in Japan such behaviors may be constrained by collectivistic norms that

emphasize group harmony. These findings suggest that while the CCA operates equivalently across groups, the overall level of CC varies in ways that align with cultural norms. In addition, although the proportion of employees in managerial positions differed substantially between the samples (Japan: 45.36%; Anglo: 65.81%-76.80%), this variation did not affect our results. This can be explained by the fact that career crafting comprises behaviors such as connecting with role models, seeking feedback from them, and engaging in career-relevant tasks, which are universal strategies for career advancement and not specific to managerial roles. The difficulty of these behaviors may be relative to one's career stage, meaning that they are not inherently more demanding for non-managers than for managers.

4 General Discussion

4.1 Japanese version of the CCA scale

This study had two main objectives: to develop and validate a Japanese version of the CCA and to examine its measurement invariance between Japanese and Anglo samples. In Study 1, confirmatory factor analyses showed that the four-factor model provided the best statistical fit; however, the correlations among the subfactors were extremely high, indicating limited discriminant validity. Therefore, consistent with Lee et al. (2021), we adopted the higher-order model, which both accommodates the overlap among dimensions and enables comparability across studies. This choice does not contradict the superior fit of the four-factor model; rather, it reflects a balance between statistical performance, theoretical interpretability, and cross-cultural consistency. In addition, the stronger inter-factor correlations observed in the Japanese data suggest that the four facets of career crafting may be more closely integrated in Japan than in North America. This pattern may reflect cultural characteristics such as collectivism. In Japan, where collectivist values are strong, organizational practices often shape career-related behaviors in an integrated manner, leading different aspects of career development to progress in tandem. In contrast, in individualistic cultures, career management is typically regarded as a personal responsibility, with individuals encouraged to treat it as an independent strategy and to selectively engage in distinct career behaviors. Thus, while the four-factor structure can be statistically distinguished, the Japanese context may foster a more holistic experience of career crafting behaviors.

In Study 2, we examined whether the Japanese version of the CCA functions equivalently across cultural contexts. The results provided strong evidence for scalar invariance between the Japanese and Anglo samples, indicating that both factor loadings and intercepts were statistically equivalent across groups. Establishing scalar invariance is critical because it ensures that observed mean differences reflect genuine cultural variation rather than measurement artifacts (Manabe et al., 2022). The fact that scalar invariance was supported despite pronounced cultural differences between Anglo and Confucian Asian contexts suggests that career crafting represents a set of universal behaviors that can be meaningfully assessed across cultures. At the same time, our results also revealed cultural nuances. As mentioned earlier, the high inter-factor correlations observed in the Japanese data suggest that CC is perceived as a more integrated experience. Moreover, latent mean comparisons indicated that Anglo participants reported significantly higher levels of

CCA than Japanese participants. This result can be interpreted to suggest that, in individualistic cultures, proactive behaviors such as expanding job roles and building professional networks are normative and encouraged, whereas in collectivistic Japanese contexts such behaviors may be perceived as potentially disruptive to group harmony, thereby constraining their expression. Importantly, because scalar invariance was established, these mean differences cannot be attributed to measurement bias but instead reflect substantive cultural variation in the enactment of career crafting.

4.2 Theoretical and practical contributions

This study provides both theoretical and practical insights. By developing a Japanese version of the CCA scale, it helps to advance future research on career construction in Japan. Additionally, demonstrating that the CCA scale is measurement invariant across Japanese and Anglo samples provides a foundation for future international comparisons.

This study can also benefit providers of career counseling and related services. Without integrating both proactivity and congruence in their careers, individuals rarely achieve optimal career fit over a lifetime (Lee et al., 2021). In other words, by emphasizing the integration of both elements, the CCA is an essential tool to help employees pursue a successful career. Chifor and Oprea (2023) suggest that the CCA can enhance coaching and career counseling services. Such services are particularly relevant in Japan, where career changes have become increasingly common in recent years.

4.3 Limitations

Some limitations of the present study are also worth noting. First, Studies 1 and 2 both followed Lee et al. (2021) and surveyed full-time employees. Therefore, caution is advised when generalizing these results to part-time and gig workers. Full-time employees and those who work in other ways might exhibit different degrees of work centrality. For example, some frequently cited reasons for working part-time include the possibility of working at one's convenience and the ease of balancing work and non-work domains, such as family, hobbies, and other activities (Ministry of Health, Labour and Welfare, 2022). For this reason, the structure of the CCA subfactors and the correlations between the factors might differ between full-time and other employees. Second, this is a cross-sectional study, and we were unable to examine the scale's test-retest reliability and its predictive validity. In the future, researchers should investigate the test-retest reliability of the scale by conducting the survey twice on the same sample. Longitudinal studies are also warranted to examine whether CC predicts career success and other indicators. Third, the samples in Study 2 differed in terms of age, length of service, the proportion of males, and the proportion of bachelor's degrees or higher. Therefore, the differences in characteristics between the samples may have affected the results of this study.

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Notes

[1] Sekiguchi et al. (2017) include a scale translated into English, although the original is in Japanese.

The scale is available at http://hrmstudy.com/ja/ジョブ・クラフティング尺度/) (accessed October 31, 2023).

[2] As mentioned previously, the frequency of experiencing career-related events differs between large and smaller companies. In Japan, companies with 100-300 employees or more are considered large companies, so this survey targeted people working for companies with at least 100 employees.

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