

The Malay Version of CCAPS-62: A Preliminary Investigation of Translation, Validity, and Reliability

*Kee Pau¹, Ahmad Jazimin Jusoh¹, Asma Perveen¹, Hapsah Md Yusof¹ and Hsin-Ya Tang²

¹Department of Psychology and Counseling, Faculty of Education and Human Development, Sultan Idris Education University, Malaysia

²Department of Psychology, Louisiana State University in Shreveport, United States

DOI Link: <http://dx.doi.org/10.6007/IJARBSS/v7-i3/2765>

Published Date: 23 March 2017

Abstract

Mental health problems become a pervasive yet under-detected and undertreated growing issues among Malaysian university students. Counseling Center Assessment of Psychological Symptoms (CCAPS) is an instrument that has been widely used in all universities and colleges in the United States, but it has not been practiced in Malaysia. The purpose of this preliminary study was to translate, culturally adapt, and validate the CCAPS into the Malay language and make it applicable as a screening tool for addressing mental health issues among university students. The translation and back-translation were used. A total sample of 252 university students from a public university was participated in this study. Results from exploratory factor analysis supported the original version of CCAPS-62, which was an eight-factor model. Findings provided preliminary evidence for adequate internal consistency with Cronbach's Alpha 0.946. Content validity was obtained from two experts and they endorsed the quality of the items with 0.97 content validity index. Implications are discussed to provide further information regarding the mental health issues and the CCAPS-62 Malay version as a screening tool for university counseling centers to address students' mental health symptoms.

Introduction

Mental health problems are the major growing concern for young adults in all societies worldwide (World Health Organization, 2015). Statistics indicate that one in 10 teenagers, aged 16 to 17 had a major depressive episode and one in five young adults aged 18 to 25 had reported mental health problems in the past year. The American College Health Association (2006) reported 10% of college students were seriously considering attempting suicide and 86% reported an increase in severe psychological problems. The similar phenomenon was documented in other countries, such as in Pakistan, Saleem and Mahmood (2013) found 31% out of 1350 university students indicated severe mental health problems; 12.5% of children

and adults were diagnosed with mental disorders in India (Venkatesh Reddy, Gupta, Lohiya, & Kharya, 2013); one in 17 people in Singapore have suffered from Major Depressive Disorder (Institute of Mental Health, 2011); 53% of students in Australia and 21.6% of students in Ethiopia experienced mental distress (Dachew, Bisetegn, & Gebremariam, 2015). In Malaysia, the National Health Morbidity Survey (2006) found 11% of Malaysian teenagers and young adults, aged 16 to 24 presented with suicidal ideation, which was the highest group compared to the general prevalence of 6.4%. This number was drastically increased to 20% by the year of 2011.

Previous literatures suggest high rates of psychological distress among university students, especially depression, anxiety, and stress (Adewuya, Ola, Aloba, Mapayi, & Oginni, 2006; Dyrbye, Thomas, & Shanafelt, 2006; Konjengbam, Laishram, Singh, & Elangbam, 2015; Shah, Hasan, Malik, & Sreeramareddy, 2010). These distress symptoms could negatively impact students and they may feel depressed, frustrated, anxious, desperate, helpless, and hopeless, as well as unable to perform well in academic achievement. University students are at risk of facing multiple stressors such as relationship issues, academic difficulties, financial issues, high self-expectation, and other physical, social, and emotional distress during their school years (Dachew et al., 2015). They become more vulnerable for developing mental health problems due to the high demanding of emotional and intellectual needs than any other developmental stage.

Furthermore, less attention has been paid to severe or chronic psychological symptoms that have been reported by university students such as suicidal ideation, suicide attempt, major depressive symptoms, generalized anxiety disorder, schizophrenia, bipolar depression and so forth (Krishnaswamy et al., 2011). A suicidal behaviors study conducted by Peltzer, Yi, and Pengpid (2017) towards 4675 undergraduate university students in six ASEAN member states, included Cambodia, Indonesia, Malaysia, Myanmar, Thailand and Vietnam and the findings indicated that overall prevalence of suicidal ideation and suicidal attempt history among students were 11.7% and 2.4% respectively. Other diagnosable mental health problems such as eating concern, family distress, academic distress, substance use, hostility and so forth rarely been identified due to the lack of culturally appropriate screening tools in Malaysia, particular in the counseling centers in Malaysia universities.

Several common instruments were used in addressing mental health problems, such as the General Health Questionnaire (Konjengbam et al., 2015; Siti Fatimah, Sherina, Lekhraj, & Firdaus, 2014), Depression, Anxiety, and Stress Scale (Latiffah, Esra, Normala, Azrin Shah, & Shirin Shameema, 2016; Radeef, Faisal, Ali, & Ismail, 2014), Beck Anxiety Inventory (BAI), and Beck Depression Inventory (BDI). However, none of these were purposely designed for addressing university students' mental health status. Thus, the Center for Collegiate Mental Health (CCMH) in the Pennsylvania State University, United States has developed the Counseling Center Assessment of Psychological Symptoms and it has been widely used in all the colleges and universities in the United States (CCMH, 2015a). Due to the scarcity of culturally appropriate, valid and reliable instrument in Malaysia, the need to translate and validate the CCAPS is necessary to address mental health symptoms and its' red flag signs presented by university students.

Counseling Center Assessment of Psychological Symptoms (CCAPS)

The staff team of Counseling and Psychological Services at the University of Michigan developed the main version of the CCAPS instrument in 2001, with the purpose of creating a high-quality, multi-dimensional assessment that was low-cost and clinically useful for college

counseling centers (CCMH, 2015a). This instrument consisted of 70 items, 9 sub-scales and five free items retained for clinical utility. The CCAPS-70 then donated to Pennsylvania State's CCMH and a collaboration between the University of Michigan and the Pennsylvania State University was developed to expand the usage of the CCAPS through Titanium Schedule.

In 2009, the CCAPS-62 and CCAPS-34 were developed based on the analysis of 22,000 respondents of CCAPS-70. Dr. Locke and the team led the development of CCAPS-62 and CCAPS-34. The CCAPS-62 was first released in June 2009 and three months later the CCAPS-34 was published. The update of both instruments was done by 2012. The CCAPS-62 encompasses eight subscales to measure psychological distress and the distress index of college or university students (Locke et al., 2011). The eight CCAPS-62 subscales are depression (13 items), generalized anxiety (measures by 9 items), social anxiety (7 items), academic distress (5 items), eating concerns (9 items), family distress (6 items), hostility (7 items), and substance use (6 items). However, the CCAPS-34 contains seven subscales that measure psychological symptoms and incorporate the distress index. This instrument does not have family distress subscale and the subscale of substance use in the CCAPS-62 was changed to alcohol use in the CCAPS-34 due to all subscale items were refer to alcohol. The development and validation of the CCAPS-62 and the CCAPS-34 were published in the *Journal of Counseling Psychology and Measurement and Evaluation in Counseling and Development*, respectively.

Both instruments were required clients to rate their own past 2 weeks psychological symptoms using a Likert-type scale ranging from 0 (not at all likely me) to 4 (extremely like me). There are two critical items addressing suicidal ideation (item 46 on CCAPS-62 and item 25 on CCAPS-34) and homicidal ideation (item 60 on CCAPS-62 and item 34 on CCAPS-34). Nine items in the CCAPS-62 are negative items and reverse scored is needed. Good internal consistency was reported in the subscales of CCAPS-62: depression (0.92), general anxiety (0.95), social anxiety (0.84), academic distress (0.92), eating concerns (0.89), family distress (0.83), hostility (0.96), and substance use (0.95) (Locke et al., 2011). The high internal consistency values also found in the CCAPS-34, which the value of Cronbach's alpha for each subscale was 0.92 and above (Locke et al., 2012). Furthermore, the distress index in both instruments has been shown good concurrent and discriminant validity with other well-established measures such as .89 correlated with the Outcome Questionnaire (OQ) (Nordberg et al., 2015). Many other empirical studies have been carried out with the consistent results to support the CCAPS-62's psychometric properties and clinical application to the university students (Boswell, McAleavey, Castonguay, Hayes, & Locke, 2012; Locke et al., 2011; Locke et al., 2012)

This instrument has been translated into Thai version and was tested on 1259 college students by Ratanasiripong, Wang, Ratanasiripong, Hayes, Kaewboonchoo, and Kathalae (2015). Six subscales were fit to the model and the Cronbach's alpha for each subscales ranged from .63 to .88 during the test-retest reliability. Due to its strong psychometric properties and its availability for free use by university counseling centers, the CCAPS-62 particularly is an appropriate instrument can be used to address psychological distress among Malaysian university students. The aims of this study were to (a) translate and culturally adapt the CCAPS-62 into Malay language; (b) measure the validity and reliability of the Malay Version of CCAPS-62.

Methods and Procedures

This study was carried out in three phases according to the translation and back-translation process recommended by the CCMH (2012b). Eight expert panels were recruited in the team of the translation and back-translation process. Six of them were the experts in the Counseling, Psychology or psychiatry field and two were the language experts who have professional translation certificate. All eight expert panels have doctoral degree from local and oversea and they were familiar with the Malaysian cultures, and have at least a year experience stayed in the foreign country such as India, United Kingdom, United States, and Germany. The eight expert panels were divided into three teams with three individuals per team: (1) the translation team, (2) the back-translation team, and two individuals per team: (3) the instrument reconciliation team. Three teams were work collaboratively throughout the translation and back-translation process. Prior to the translation process, the primary researcher obtained permission from CCMH to translate the CCAPS-62 into Malay version. The primary researcher also clarified the constructs of the CCAPS-62 and understood the CCAPS manual prior to the start of translation.

Phase 1: Translation and Back Translation Procedure

During the translation process, the translation team composed of three professionals: (1) a clinical psychologist, associate professor, doctoral advisor, with 15 years of experience in clinical and teaching clinical psychology, (2) a psychologist, assistant professor, doctoral advisor, with three years of experience in teaching psychology program, (3) a language expert with professional translation certificate were recruited to work on the forward translation. All three experts were informed with the constructs of CCAPS and they were required to do a conceptual translation rather than a literal translation. The primary researcher noticed that several terms such as 'drink', 'my thoughts are racing', 'I lose touch with reality' and 'my family gets on my nerves' do not bring the same meaning as original items if literal translation was used. A conceptual equivalent translation is needed to ensure the original meaning of the items while adapting the items into Malaysian cultures that relevant for Malaysian university students (refer to the Figure 1). Therefore, the translation team was performed a conceptual translation of the English version CCAPS-62 to Malay language independently.

Subsequently, the reconciliation team consisted of two professionals (1) a counselor, associate professor, and doctoral advisor who have more than 10 years of experience working with diverse clients and teaching the counseling students (2) an assistant professor, mental health counselor, doctoral advisor with eight years of experience in teaching and working with diverse patients with mental health issues in schools and clinical settings. The reconciliation team and the translation team then worked collaboratively to compare the three versions of the Malay translated CCAPS to resolve any discrepancies between the translations. A consensus was reached between two teams to synthesize final Malay translated version of CCAPS-62.

The final version of the Malay translated CCAPS-62 then send to the back-translation team to check the quality of the forward translation. The back-translation team encompassed of three professionals: (1) a psychiatrist with more than 15 years of experience working in the psychiatry department in hospital settings; (2) a clinical psychologist, senior lecturer, with seven years of experience teaching and dealing with mental disorders patients, and (3) a language expert who has a professional translation certificate and also worked as a senior lecturer in the language and communication department. Three of them performed a conceptual back-translation separately without any prior knowledge about the CCAPS-62.

Finally, the reconciliation team and the back-translation team then looked into each item, evaluated and compared the three-back-translations the original English version of CCAPS-62. A final consensual version of the CCAPS-62 Malay version was approved and it is also known as “Penilaian Pusat Kaunseling Bagi Simptom Psikologi (PPKSP-62).”

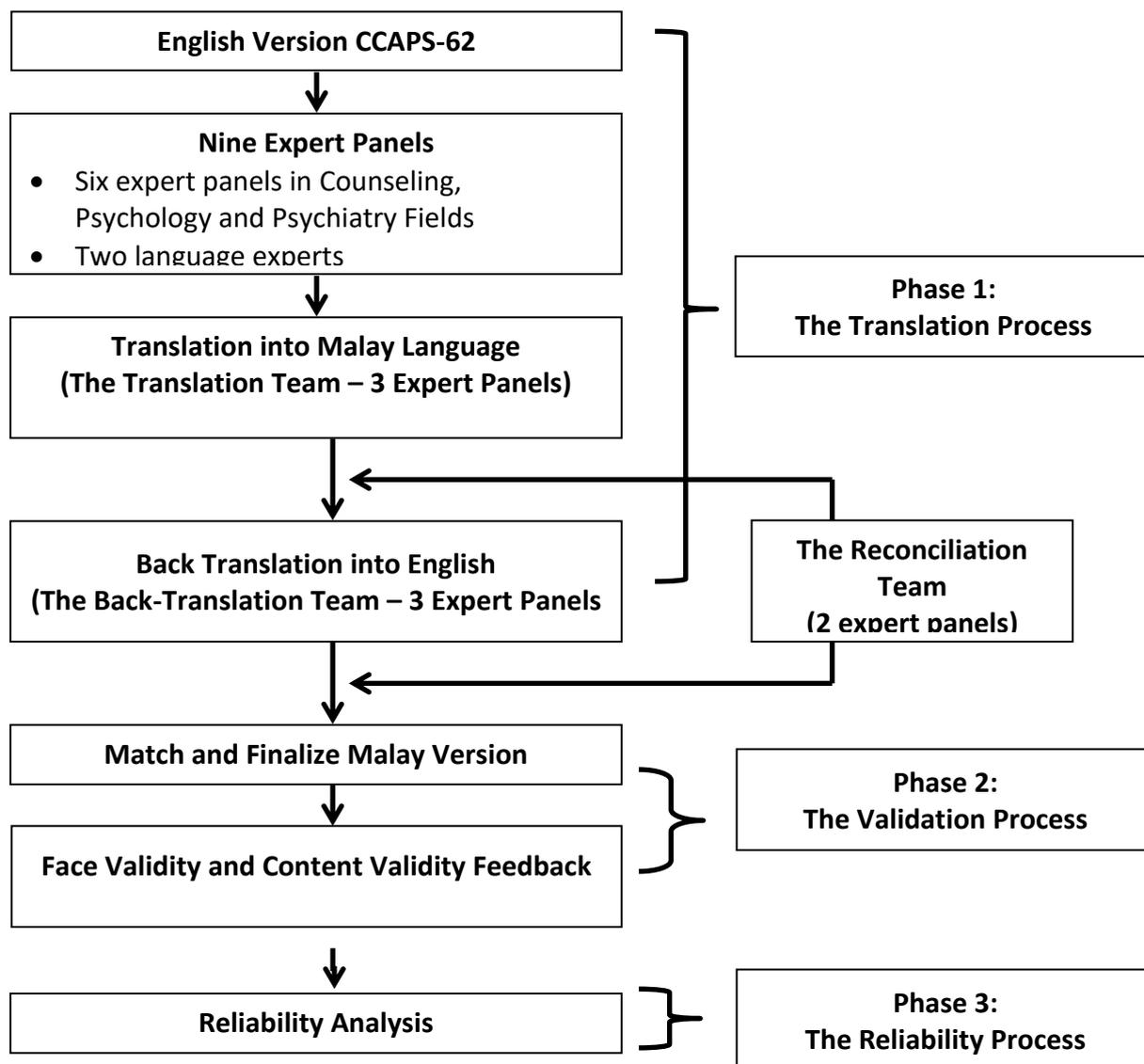


Figure 1: Translation, Validity and Reliability of the Malay Version of CCAPS-62

Phase 2: Validation Procedure

A pilot study was conducted on 12 undergraduate university students to check the comprehensibility of the Malay translated CCAPS-62, which also called face validity. The selected participants were asked to answer the CCAPS-62 Malay version and provided feedback regarding the clearness, conciseness, and cultural relevance of the items, as well as readability of all statements.

From the translation and back-translation team, two experts were also asked to evaluate the scale's content validity by rating the relevance of the CCAPS 62 Malay version's items on a scale of 1-5, where 1= not relevant at all, 2=somehow not relevant, 3= relevant but not necessary, 4= somehow relevant, and 5= absolutely relevant. Based on their ratings, a

content validity index was calculated as suggested by Lynn (1986). Kaiser-Mayer-Olkin (KMO) Measure of Sampling Adequacy and the Bartlett's test of sphericity were performed for the preliminary analysis. The acceptable KOM value is exceeding .50 (Kaiser, 1974) and the Bartlett's test indicates the appropriateness of factor analysis for the translated instrument (Field, 2009). Then, the analysis was preceded with an exploratory factor analysis by using a principal component factor analysis with varimax rotation to examine the loading values for each factors of the Malay version of CCAPS-62.

Phase 3: Reliability Testing

Reliability testing is the last process used to examine the internal consistency of the sub-constructs of CCAPS-62 Malay version. According to DeVellis (2003), a coefficient alpha of .70 is acceptable for new scales. However, the higher the coefficient alpha values for an instrument, the better the internal consistency of an instrument. Thus, several authors suggested Cronbach's alpha value of .70 or higher shows good internal consistency among the items (DeVonn et al., 2007; Sushil & Verma, 2010). In order to obtain a good reliability, the larger samples were recruited for the reliability analysis purpose for this study.

Results

Participants' Profile

The purposive sampling method was used to recruit pilot study samples for reliability testing. Three hundred copies of the CCAPS-62 Malay version and informed consent were sent to participants in nine faculties of a public university. 275 participants were responded and given consent to participate in the study. However, 28 of them were excluded for incomplete responses and missing data. The remaining of 252 responses was used for final analysis.

The summary of participants' profile is shown in Table 1. The majority of the participants are Malay (80.6%), following by Chinese (7.5%), Indian (2.8%), Iban (2.0%), Kadazan (1.6%) and others ethnicities (5.6%). The participants' age ranged from 18 to 39 years old and most of them are females (N=207) and 45 of them are males. Regarding the relationship status, 82.9% of them are single, 13.1% are in relationship, and 4.0% are married. 86.5% of them are at the bachelor level, 8.3% are at the masters' level, and 5.2% are studying at the diploma level. Participants reported their family socioeconomic status is ranged from high income (2.8%), moderate income (75.4%), and low-income level (21.8%).

Table 1

Summary of participants' profile (N=252)

| Participants' Profile | Number of Participants (N) | Percentage (%) |
|------------------------------|-----------------------------------|-----------------------|
| Gender | | |
| Male | 45 | 17.9 |
| Female | 207 | 82.1 |
| Age | | |
| 18-21 | 129 | 51.2 |
| 22-25 | 105 | 41.7 |
| 26-29 | 13 | 5.2 |
| 30-33 | 3 | 1.2 |
| 38 and above | 2 | 0.8 |
| Race | | |
| Malay | 203 | 80.6 |

| | | |
|----------------------------------|-----|------|
| Chinese | 19 | 7.5 |
| Indian | 7 | 2.8 |
| Iban | 5 | 2.0 |
| Kadazan | 4 | 1.6 |
| Others | 14 | 5.6 |
| Current Educational Level | | |
| Diploma | 13 | 5.2 |
| Bachelor | 218 | 86.5 |
| Masters | 21 | 8.3 |
| Relationship Status | | |
| Single | 209 | 82.9 |
| Couple | 33 | 13.1 |
| Married | 10 | 4 |
| Socioeconomic Status | | |
| High Income | 7 | 2.8 |
| Moderate Income | 190 | 75.4 |
| Low Income | 55 | 21.8 |

Face Validity and Content Validity

For the face validity, the pilot group (N=12) reported that the CCAPS-62 Malay version was clear, concise, easy to understand, and relevant to the Malaysian cultures. None of them have indicated problems with the translated instrument. Two experts from the translation and back-translation team were invited to do last review for the content of the CCAPS-62 Malay version by focusing on the relevance of the item, clarity of wording item, culturally appropriateness, and conceptual translated. The evaluators rated each item using scale of 1-5, where 1= not relevant at all, 2=somewhat not relevant, 3= relevant but not necessary, 4= somewhat relevant, and 5= absolutely relevant. The overall rating score was 310 for each evaluator. An average score for both evaluators were 303 and the content validity index is 0.97 as indicated in the Table 2. Yaghmaei (2003) suggested that the cut-off value for the content validity index is 0.75, which means the CCAPS-62 Malay version items were relevant, clear, culturally appropriate and well translated.

Table 2

Content Validity Index of CCAPS-62 Malay Version by Two Expert Evaluators

| Experts | Total Score |
|-------------------------------------|----------------|
| Expert 1 | 302/310 |
| Expert 2 | 304/310 |
| Score | 606/620 |
| Content Validity Index (CVI) | 0.97 |

However, several suggestions given by the expert evaluators were taken into consideration in order to improve on the wording of the CCAPS-62 Malay version. The amendment of the items was indicated in Table 3.

Table 3

Amendment of the CCAPS-62 Malay Version Based on Expert Evaluators' Feedback

| No. Item | CCAPS-62 Malay Version | | English Version |
|-------------|--|---|--|
| | Before Amendment | After Amendment | |
| 6 | <i>Saya seronok dengan kelas saya</i> | <i>Saya seronok dengan kelas-kelas saya</i> | I enjoy my classes |
| 7 | <i>Saya rasa terpisah dari diri sendiri</i> | <i>Saya rasa terasing dari diri sendiri</i> | I feel disconnected from myself |
| 16 | <i>Saya menjadi risau apabila saya perlu bercakap di hadapan audiens</i> | <i>Saya menjadi risau apabila saya perlu bercakap di hadapan khalayak ramai</i> | I become anxious when I have to speak in front of audiences |
| 25 | <i>Saya makan terlalu banyak</i> | <i>Saya makan berlebihan</i> | I eat too much |
| 26 | <i>Saya minum arak dengan kerap</i> | <i>Saya kerap minum arak</i> | I drink alcohol frequently |
| 34 | <i>Saya berdiet dengan kerap</i> | <i>Saya kerap berdiet</i> | I diet frequently |
| 46 | <i>Saya ada pemikiran tentang menamatkan hidup saya</i> | <i>Saya mempunyai pemikiran untuk menamatkan hayat hidup saya</i> | I have thoughts of ending my life |
| 56 | <i>Saya telah buat sesuatu yang saya kesali disebabkan minum arak</i> | <i>Saya telah membuat sesuatu yang saya kesali disebabkan meminum arak</i> | I have done something I have regretted because of drinking alcohol |

Construct Validity**Exploratory factor analysis**

The data needs to be adequate in order to yield substantive inferences from exploratory factor analysis. This can be evaluated by Kaiser-Mayer-Olkin (KMO) measure of sampling adequacy. The KMO test values are range from 0 to 1. Values more than 0.5 show sampling adequacy while those close to one indicate that a pattern of correlation exists (Kaiser, 1974). The study obtained KMO test value of 0.882, which is close to 1 hence exploratory factor analysis is applicable. Bartlett's measures test that the null hypothesis of the original correlation matrix is an identity matrix. If the matrix identity all the coefficients will be zero rendering exploratory factor analysis unsuitable (Field, 2009). For these data, Bartlett's test of sphericity was significant ($\chi^2(252) = 8636.02, p < 0.05$) as indicated in Table 4, hence factor analysis was appropriate to use for this analysis (Tabachnick & Fidell, 2011).

Table 4

KMO and Bartlett's Test

| KMO and Bartlett's Test | | |
|--|--------------------|----------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | 0.882 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 8636.022 |
| | df | 1891 |
| | Sig. | 0.00 |

Factor extraction

The principal components analysis (PCA) method of extraction was utilized. Principal component analysis is founded on the assumption that there is no error variance therefore the total variance of the variables can be accounted for by means of its factor. This supposition primarily assigns 1 to all communalities. Extraction of the principal component is done by calculating eigenvalues of the matrix. For these study, only components with high communalities and with positive Eigen values were extracted. The result of the PCA extraction analysis suggested eight factors as presented in the original CCAPS (see Appendix A). To improve interpretability of the factors, varimax rotation was carried out. The eight factors which explained 53.5% of the variance was preferred because of its alignment with the original version of the CCAPS-62 and the 'leveling off' of eigenvalues on the scree plot after eight factors (see Figure 2). Thus, the factor labels proposed by the CCMH suited the extracted factors and were retained. The communalities of retained items ranged from 0.306 to 0.803, indicating significant shared common variables among the retained items (see Appendix B).

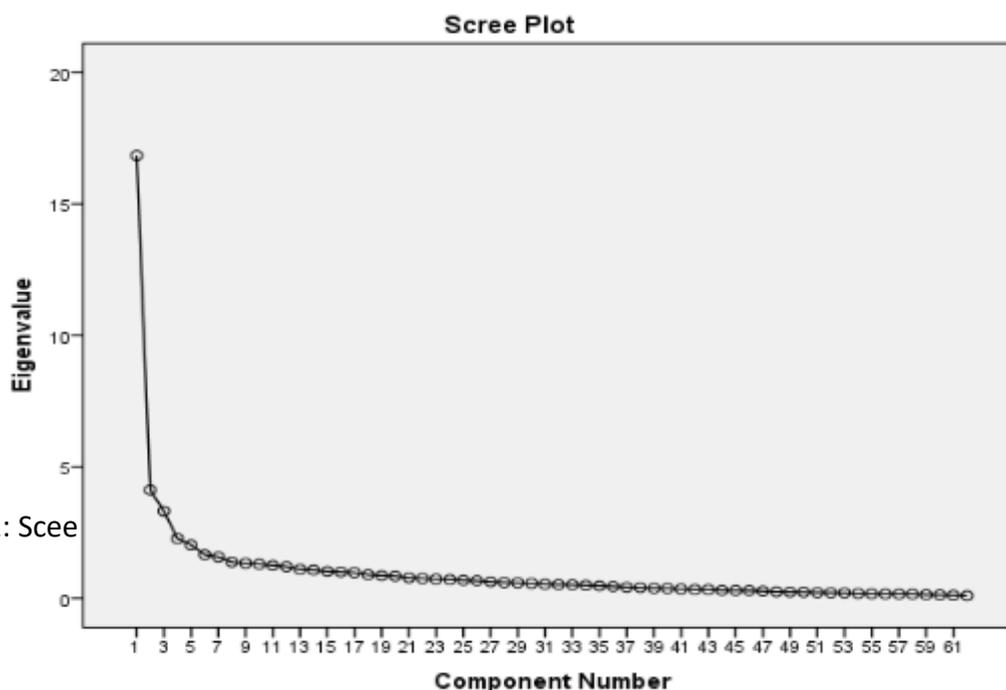


Figure 2: Scree

Reliability Testing

Reliability, irrespective of the approach used to obtain it, is not a representative inherent in the test itself, but rather is an estimation of the consistency of a set of items when they are administered to a specific group of respondents at a particular time under certain circumstances for a definite purpose. The reliability of the instrument was tested on 252 samples and the test yielded a total Cronbach's Alpha for the CCAPS-62 Malay version was 0.946, which is considerable high. The researchers were unable to conduct test-retest reliability due to the limited time for the research project.

Discussion

The CCAPS-62 has been widely used in all colleges and universities in the United States due to its easy accessibility, inclusiveness of the items, and multicultural consideration of the CCAPS-62 development. This instrument can be used to assess mental health status of college or university students (CCMH, 2015). This instrument has been translated into Thai version

with a six-factor model for the 41-item CCAPS instead of 62 items developed by Locke et al. (2011) with eight-factor model (Ratanasiripong et al., 2015). Their findings were different from the present study in which the results of the present study supported the eight-factor model and all 62-items were retained, except several amendment were done on the conceptual equivalent terms. For example, the term 'drink' means the act of drink water or other liquids, it does not specific refers to alcohol. Thus, the term 'drink' translated to 'minum arak' (drink alcohol), which is culturally understandable. Furthermore, the item 'my thoughts are racing' cannot be literally translated, as it doesn't explain the clinical symptom of individual having thoughts race. "Pemikiran saya bergerak pantas tanpa henti" was suggested by the translation team, which refer to 'my thoughts are non-stop racing.' The translation and back-translation team was carefully reviewed each of the item to ensure the quality of the items and multicultural consideration was taken into account during the process.

The validation process in this study included content validity and face validity. Face validity was well formed at the initial stage as all 12 respondents agreed that the Malay version of CCAPS-62 was clear, concise, easy to understand, and culturally appropriate. Two experts also endorsed the quality of the items with 0.97 content validity index. It was not surprising that the eight-factor model was remained in Malay version as all these symptoms are growing drastically among young people in Malaysia (Krishnaswamy et al., 2011; Health Morbidity Survey, 2006). Additional to the peer competition pressure, the competitiveness nature of the Malaysia education system, and economic slowdown, university students become more stress and depress as they need to fully prepare themselves to compete in the labor market (Dachew et al., 2015). Thus, all the subscales have inclusively presented the psychological symptoms that potentially experience by the university students.

Furthermore, the CCAPS-62 in Malay version was found to have high reliability with Cronbach's Alpha more than 0.9 for the total eight subscales. However, according to Al-Osail et al. (2015), single reliability index is not sufficient to say the instrument as a perfect tool, thus, at least more than two indexes should be used to ensure the reliability of the CCAPS-62 Malay version. The Cronbach's alpha for each subscale was 0.7 or above, except the family distress with 0.66. This value is not fall within the range of 0.7 to 0.95 as suggested by Tavakol and Dennick (2011) as acceptable values for Cronbach's Alpha. A low value of alpha could be due to a low number of items, poor inter-correlated between items, and small sample size. Thus, the researchers need to take those aspects into consideration when analyzing the reliability of the instrument.

There are several limitations of this study: First, the samples of this study were only recruited from one public university and the sample size was small for the researchers to pursue with construct validity using confirmatory factor analysis. The sufficient samples and diverse samples from other institutions are needed to produce high reliability and validity for each subscale of the CCAPS-62 Malay version (Gorsuch, 1983). Second, the researchers did not perform item analysis, criterion validity and discriminant validity. Thus, the item difficulty and discrimination index have not been identified. The correlation between the CCAPS-62 Malay version with other well established instruments also needs to be done. Third, the researchers have not conducted test-retest reliability due to the limited time for the research project. It is suggested to conduct test-retest reliability and increase the number of samples in factor analysis. This instrument should be tested among other population groups such as clinical groups in Malaysia. By doing so, the comparison between clinical group and non-clinical group can be done in order to confirm and strengthen the appropriateness of the CCAPS-62 Malay version.

Conclusions

The Malay version CCAPS-62 had good face validity, content validity and high reliability in overall. Thus, this instrument can be used in the university counseling centers for intake session, follow-up assessment or post-treatment evaluation. The score of each subscale is illustrated the mental health status of an individual. Thereby, the counselors, psychologists, or clinical psychologists could plan an appropriate treatment that suit to the students' mental health conditions. Since the Malay version of CCAPS-62 was translated and validated, the instrument could first be used as screening tool for the university counseling centers in Malaysia. Initial identification of the psychological symptoms could help to prevent the severe mental disorders developing among university students.

Acknowledgement

This article is an approved project of Research Management of Institute Center (RMIC), Sultan Idris Education University. The authors gratefully acknowledge Dr. Benjamin Locke and the Center for College Mental Health, the Pennsylvania University for giving the permission to translate the instrument into Malay language.

Corresponding Author

Dr. Kee Pau, Department of Psychology and Counseling, Faculty of Education and Human Development, Sultan Idris Education University, Malaysia. Email: pau_kee@fppm.upsi.edu.my

References

- Adewuya, A. O., Ola, B. A., Aloba, O. O., Mapayi, B. M., Oginni, O. O. (2006). Depression amongst Nigerian university students: Prevalence and sociodemographic correlates. *Social Psychiatry and Psychiatric Epidemiology*, 41, 674-678.
- Al-Osail, A. M., Al-Sheikh, M. H., Al-Osail, E. M., Al-Ghamdi, M. A., Al-Hawas, A. M., Al-Bahussain, A. S., Al-Dajani, A. A. (2015). Is cronbach's alpha sufficient for assessing the reliability of the OSCE for an internal medicine course? *BMC Res Notes*, 8, 582. doi: 10.1186/s13104-015-1533-x.
- American College Health Association (2006). *American college health association: National college health assessment (ACHA-NCHA)*. Retrieved from http://www.acha.org/projects_programme/ncha_sampledata.cfm.
- Boswell, J. F., McAleavey, A. A., Castonguay, L. G., Hayes, J. A., & Locke, B. D. (2012). Previous mental health service utilization and change in counseling clients' depressive symptoms. *Journal of Counseling Psychology*, 59, 368-378. doi: 10.1037/a0028078.
- Center for Collegiate Mental Health. (2015a). *CCAPS User Manual*. University of Park, PA.
- Center for Collegiate Mental Health. (2012b). *Translation policy*. University Park, PA: Author.
- Dachew, B. A., Bisetegn, T. A., & Gebremariam, R. B. (2015). Prevalence of mental distress and associated factors among undergraduate students of university of gordar, northwest ethiopia: A cross sectional institutional based study. *PLOS*, 10(3). doi: 10.1371/journal.pone.0119464.
- DeVellis, R. F. (2003). *Scale development: Theory and application*. Newbury Park, CA: Sage Publication.
- DeVon, H. A., Block, M. E., Moyle-Wright, P., Ernst, D. M., Hayden, S. J., Lazzara, D. J., Savoy, S. M., & Kostas-Polston, E. (2007). A psychometric toolbox for testing validity and

- reliability. *Journal of Nursing Scholarship*. 39(2), 155-164. doi: 10.1111/j/1547-5069.2007.00161.x
- Drybye, L N., Thomas, M. R., & Shanafelt, T. D. (2006). Systematic review of depression, anxiety, and other indicators of psychological distress among U.S. and Canadian medical students. *Academic Medicine*, 81, 354-3773.
- Field, A. (2009). *Discovering statistics using SPSS (3rd ed.)*. London: Sage Publication Ltd.
- Gorsuch, R. L. (1983). *Factor analysis (2nd Ed.)*. Hillsdale, NJ: Erlbaum.
- Institute of Mental Health (2011). *Latest study sheds light on the state of mental health in Singapore*. Retrieved 05 February 2017, from https://www.imh.com.sg/uploadedFiles/Newsroom/News_Releases/SMHS%20news%20release.pdf.
- Latiffah, A. L., Esra T., Normala, I., Azrin Shah, A. B., Shirin Shameema, A. A. (2016). Depression and its associated factors among secondary school students in Malaysia. *Southeast ASian J. Trop. Med. Public Health*, 47(1), 131-141.
- Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39, 31-36.
- Konjengbam, S., Laishram, J., Singh, B. A., & Elangbam, V. (2015). Psychological morbidity among undergraduate medical students. *Indian Journal of Public Health*, 59(1), 65-66.
- Krishnaswamy, S., Subramaniam, K., Jemain, A. A., Low, W. Y., Ramachandran, P., Indran, T., & Patel, V. (2011). Common mental disorders in Malaysia: Malaysian mental health survey, 2003-2005. *Asia-Pacific Psychiatry*, 4, 201-209. doi: 10.1111/j.1758-5872.2012.00180.x
- Locke, B. D., Buzolitz, J. S., Dowis, J. D., Lei, P., Boswell, J. F., McAleavey, A. A., ...Hayes, J. A. (2011). Development of the counseling center assessment of psychological symptoms-62 (CCAPS-62). *Journal of Counseling Psychology*, 58, 97-109. doi: 10.1037/10021282.
- Locke, B. D., McAleavey, A. A., Zhao, Y., Lei, P. W., Hayes, J. A., Castonguay, L. G., ... Lin, Y. C. (2012). Development and initial validation of the counseling center assessment of psychological symptoms-34 (CCAPS-34). *Measurement and Evaluation in Counseling and Development*, 45, 151-169.
- Lynn, M. R. (1986). Determination and quantification of content validity. *Nurs. Res.*, 35, 383-385.
- Nordberg, S. S., Hayes, J. A., McAleavey, A. A., Castonguay, L. G., & Locke, B. D. (2013). Treatment utilization on college campuses: Who seeks help for what? *Journal of College Counseling*, 16, 258-274.
- Petzer, K., Yi, S., & Pengpid, S. (2017). Suicidal behaviors and associated factors among university students in six countries in the Association of Southeast Asian Nations (ASEAN). *Asian Journal of Psychiatry*, 26, 32-38. doi: <http://dx.doi.org/10.1016/j.ajp.2017.01.019>.
- Radeef, A. S., Faisal, G. G., Ali, S. M., Ismail, M. K. H. M. (2014). Source of stressors and emotional disturbances among undergraduate science students in Malaysia. *International Journal of Medical Research & Health Sciences*, 3(2), 401-410. doi: 10.5958/j.2319-5886.3.2.082.
- Ratanasiripong, P., Wang, C. D. C., Ratanasiripong, N., Hayes, J. A., Kaewboonchoo, O., & Kathalae, D. (2015). Development and cross-cultural validation of the counseling center assessment of psychological symptoms-Thai version. *The Counseling Psychologist*, 43(2), 248-271. doi: 10.1177/00/0000/4566991.
- Saleem, S., & Mahmood, Z. (2013). Mental health problems in university student: A prevalence study. *FWU Journal of Social Sciences*, 7(2), 124-130.

Shah, M., Hasan, S., Malik, S., Sreeramareddy, C. T. (2010). Perceived stress, sources, and severity of stress among medical undergraduates in Pakistani medical school. *BMC Medical Education*, 10(2). doi: 10.1186/1472-6920-10-2.

Siti Fatimah, K. M., Sherina, M. S., Lekhraj, R. & Firdaus, M. (2014). Prevalence, associate factors and predictors of depression among adults in the community of Selangor, Malaysia. *PLOS one*, 9(4). doi: http://dx/doi.org.10.1371/journal.pone.0095395.

Sushil, S. & Verma, N. (2010). Questionnaire validation made easy. *European Journal of Scientific Research*, 46(2), 172-178.

Tabachnick, B. G. , & Fidell, L. S. (2011). *Using multivariate statistics (6th ed.)*. Boston, MA: Allyn & Bacon.

Tavakol, M., & Dennick, R. (2011). Making sense of cronbach’s alpha. *International Journal of Medical Education*, 2, 53-33. doi: 10.5116/ijme.4dfb.8dfd.

VenkatashivaReddy, B., Gupta, A., Lohiya, A., & Kharya, P. (2013). Mental health issues and challenges in india: A review. *International Journal of Scientific and Research Publications*, 3(2), 1-3.

World Health Organization (2015). *Fundamental facts about mental health*. United Kingdom: Mental Health Foundation.

Yaghmaei, F. (2003). Content validity and its estimation. *J. Med. Educ.*, 3, 25-27.

Appendix A: Total Variance Explained

| | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
|----|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|-----------------------------------|---------------|--------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| | 16.84 | | | 16.8 | | | | | |
| 1 | 4 | 27.169 | 27.169 | 4 | 27.169 | 27.169 | 7.95 | 12.823 | 12.823 |
| | | | | 4.11 | | | 6.68 | | |
| 2 | 4.118 | 6.642 | 33.811 | 8 | 6.642 | 33.811 | 7 | 10.785 | 23.608 |
| | | | | 3.31 | | | 4.46 | | |
| 3 | 3.314 | 5.345 | 39.155 | 4 | 5.345 | 39.155 | 1 | 7.195 | 30.803 |
| | | | | 2.26 | | | 3.60 | | |
| 4 | 2.266 | 3.655 | 42.811 | 6 | 3.655 | 42.811 | 3 | 5.811 | 36.614 |
| | | | | 2.02 | | | 3.38 | | |
| 5 | 2.024 | 3.264 | 46.075 | 4 | 3.264 | 46.075 | 4 | 5.458 | 42.072 |
| | | | | 1.65 | | | | | |
| 6 | 1.652 | 2.665 | 48.739 | 2 | 2.665 | 48.739 | 3.03 | 4.887 | 46.959 |
| | | | | 1.57 | | | 2.20 | | |
| 7 | 1.573 | 2.537 | 51.276 | 3 | 2.537 | 51.276 | 5 | 3.556 | 50.515 |
| | | | | 1.37 | | | 1.84 | | |
| 8 | 1.375 | 2.218 | 53.494 | 5 | 2.218 | 53.494 | 7 | 2.979 | 53.494 |
| 9 | 1.33 | 2.145 | 55.639 | | | | | | |
| 10 | 1.291 | 2.083 | 57.722 | | | | | | |
| 11 | 1.246 | 2.01 | 59.732 | | | | | | |

| | | | |
|---|-------|-------|--------|
| 1 | | | |
| 2 | 1.204 | 1.941 | 61.673 |
| 1 | | | |
| 3 | 1.097 | 1.77 | 63.443 |
| 1 | | | |
| 4 | 1.068 | 1.723 | 65.166 |
| 1 | | | |
| 5 | 1.021 | 1.647 | 66.813 |
| 1 | | | |
| 6 | 1 | 1.613 | 68.426 |
| 1 | | | |
| 7 | 0.978 | 1.578 | 70.004 |
| 1 | | | |
| 8 | 0.893 | 1.44 | 71.444 |
| 1 | | | |
| 9 | 0.856 | 1.38 | 72.824 |
| 2 | | | |
| 0 | 0.84 | 1.355 | 74.179 |
| 2 | | | |
| 1 | 0.777 | 1.252 | 75.432 |
| 2 | | | |
| 2 | 0.753 | 1.214 | 76.646 |
| 2 | | | |
| 3 | 0.724 | 1.168 | 77.813 |
| 2 | | | |
| 4 | 0.706 | 1.139 | 78.953 |
| 2 | | | |
| 5 | 0.682 | 1.1 | 80.053 |
| 2 | | | |
| 6 | 0.664 | 1.071 | 81.124 |
| 2 | | | |
| 7 | 0.623 | 1.005 | 82.13 |
| 2 | | | |
| 8 | 0.601 | 0.969 | 83.099 |
| 2 | | | |
| 9 | 0.587 | 0.946 | 84.045 |
| 3 | | | |
| 0 | 0.567 | 0.915 | 84.96 |
| 3 | | | |
| 1 | 0.531 | 0.856 | 85.816 |
| 3 | | | |
| 2 | 0.518 | 0.835 | 86.651 |
| 3 | | | |
| 3 | 0.51 | 0.822 | 87.473 |
| 3 | | | |
| 4 | 0.489 | 0.789 | 88.262 |

| | | | |
|---|-------|-------|--------|
| 3 | | | |
| 5 | 0.466 | 0.752 | 89.014 |
| 3 | | | |
| 6 | 0.447 | 0.721 | 89.736 |
| 3 | | | |
| 7 | 0.419 | 0.675 | 90.411 |
| 3 | | | |
| 8 | 0.404 | 0.652 | 91.063 |
| 3 | | | |
| 9 | 0.379 | 0.611 | 91.674 |
| 4 | | | |
| 0 | 0.377 | 0.608 | 92.282 |
| 4 | | | |
| 1 | 0.349 | 0.562 | 92.845 |
| 4 | | | |
| 2 | 0.331 | 0.534 | 93.378 |
| 4 | | | |
| 3 | 0.328 | 0.53 | 93.908 |
| 4 | | | |
| 4 | 0.299 | 0.482 | 94.39 |
| 4 | | | |
| 5 | 0.295 | 0.476 | 94.866 |
| 4 | | | |
| 6 | 0.292 | 0.472 | 95.338 |
| 4 | | | |
| 7 | 0.27 | 0.436 | 95.773 |
| 4 | | | |
| 8 | 0.246 | 0.396 | 96.169 |
| 4 | | | |
| 9 | 0.236 | 0.38 | 96.549 |
| 5 | | | |
| 0 | 0.232 | 0.374 | 96.923 |
| 5 | | | |
| 1 | 0.217 | 0.349 | 97.272 |
| 5 | | | |
| 2 | 0.21 | 0.339 | 97.612 |
| 5 | | | |
| 3 | 0.203 | 0.327 | 97.938 |
| 5 | | | |
| 4 | 0.182 | 0.294 | 98.232 |
| 5 | | | |
| 5 | 0.166 | 0.268 | 98.501 |
| 5 | | | |
| 6 | 0.159 | 0.257 | 98.757 |
| 5 | | | |
| 7 | 0.155 | 0.25 | 99.007 |

| | | | |
|---|-------|-------|--------|
| 5 | | | |
| 8 | 0.152 | 0.246 | 99.253 |
| 5 | | | |
| 9 | 0.133 | 0.214 | 99.467 |
| 6 | | | |
| 0 | 0.124 | 0.2 | 99.667 |
| 6 | | | |
| 1 | 0.11 | 0.178 | 99.845 |
| 6 | | | |
| 2 | 0.096 | 0.155 | 100 |

Extraction Method: Principal Component Analysis.

Appendix B: Rotated Component Matrix

| Component | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-----------|-------|-------|---|-------|-------|---|-------|---|
| Q1 | | 0.458 | | | | | 0.408 | |
| Q2 | 0.542 | | | | | | | |
| Q3 | 0.588 | | | | | | | |
| Q4 | | 0.468 | | | 0.304 | | | |
| Q5 | | | | | 0.723 | | | |
| Q6 | | | | 0.58 | | | | |
| Q7 | | 0.334 | | 0.425 | | | | |
| Q8 | 0.4 | 0.506 | | | | | | |
| Q9 | 0.447 | 0.573 | | | | | | |
| Q10 | 0.38 | 0.683 | | | | | | |
| Q11 | | 0.707 | | | | | | |
| Q12 | | 0.61 | | | | | | |
| Q13 | | | | | 0.803 | | | |
| Q14 | 0.513 | 0.345 | | | 0.324 | | | |
| Q15 | | | | 0.487 | | | | |
| Q16 | 0.696 | | | | | | | |

| | | | | | | |
|-----|-------|-------|-------|-------|--------|-------|
| Q17 | | 0.425 | | | | |
| Q18 | | 0.324 | | | 0.368 | |
| Q19 | | | | | -0.618 | 0.306 |
| Q20 | | 0.546 | | 0.471 | | |
| Q21 | | | | | | |
| Q22 | | | | | 0.351 | 0.455 |
| Q23 | | 0.595 | | | | |
| Q24 | | | 0.402 | | | |
| Q25 | | | | | 0.704 | |
| Q26 | | | 0.701 | | | |
| Q27 | 0.751 | | | | | |
| Q28 | | | | 0.639 | | |
| Q29 | | | 0.765 | | | |
| Q30 | 0.585 | 0.313 | | | | |
| Q31 | 0.306 | | | | 0.736 | |
| Q32 | | | | | | 0.672 |
| Q33 | 0.449 | | | | 0.365 | |
| Q34 | | | | | | 0.748 |
| Q35 | | | | 0.604 | | |
| Q36 | | 0.318 | | | 0.504 | |
| Q37 | 0.394 | 0.365 | | | 0.43 | |
| Q38 | | | 0.689 | | | |
| Q39 | 0.333 | 0.402 | 0.314 | | | |
| Q40 | | 0.576 | 0.384 | | | |
| Q41 | 0.604 | | | | | |
| Q42 | 0.462 | | | | | 0.419 |
| Q43 | | | | | 0.605 | |
| Q44 | 0.574 | | | 0.372 | | 0.357 |
| Q45 | 0.387 | 0.378 | | 0.348 | 0.365 | |
| Q46 | | 0.373 | 0.355 | | | |
| Q47 | 0.687 | | | 0.39 | | |
| Q48 | | | 0.378 | | | 0.523 |
| Q49 | | | 0.739 | | | |
| Q50 | | | 0.733 | | | |
| Q51 | 0.588 | 0.428 | | | | |
| Q52 | | 0.462 | | | 0.312 | |
| Q53 | 0.548 | | | | | |
| Q54 | 0.309 | | | 0.571 | | 0.351 |
| Q55 | | 0.385 | | 0.546 | | |
| Q56 | | | 0.737 | | | |
| Q57 | 0.395 | 0.391 | | | 0.358 | |
| Q58 | 0.471 | 0.4 | | | | |
| Q59 | 0.635 | | | | | |
| Q60 | | 0.373 | 0.369 | | 0.323 | |
| Q61 | | | | | | 0.318 |
| Q62 | 0.592 | | | | | |

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a Rotation converged in 23 iterations.