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Malay Translation and Validation of Career Adapt-Abilities Scale for Higher Learning Institution Students in Malaysia

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Abstract

During the COVID-19 pandemic, the traditional face-to-face teaching and learning activities were replaced with online learning. Consequently, there were less opportunity for students to test their knowledge and skills particularly through practicums and industrial trainings. This has impacted their career adaptability, specifically in the readiness to carry out face-to-face work tasks in the real working environment. To get a good picture of career adaptability, a psychometrically sound instrument is needed. Hence, the objective of this study was to evaluate the psychometric properties of the Malay version of the Career-Adapt Abilities Scale (CAAS) among students in higher learning institutions in Malaysia. A total of 360 undergraduates (72.80% females) completed a back-to-back translated 24-item CAAS. Both full- and short-versions of Malay-CAAS were found equally valid and reliable. Significant correlations were found between the subscales of Malay-CAAS and age, and gender, indicating more supports for its validity. For it is more practical and user-friendly, the short-version of Malay-CAAS with 12 items is recommended.

Keywords: Career Adapt-Abilities Scales, Reliability, Validity, Psychometrics, Malay Version

Introduction

At the end of 2019, the whole world was startled by the shocking pandemic COVID-19 (World Health Organization, 2020) which caused abrupt changes in many aspects of human lives, including in terms of social relationships, the forms of employment, financial status, tourism activities, and business opportunities. In every corner of the globe, Malaysia is no exception, was troubled by these new norms that were introduced through the implementation of various standard of procedures to control the transmission of the deadly Coronavirus (National Security Council, 2021). The education field, including the institute of higher education, was badly affected by the inhibition of physical activities for a long time. Face-to-

face teaching and learning activities were replaced by online methods as well as distance learning, namely learning from home (Cross, 2020; Ministry of Education Malaysia, 2021; Ministry of Higher Education, 2020). Both lecturers and students were forced to face these drastic changes.

Online learning may cause stress in many forms (Zaidi et al., 2020) including the lack of exposure to modern digital technology nowadays among educators (Koehler et al., 2013). It could be argued that younger generations of educators that came from the era of modern digital technology itself may not necessarily be knowledgeable and have efficient skills in utilizing digital technology to facilitate teaching and learning (Konig et al., 2020). Since the implementation of online learning during the pandemic was unanticipated and abrupt, it has led to chaotic scenarios as proper and neat instructional planning and designs which is known necessary for efficient online learning for both educators and students could not be implemented (Adedoyin & Soykan, 2020). Meanwhile, in the context of students, the struggles of online learning during the pandemic among others include the aspects of technology, digital competence, assessment, supervision, and suitableness of online methodologies for areas involving practical skills (Adedoyin & Soykan, 2020). The closure of various institutions has caused the lack of opportunity for students to apply learned skills in the context of working in the real world through internship programs and industrial training as almost all aspects of employment were implemented on working from home basis.

Hence, in terms of knowledge and skills, the student's readiness to carry out face-to-face tasks when entering the real working environment, specifically the issues related to their career adaptability (Savickas, 1997) becomes a question mark. In explaining the career construction theory, Savickas (2005) defined a career as a construct that combines personal meaningful memories, present experience, and future aspirations that shape an individual's working life. A career is formed by individuals through their interpretation of vocational behavior and occupational experiences. Individuals construct their careers by adopting adaptive strategies with the desire of balancing inner needs and outer opportunities as a source of motivation and is measured by success, satisfaction, and development (Sarvickas & Porfeli, 2012).

A vital component in the theory is career adaptability. Adaptability refers to the ways individuals utilize resources around them to fit themselves to their career, such as their personality traits, appropriate behaviors, skills, and competencies (Savickas, 2005). Adaptability can be achieved through self-regulation strategies by utilizing the four resources of career adaptability, which are a concern, control, curiosity, and confidence. These four constructs are dependent on each other, and aid in self-regulation strategies. Having a concerned attitude helps an individual to think critically and prepare themselves for the future beforehand. Control allows people to take charge of their thinking and behaviors which in return discipline them for the uncertainties ahead. Curiosity, on the other hand, encourages a person to wander and explore alternative possibilities for their future, and lastly, the three components working together will help boost the confidence level of the individual to be able to overcome the unbeknownst future life design (Sarvickas & Porfeli, 2012). Therefore, career adaptability suggests the importance of being adaptable, that is the ability to accommodate oneself into a particular setting, in an ever-changing working environment. In a sense, people who are adaptive and have good adaptability traits will show higher levels of adaptation

(Sarvickas & Porfeli, 2012). In sum, career adaptability "denotes an individual's resources for coping with current and anticipated tasks, transitions, traumas in their occupational roles that, to some degree large or small, alter their social integration" (Savickas, 1997). This is important, as an individual with career adaptability skills will be able to take control and prepare themselves for the future (Savickas & Porfeli, 2012).

To measure career adaptability, Savickas and Porfeli (2012) developed the Career Adapt-Abilities Scale (CAAS). CAAS consists of 24-item with a total of four subscales namely Concern, Control, Curiosity, and Confidence, each subscale comprising of six items. The 24-item CAAS has been translated and validated to 13 countries, including Iceland, Switzerland, China, France, Belgium, and Italy to name a few. All the subscales were reported of having good internal reliability with Concern (.83), Control (.74), Curiosity (.79), and Confidence (.85) is has a reliability of .94 for the overall scale (Savickas & Porfeli, 2012).

In a more current study, Atitsogbe et al (2019) translated the 24-items CASS into Togolese using a sample of university students and job seekers, with an additional one item to fit into the context of the population. The Togolese version of CAAS reported good internal reliabilities with concern, control, curiosity, and confidence constructs having values of .75, .72, .78, and .83, respectively. The total reliability for the whole scale was .91, indicating that CAAS-Togolese is suitable to be used on university students and job seekers. Similarly, good internal consistency reliability were also reported with .82 for Concern, .84 for Control, .86 for Curiosity, .85 for Confidence, and .93 for the total scale, validating that the Turkish version of CAAS is appropriate to be conducted among low-income job-seeking clients (Akin et al., 2014).

The Brazilian version of the 24-items CAAS was validated by Cammarosano et al. (2019) using data of 599 Brazilian professionals. Square root values of Average Variance Extracted (AVE) for each construct are .76 for Concern, .68 for Control, .69 for Curiosity, and .69 for Confidence which was higher than the correlation between each construct. Discriminant validity was then established with square root values of AVE in each constructs higher than the correlations between the constructs. However, convergent reliability was not established in this study, as AVE values for all four constructs were less than .50 (Hair et al., 2010).

The 24-items CAAS has also been reported to be an appropriate measure for the Arabian population, Reliability for overall scale, Concern, Control, Curiosity, and Confidence scale was .87, .79, .76, .80, and .78, respectively (Khalid & Ahmad, 2021). Other translated versions of the 24-items CAAS mostly showed similar results of reliability and validity, such as the Taiwan version (Tien et al., 2012), Dutch version (van Vianen et al., 2012), French (Johnston et al., 2013), Portuguese (Monteiro & Almeida, 2015) and Persian version (McKenna et al., 2016).

All in all, the 24-items CAAS can be concluded as a suitable and culturally acceptable instrument to measure individual career adaptability globally. For this reason, the researchers decided to adopt the widely used 24-items CAAS and translated it to the Malay language with validation to suit the Malaysian population.

Interestingly, It is important to note that the short version of CAAS (CAAS-SF) has gained substantial attention from the researchers for it was expected to be more convenient and user-friendly. Maggiori et al. (2017) studied the CAAS-SF which consist of 12 items, with three items in each dimension. Findings reported strong correlation between the 12 and the 24-items CAAS versions, hence the short version was comparable to replace CAAS 24-items (Maggiori et al., 2017).

Similarly, CAAS-SF has been translated to several languages that were found to be reliable and valid. For instance, CAAS-SF has been translated to the Indonesian language with α = .82 (Panjaitan & Sahrah, 2020), Turkish language with reliability ranging from .70 to .91 for three different sample, high school, undergraduate, and working adult (Isik et al., 2018). Along the same line, the Chinese translated CAAS-SF was evaluated across three contexts (college students, civil servant, and enterprise employees) showed good reliability with coefficient of α more than .70 (Yu et al., 2020). In a sample of Indian business school students, reliability of the whole scale showed excellent reliability with α = .94, hence was considered reliable and valid (Pal & Jena, 2021).

Using CAAS, career adaptability has been studied extensively worldwide. The ability to adapt smoothly to any transitions in career and roles depends largely on various factors. For job seekers and fresh graduates recently out from university, the ability for them to be adaptive to their future careers is strongly related to their levels of self-perceived employability (Atitsogbe et al., 2019). Individual who are career adaptive has a better perception of getting and maintaining a career (Monteiro et al., 2020; Udayar et al., 2018). This is true, especially during the COVID-19 pandemic, where changes are made overnight, such as from working in an office to working from home. With a hectic working life, individuals need to learn to adapt to work to improve their career development. Research has found that career adaptability affected mental health at work, and vice versa. Shava and Chinyamurindi (2021) conducted a study in the education sector to understand the relationship between career adaptability and health reported that teachers with good career adaptability showed improvements in both mental and physical health. A study on personality traits and emotional intelligence on career adaptability among teachers of special education showed a positive connection between emotional intelligence, conscientiousness, extraversion, openness to experience, and career adaptability, with the last two as the strongest predictors of career adaptability (Er & Rameli, 2019).

Several current research on career adaptability showed that it does not only affect those who are working but also among students in school and university. A study during the COVID-19 pandemic by Zhuang et al. (2021) on 754 university seniors found that perceived stress was associated negatively with career adaptability. The result indicated that students with a high level of stress are less capable to adapt to career-related changes. In contrast, university students who are career adaptive are linked with having happy and positive attitudes and receiving sufficient social support (Giffari & Suhariadi, 2017; Oztemel & Akyol, 2019). Similarly, significant and positive relationships were reported between the components of self-esteem, namely self-liking and self-competence with career adaptability. The study concluded that students with higher self-esteem are considered to be more career adaptive (Boyacı, 2019). Along the same line, students with high career adaptability are significantly connected with employability, specifically having complex problem-solving skills, are critical

thinkers, creative, good management with people, and coordinating with others (Khalid & Ahmad, 2021).

Moreover, research has been conducted among adolescents to understand career adaptability and its influences. A study to determine the association between career adaptability, resilience attitude, and mental health among Chinese teenagers has shown a negative correlation between career adaptability with mental health problems (Xu et al., 2020). According to the study, people who can adapt to their career are associated with less or lower mental health problems. Other areas of life and career-related aspects have been identified with career adaptability. This includes research to investigate the role of hope between life goals and career adaptability among high school students, which findings suggested a positive correlation between all three components (Korkmaz & Onder, 2019). In addition, Bolukbasi and Kirdok (2019) explored the relationship between career adaptability and life satisfaction with future orientation as a mediator among high school students and found that career adaptive students are more positive future-oriented, and satisfied with their present lives.

In Malaysian context, career adaptability has been researched in relation with several constructs including positive psychological traits (Othman et al., 2018) and culture (Omar & Noordin, 2016). Meanwhile, Al-Jubari et al (2021) focused on the influence of two constructs, social support and career adaptability on job search self-efficacy and career outlook among university students, and found that both constructs have a positive influence on the latter two. In other words, having sufficient social support and being career adaptive increase an individual's self-efficacy on job search and having a positive career outlook among these students.

Similarly, a study reported a significant relationship between career adaptability and proactive personality and social support among university students, with the strongest correlations between career adaptability and proactive personality (Fawehinmi & Yahya, 2018). Another study concluded that emotionally intelligent students, who have high self-esteem and career decision self-efficacy are more adaptive to their careers than their other peers (Hamzah et al., 2021). Meanwhile, different personality traits have a relationship with career adaptability, in which students with high conscientiousness, extraversion, openness, and agreeableness levels and low neuroticism have the potential to be good at adapting to their career (Nizam & Sulaiman, 2019).

Hence, in the learning crisis which has been brought up by the COVID-19 pandemic, a valid and reliable instrument to measure career adaptability skills accurately is direly needed. However, in the context of Malaysia, such an instrument has never been developed. Therefore, this research sought the suitability of a well-known CAAS by Savickas and Porfeli (2012) to be used on students of the higher learning institution in Malaysia. Specifically, this research aimed:

- to investigate the psychometric properties of the Malay translated version of the Career Adapt-Abilities Scale

Although this research was conducted using the 24-items CAAS, the authors were also expecting to yield a psychometrically sound Bahasa Melayu version of CAAS-SF, due to these promising findings of the CAAS-SF at the international arena. Additionally, the following hypotheses were subsequently tested:

H1. There is a significant relationship between age and all the dimensions of CAAS.
H2. There is a significant relationship between gender and all the dimensions of CAAS.

Methods

Participant Respondents were 360 undergraduates (male *n* = 98, 27.20%; female *n* = 262, 72.80%), age ranged from 19 to 29 (*M* = 21.18, *SD* = 2.09). In terms of race, the majority of them were Malays (*n* = 260, 72.20%), followed by Others (*n* = 46, 12.70%), Indian (*n* = 41, 11.40%), and Chinese (*n* = 13, 3.60%). This study adopted purposive sampling in collecting data by employing an online survey (Google Form) during the final quarter of 2021. Data collection followed the inclusion criteria of the study, which include active undergraduates in both private and public higher learning institutions, and having good access to the internet. The survey was distributed via social media and email to the targeted population, and consent for participation was obtained when the participant completed and clicked the submit button at the end of the survey. This research was approved by the Ethics Committee of Sultan Idris Education University.

Material Career Adapt-Abilities Scale by Savickas and Porfeli (2012) was used to measure career adaptability. CAAS consists of 24-item with a total of four subscales, namely Concern (e.g Item 1: Thinking about what my future will be like / *Membayangkan bentuk masa depan saya*), Control (e.g Item 7: Keeping upbeat / *Sentiasa melibatkan diri secara aktif)*, Curiosity (e.g Item 13: Exploring my surroundings / *Meneroka persekitaran saya*), and Confidence (e.g Item 19: Performing tasks efficiently / *Melaksanakan tugasan dengan cekap*) with each subscale comprising of six items. Response format followed a 5-Point Likert Scale (5 = Strongest / *Sangat Berupaya*; 4 = Very Strong / *Berupaya*, 3 = Strong / *Sedikit Berupaya*; 2 = Somewhat strong / *Kurang Berupaya*; and 1 = Not strong / *Sangat Kurang Berupaya*) translated using the back-to-back translation method (Brislin, 1970). In addition, the demographic section consisted of items on age, gender, and race of the respondents.

Statistical Analysis Data were analyzed using IBM Statistical Package for Social Sciences version 25 (SPSS) and Structural Equation Modelling via IBM Analysis of Moment Structure version 24 (AMOS) software. Confirmatory Factor Analysis was run to find out the psychometric properties of the instrument.

Results

Descriptive analysis for each subscale showed a score of ranging from 9 to 30 (M = 24.12, SD = 3.33) for Concern, Control ranging from 12 to 30 (M = 23.88, SD = 3.38), Curiosity ranging from 10 to 30 (M = 24.80, SD = 3.32), and Confidence ranging from 6 to 30 (M = 24.43, SD = 3.41). Generally, undergraduates reported high levels of career adaptability, with average CAAS score of 24.31, with maximum score of 30.

Before Confirmatory Factor Analysis (CFA), the data was cleaned to ensure that there are no issues of missing value, normality, outliers, and multicollinearity. Data had no missing value and was normally distributed with skewness and kurtosis values are within the acceptable ranges (Garson, 2012b). There was no z-score beyond ± 4, thus a major outlier was not an issue (Hair et al., 2010). As shown in Figure 1, the factor loadings were not close to 1.00 therefore, multicollinearity issues did not exist (Garson, 2012a). Based on this information, the data is considered suitable for model fit checking.

The summary of CFA results for the Malay version of 24-item CASS (Malay-CAAS24) showed a significant chi-square value, $\chi^2_{(246)} = 593.598$, $p = .0001$. This value is considered high however it is a common result for a large sample size. The factor loadings were all above .50 (refer Figure 1). Further observation showed that the model adequately fit the data as normed $\chi^2 = 2.413$, CFI = .93, TLI = .92, RMSEA = .06 and SRMR = .05. Hence, the goodness-of-fit of the model is achieved and it is appropriate to proceed with reliability and validity assessment.

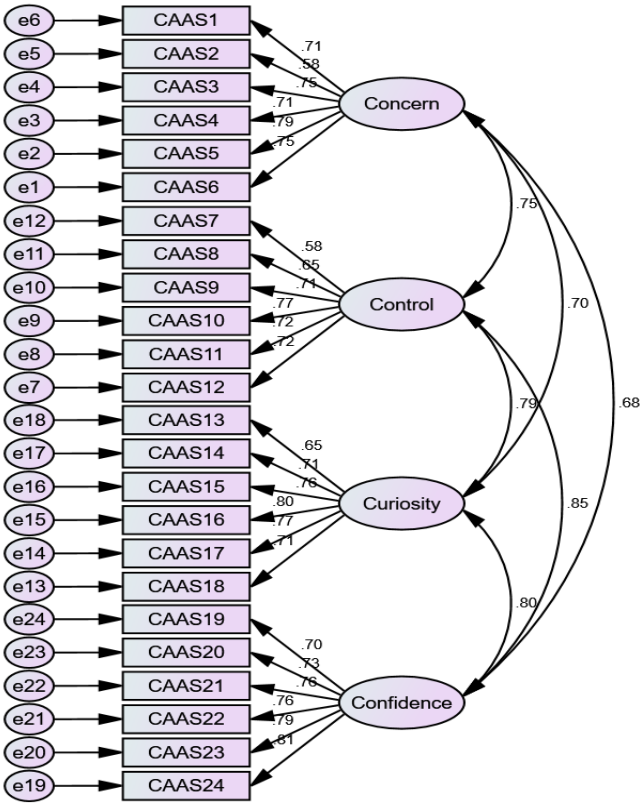

Figure 1: Assessment Model for Malay-CAAS24

As shown in Table 1, all constructs of CAAS namely Concern, Control, Curiosity, and Confidence were consistently measured in the model. Furthermore, the convergent validity is evidenced as all the factor loadings were above .50, composite reliability (CR) was more than .70, and average variance extracted (AVE) was more than .50 (Hair et al., 2010) except for the Control dimension. Although AVE for the Control dimension was less than .50, convergent validity was considered adequate as the value of CR was more than .60, hence, convergent validity was also established (Fornell & Larcker, 1981).

Table 1
Psychometric properties of Malay-CAAS24

Construct	Item	Loading	AVE	CR
Concern	CAAS6	.75	.52	.86
	CAAS5	.79		
	CAAS4	.71		
	CAAS3	.75		
	CAAS2	.58		
	CAAS1	.71		
Control	CAAS12	.72	.48	.85
	CAAS11	.72		
	CAAS10	.77		
	CAAS9	.71		
	CAAS8	.65		
	CAAS7	.58		
Curiosity	CAAS18	.71	.54	.88
	CAAS17	.77		
	CAAS16	.80		
	CAAS15	.76		
	CAAS14	.71		
	CAAS13	.65		
Confidence	CAAS24	.81	.58	.89
	CAAS23	.79		
	CAAS22	.76		
	CAAS21	.76		
	CAAS20	.73		
	CAAS19	.70		

Considering the usefulness and practicality of the 12-item CAAS (Maggiori, et al., 2017), the second CFA was run and the results for the Malay-CAAS12 showed a significant chi-square value, $\chi^2_{(48)} = 103.33$, $p = .0001$, with all factor loadings above .50 (refer Figure 2). Further observation showed that the model adequately fit the data as normed $\chi^2 = 2.153$, CFI = .97, TLI = .92, RMSEA = .06 and SRMR = .04.

Table 2 represented the results of reliability and validity assessment of Malay-CAAS12 and similar results was found for all the constructs of CAAS. Convergent validity showed loadings of more than .50 (Hair et al., 2010), with the exception of Control subscale (AVE = .48), similar with the findings for Malay-CAAS24. CR for all constructs were more than .60, hence the convergent validity for Malay-CAAS12 is considered acceptable and established (Fornell & Larcker, 1981). Although there was a slight difference in AVE values for Control dimensions between Malay-CAAS24 (AVE = .48) and Malay-CAAS12 (AVE = .48), the values are the same when rounded off (AVE = .48). Hence, Malay-CAAS12 is comparable to Malay-CAAS24.

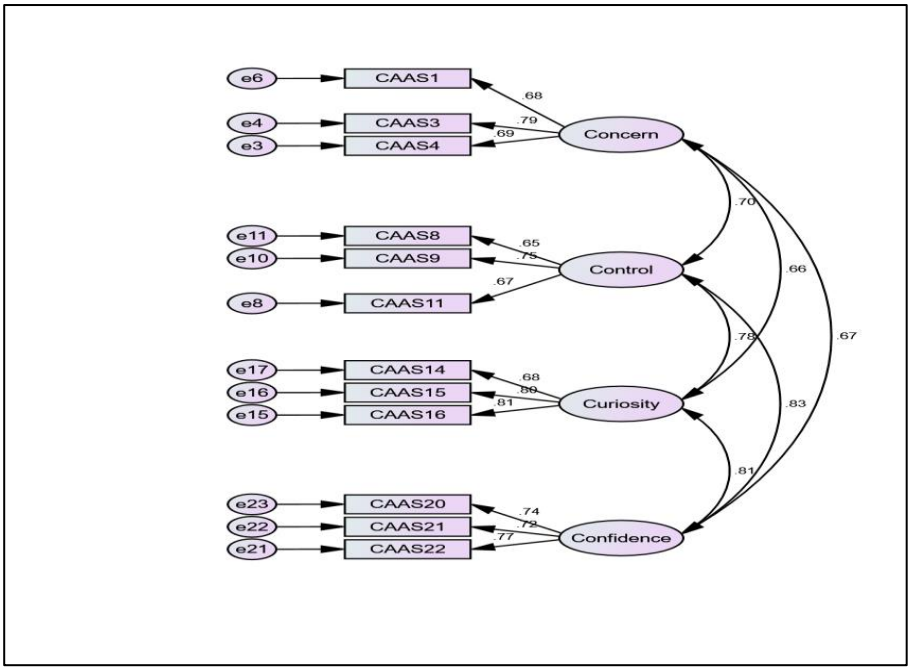

Figure 2: Assessment Model for Malay-CAAS12

Table 2
Psychometric Properties of Malay-CAAS12

Construct	Item	Loading	AVE	CR
Concern	CAAS4	.69	.52	.77
	CAAS3	.79		
	CAAS1	.68		
Control	CAAS11	.67	.48	.73
	CAAS9	.75		
	CAAS8	.65		
Curiosity	CAAS16	.81	.59	.81
	CAAS15	.80		
	CAAS14	.68		
Confidence	CAAS22	.77	.56	.79
	CAAS21	.72		
	CAAS20	.74		

Additional analyses showed that all the CAAS dimensions were positively correlated with age, indicating that older students are having better career adaptability with $r_{concern(359)}$ = .21, p = .0001, $r_{control(359)}$ = .20, p = .0001, $r_{curiosity\ (359)}$ = .15, p = .0001, $r_{confidence\ (359)}$ = .14, p = .010. In addition, males students were having better career adaptability only in terms of Control with $r_{control(359)}$ = - .13, p = .012. The H1 was fully accepted while H2 was partially accepted.

Discussion

Career adaptability plays an important role in fulfilling one of the goals of universities which is to produce graduates with high readiness and graduate marketability to sustain employment in the real world. High career adaptability portrayed by these university students ensures survival and strengthens the sense of belongingness in the workplace.

First and foremost, findings of this study showed high levels of career adaptability among undergraduates, suggesting that undergraduates were most likely to be ready for a real-working environment after graduating (Ghosh & Fouad, 2016; Ghosh et al., 2019). As this study was conducted during the COVID-19 pandemic, the high levels of career adaptability among university students proved that the higher learning institution provided effective teaching and learning strategies (Kawasaki et al., 2021). This also showed that Malaysian students are highly adaptable even in sudden environmental changes (Roseley et al., 2021) and supported by past literatures in other countries such as South Korea (Shim & Lee, 2020). The pandemic COVID-19 has altered the medium of teaching and learning for both educators and students. The absence of face-to-face teaching, face-to-face industrial training, and students' readiness to carry out tasks physically in the real working environment have affected many parties, including educators, employers, and students (Casacchia et al., 2021; Shin and Hickey, 2020; Wheeler & Waite, 2021; Latif & Gorment, 2021). Hence, findings from this research eased the worries of many by showing that students in higher learning institutions have high self-regulation strategies toward achieving their career goals despite challenges during the pandemic (Savickas & Porfeli, 2012).

More importantly, this study was conducted mainly to evaluate the psychometric properties of Malay CAAS to be used on students of higher learning institutions in Malaysia. The analyses were run twice and both Malay-CAAS24 and Malay-CAAS12 yielded good CFA, reliability, and validity, ensuring that CAAS-Malay is reliable and valid to be used among students in higher learning institutions, and the findings were supported by enormous research which studied the adaptation of CAAS in different languages (Akın et al., 2014; Atitsogbe et al., 2019; Cammarosano et al., 2019; Isik et al., 2018; Johnston et al., 2013; Khalid & Ahmad, 2021; McKenna et al., 2016; Pal & Jena, 2021; Panjaitan & Sahrah, 2020; Tien et al., 2012; van Vianen et al., 2012; Yu et al., 2020). Therefore, we concluded that CAAS-Malay is ready to be utilized by the Malaysian population, particularly undergraduates.

Notably, the authors are in support of Malay-CAAS12 when compared to Malay-CAAS24 as fewer items in the instrument reduce the respondent's burden and might increase the completion rate, thus is time saving (Isik et al., 2018). The shorter version is also more user-friendly for younger generation (Generation Z) i.e current university students who are known for their short attention spans (Buzzetto-Hollywood et al., 2021; Opris & Cenusa, 2017), and preferring immediate results, answers, and rewards (Cilliers, 2017; Opris & Cenusa, 2017; Duzenli, 2021).

Although this study found an issue with convergent validity for the Control dimension as its AVE was less than .50, it is important to note that CAAS-Malay is a newly translated instrument, therefore it is considered reliable and valid to be utilized. Besides, according to Fornell and Larcker (1981), convergent validity is still considered established even if the value of AVE is less than .50, provided the value of CR is more than .60, as evident in this study. The

credibility of this argument can still be seen in many current studies (e.g, Ahmad et al., 2016; Boobalan & Nachimuthu, 2020; Habeeb et al., 2020; Hsu & Scott, 2020).

Additionally, the analyses showed positive relationships between age and career adaptability dimensions. The outcomes were supported by Rudolph et al (2017) who found similar findings. Meanwhile, Yu et al (2020) reported that college students had the lowest scores for all subscales when compared to working individuals, stating that age has a positive relationship with career adaptability. Other studies also found related outcomes, such as age was significantly connected to Concern, Control, and Curiosity, except for Confidence, and overall career adaptability (Zacher et al., 2015). In a different study, Zacher (2014), age was reported positively linked to Control and Confidence at Time 1 and positively correlated to overall career adaptability, Control, and Confidence at Time 2.

With regards to difference in gender, research recounted varieties of mix and match findings. In this study, it was revealed that male students have higher levels of Control dimension than their counterparts (Hou et al., 2012; Sou et al., 2020; Leung et al., 2021) which shows that males are able to make own decision, take responsibility for own actions and depend on oneself. These characteristics show sense of maturity in male students, contradicting with previous studies (Abdinoor, 2020; Zahra & Malik, 2018). One study also noted that males reported higher levels of curiosity and confidence (Yu et al., 2019). However, this finding is opposed with a previous study which showed that females were higher in the level of Concern and Confidence dimensions (Duarte et al., Hou et al., 2012; Sou et al., 2020) thus further explorations of this issue is deemed warranted.

Conclusion

This research has two main contributions. First, this research is the first that translates CAAS into the Malay language using back-to-back translation. Thus, it becomes the first and only instrument that is reliable and valid to measure career adaptability using the Malay Language and is suitable to the Malaysian context, specifically for the undergraduates. Second, the use of Malay-CAAS12 is encouraged as it is more user-friendly as it has lesser number of that than the Malay-CAAS24.

Therefore, it is recommended for future studies to conduct a more comprehensive study on Malay-CAAS12 to ensure data that is more convincing and holistic. Malay-CAAS12 may also be appropriate for secondary school pupils that are also impacted by the COVID-19 pandemic, uncertain with their future career path. Nevertheless, future studies may be required to validate CAAS-Malay with these secondary school students.

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