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# VALIDATION OF PSYCHOLOGICAL WELL-BEING MEASUREMENT ITEMS USING CONTENT VALIDITY RATIO TECHNIQUE

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## Abstract

The literature has emerged that offers contradictory findings about psychological well-being but the information among education officer was limited. Until recently, there has been no reliable evidence of psychological well-being measurement using experts consensus in Malaysia. This study aims to obtain the validity of psychological well-being measurement items among School Improvement Specialist Coaches Plus (SISC+) and School Improvement Partner Plus (SIPartners+) officers through expert consensus with the Content Validity Ratio or CVR method by Lawshe (1975). This quantitative method uses a survey design through questionnaires while the sampling technique includes purposive sampling, namely judgement sampling that comprises thirteen experts in the fields of counseling, psychology, psychometric, and language. Content validity involves fifty-four items with six dimensions adapted from Ryff's Scales of Psychological Well-Being (1989). Overall findings recorded N=13, minimum value=0.54, and CVR=9 items refined. All psychological well-being items that have undertaken content validity were suggested to be proposed in order to conduct a pilot study on SISC+ and SIPartners+ officers using the Rasch Measurement Model.

**Keywords:** Content validity, Content validity ratio, Psychological well-being, Ryff's scales, SISC+, SIPartners+, Content Validity Ratio

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## Introduction

Psychological well-being is a global issue that is heavily discussed across fields where the discussions cover the psychological, economic, health studies, sociological, and anthropological contexts (Chavez et al. 2005; Henn et al. 2016). Multidimensional psychological well-being is a contributor to national prosperity (Public Service Department 2020). This aspect is important for each individual to be sensitive to each

respective psychological well-being aspect (Ruziati et al. 2018). Individuals with psychological well-being have a good impact on performance in the workplace, thus improving productivity quality (Mohammad Izzat & Wan Shahrazad 2018). To ensure that each individual accurately recognises psychological well-being, the measurement tool used should have high validity (Santhanadass 2015). There are many instruments used to measure psychological well-being such as the Satisfaction with Life Scale, Psychological General Well-Being Index, Bradburn Affect Balance Scale, and others (Zhanjia & Weiyun 2019). However, the most used instrument for the measurement of psychological well-being is adapted from Ryff's Scales of Psychological Well-Being (1989) in the Malaysian context such as the studies by Mohammad Izzat and Wan Shahrazad (2018), Salina and Rahimi (2017), Asmawati et al. (2015), and Nazri et al. (2018). A prosperous teacher will be born of a psychologically prosperous guide; hence, the measurement of psychological well-being among coaches requires a measurement instrument with high validity. Coaches such as School Improvement Specialist Coaches Plus (SISC+) and School Improvement Partner Plus (SIPartners+) officers were found to have high task workloads and highly require psychological well-being.

The instrument used to measure psychological well-being among School Improvement Specialist Coaches Plus (SISC+) and School Improvement Partner Plus (SIPartners+) officers should have good validity. This is because the officers are the "front-line troops" in the District Education Office (PPD) who help guide the quality of teaching and learning (PdPc) and management in schools (Sharifah Sofiah & Mohd Izham 2017). Hence, the measurement of psychological well-being among them requires valid and accurate items. However, content studies for the instrument of Ryff's Scales of Psychological Well-Being (1989) in the Malaysian context are very limited. This becomes serious when many adaptations of items take place. Studies on the measurement items among SISC+ and SIPartners+ are seen to focus heavily on tasks, practices, effectiveness, and guidance impacts compared to psychometric items (Sarabiah Jusoh 2018; Siaw et al. 2019; Sharifah Sofiah & Mohd Izham 2017; Zalina & Nabihah 2019). On the other hand, Nurul Syafinaz (2020) focuses on part of psychometrics items that is teachers' motivation however the paper stresses on the effect of coaching and mentoring by SISC+ towards teachers' motivation.

One of the most widely used practices is the adaptation of measurement items from the Western context. The adapted instruments actually require high item validity. One of the main validity aspects is content validity by referring to experts to see the suitability of the items used (Salina & Rahimi 2017). There are various methods for quantitatively measuring and reporting the content validity of instruments as Cohen's kappa, Tinsley-Weiss T index, rWG and rWG(J) indexes, and  $r^*WG(J)$ . However, a more practical and simpler constructive analysis is the quantitative measurement procedure by Lawshe (1975), namely Content Validity Ratio or CVR (Mohd Effendi et al. 2017). This pioneered the enhancement of the quality of item measurement for psychological well-being using the Content Validity Ratio.

### **Problem Statement**

Psychological well-being has been discussed extensively in several countries (Asmawati et al. 2015; Clarke et al. 2001; Kasapoglu & Didin 2019; Wardani & Astuti 2019). In the context of

Malaysia, the Psychological Well-Being Index among Malaysians is at a moderate level (Public Service Department 2020). This index shows the importance of this study and the country's main focus. To empower teachers through guidance, coaches such as SISC+ and SIPartners+ officers play a role in guiding and assisting PdPc and school management. Nevertheless, they need to bear intense stress and workloads and this creates concerns about their emotional state and feelings. When attendance is not accepted and questioned by the teachers and administrators, such situation can lead to pressures that bring about psychological ill-being (Tan 2015; Elenchothy & Malathi 2019).

Officers without good psychological well-being will be unable to carry out their duties properly and effectively. Task failure can have a bad impact on schools where the intention of helping to make quality schools as well as realising the development of pupils will not be achieved. The adverse impacts of ill-being from the psychological aspect include depression, lack of self-confidence, or facing work stress. This physical and emotional response will cause adverse effects on emotional stability and psychological well-being (Kovalenko & Spivak 2018; Kuruku & Aloa 2018; Kumkaria 2019). Thus, in order to overcome the problem, the level of psychological well-being of these officers needs to be identified. There is not much effort to identify these groups. Past studies have only focused heavily on their duties, practices, effectiveness, and guidance impacts. Lack of measurements has been made to see the psychological well-being of the officers. Validity has not been reported and only the reliability of the instruments has been implemented by stating the effectiveness of the practices and guidance of the officers SISC+ (Sarabiah 2018). Meanwhile, a study by Siaw et al. (2019) only measured the role and transition of the guidance role in school without looking at the psychological well-being of the officers. Efforts to identify troubled SISC+ and SIPartners+ officers from the aspect of psychological well-being require valid and accurate measurement items.

Content validity measurement studies for psychological well-being among SISC+ and SIPartners+ officers are very limited, especially when it comes to expert consensus. Thus, there is a high need to use the expert consensus method to validate the content of psychological well-being measurement items in the Malaysian context. Therefore, this study aims to obtain the validity of psychological well-being items through expert consensus with the Content Validity Ratio method or CVR (Lawshe 1975). This method can help the researcher meet the content validity more effectively through expert assessment.

### **Literature Study**

School Improvement Specialist Coaches Plus (SISC+) and School Improvement Partner Plus (SIPartners+) are programmes introduced at the district level in the District Transformation Programme or DTP in the year 2013 (Daily School Management Division 2017). Challenging tasks need to be borne as a portfolio in achieving KPI or Key Performance Indicator in District Education Office. The responsibility of SISC+ and SIPartners+ officers is to assist in guiding teachers and school leaders to improve school performance (Sharifah Sofiah & Mohd Izham 2017). The advantage of these programmes is that they can also help teachers to implement more interesting, effective, creative, and innovative learning in tandem with the current educational development by practicing 21st-century learning. This is because the skills of the

teachers in implementing the teaching and learning process are very important so that each specified objective can be achieved at the end of the learning session. The impact of teaching and learning (PdPc) will improve school performance and thus realising the development of pupils and quality schools(Wong & Nur Ain Elzira 2018).

Studies related to the testing ofRyff’sScales of Psychological Well-Being(1989) have mostly been conducted overseas(Barlutia et al. 2018; Bartels et al. 2019; Jr et al. 2019; Zhanjia & Weiyun 2019). This causes differences in the context of language and testing concept in Malaysia (Mohammad Izzat & Wan Shahrazad 2018; Salina & Rahimi 2017). Preliminary studies on the construction of Ryff’sScales of Psychological Well-Being (1989)questionnaire demonstratedhigh values of internal consistency and reliability in the United States (Ryff 1989; Ryff & Keyes 1995);however,findings showed different results in a study in Canada(Clarke et al. 2001). Construct measurement showed fifteen constructsin a study(Kafka & Kozma 2002),while the testing in Malaysiaonly showedthree retained constructs compared to the original six constructs(Mohammad Izzat & Wan Shahrazad 2018). Nonetheless,Salina & Rahimi (2017) found thatall constructs or dimensions of psychological well-being were similar to Ryff’s original construct.This proves the need for content validity assessmentof the instrumentbecause there are many differences in the Western contextand Malaysia.

Content validity assessmentis an important procedure in the construction of new instruments(Nur Farhana et al. 2018; Miller & Lovler 2016). Generally, there are various quantitative methods in thecontent validity assessment such asCohen’s kappa, Tinsley-Weiss T index, rWG and rWG(J) indexes,and r\*WG(J);however, Lawshe’sContent Validity Ratio (1975) is a non-complex method through computing (Mohd Effendi et al. 2017). This view is in line withLindell & Brandt (1999)who stated thatLawshe’sContent Validity Ratio (1975) isuser-friendly and it has simple, directional computer calculations with a clear CVR minimum value table,besides being highly transparent toexpert consensusand itemsto a “very important” level.

Content Validity Ratioor CVR was introduced byCharles Lawshe (1974) to help researchers measurethe content validity of itemsthrough expert consensussto decide whether an item is retained, removed, or refined(Mohd Effendi et al. 2017). The implementation procedure begins with the selection of expert groups in the field of study,then expert consensus is obtained through an assessment based on a three-point scale with (1) very important, (2) useful but not important, and (3) unnecessary. Content validity is determined by Formula (1) where CVR is the ratio value of the item, $n_e$ is the number of experts who rate the item as very important, and  $N$ constitutes the total number of experts in the study.

$$CVR = \frac{(n_e - \frac{N}{2})}{\frac{N}{2}} \dots\dots\dots (1)$$

The Content Validity Ratiovalue is within the range of -1 to 1. Thecontent validity ratiovalue of (i)less than zero ( $CVR < 0$ ) shows thatless than half of theexpert panel deems the measurement items very important, while thevalue (ii) equals zero ( $CVR = 0$ ) shows thathalf of the expert panel deems the measurement items very important and another half deems otherwise,whereas thevalue that (iii) exceeds zero ( $CVR > 0$ ) shows thathalf of the expert panel deems the measurement itemsmeetingthe content validity. Therefore, Lawshe’s

(1975) recommendation is to accept items as fulfilling the content validity when the content validity ratio exceeds zero ( $CVR > 0$ ), in which more than half of the expert panel agreed that the measurement items are very important.

## Research Methodology

### Research Design

This study uses a quantitative approach with a survey design through a written questionnaire. The quantitative approach was used because data collection from the expert group involved a short period, which is only two weeks (Mohd Yusri Ibrahim 2017). Besides, a survey design is suitable for collecting information from a group of samples; in this study, the samples refer to the expert consensus of the content validity of an instrument item (Noraini Idris 2013).

### Sampling

The sampling used includes one of the purposive sampling techniques, namely judgement sampling. The sampling entails the selection of experts in the field as the research respondents (Etikan et al. 2016). There are two expert categories, namely professional experts and lay experts who are commonly referred to in making content validity (Nur Farhana et al. 2018). The purpose of expert selection is to provide information in conducting the assessment on all items in detail as well as making improvements and recommendations to ensure that all items are suitable for the dimensions to be studied (Ghazali & Sufean 2016; Noraini 2013).

Lynn (1986) outlined that the number of experts that can validate the content of a study is between five and ten experts only. Meanwhile, Lawshe (1975) specified a minimum number of four experts. These experts will make a consensus in the assessment of each item so that the item assessed is in accordance with the purpose of the construction of the instrument (Nur Farhana et al. 2018). Expert selection criteria are based on (i) academic qualifications with a Doctor of Philosophy and the experts are experienced as well as having a background in the fields of counseling, psychology, psychometric, and language for professional experts, (ii) experienced and having a background in the fields of counseling, psychology, psychometric, and language for lay experts, (iii) remain active in the service field, and (iv) the experts' consent to engage in the study (Powell 2003; Rubio et al. 2003). In the context of this study, thirteen experts were selected as samples, comprising eleven professional experts in the fields of psychology, counseling, psychometric, and language, in addition to two lay experts in the field of counseling. Table 1 shows information of the professional and lay experts.

Table 1 : List of professional and lay experts

No.	Expert	Expert Category	Expertise	Duration of Service	University
1	Expert A	Professional Expert	Psychometric	25	IPG Sultan Mizan Campus
2	Expert B	Professional Expert	Psychology	9	UKM
3	Expert C	Professional Expert	Psychology	10	UKM
4	Expert D	Professional Expert	Counseling	15	UNISZA
5	Expert E	Professional Expert	Counseling	27	IPG Sultan Mizan

6	Expert F	Lay Expert	Counseling	13	IPG Sultan Mizan
7	Expert G	Lay Expert	Counseling	20	UC BESTARI
8	Expert H	Professional Expert	Psychology	20	UMT
9	Expert I	Professional Expert	Counseling	22	UMT
10	Expert J	Professional Expert	Counseling	16	UMT
11	Expert K	Professional Expert	Psychology	20	UMT
12	Expert L	Professional Expert	Counseling	25	IPG Dato Razali Ismail Campus
13	Expert M	Professional Expert	Language	28	IPG Dato Razali Ismail Campus

### Data Collection

Data in this study were collected through (i) a direct approach and (ii) online (email). Face-to-face data collection can establish relationships with the experts, besides clarifying doubts and guarantee almost a 100% response rate. On the other hand, online data collection provides a longer time for the experts to respond comfortably, besides achieving a wide geographical area (Sekaran & Bougie 2016).

### Research Tool

The tool used in this study consists of three sections, namely (i) Section 1, (ii) Section 2, and (iii) Section 3. Section 1 entails the demographic profile of the panel of experts that comprises five items, namely (1) title, (2) full name, (3) duration of service, (4) institution of service, and (5) area. Section 2 entails the expert validity revision form. Expert assessment of the items is based on a three-point scale of (1) very important, (2) useful but not important, and (3) unnecessary. This scale entails the expert assessment points as per Lawshe's Content Validity Ratio (1975) and this section consists of six dimensions and 54 items adapted from Ryff's Scales of Psychological Well-Being (1989), while each dimension has nine items. Meanwhile, Section 3 entails the item improvement suggestion form.

### Research Administration

At the initial stage, the experts were contacted by email for the purpose of proposing this study and obtaining their consent to be involved in the study. Besides that, the experts were also enlightened about the purpose and procedures for the implementation of the study. Consent of data collection or return of questionnaires was also made either face-to-face or online. Official appointment letters and related documents were sent to the panel of experts via email. Official appointment letters for the experts were managed and issued by the Faculty of Education, Universiti Kebangsaan Malaysia. All experts were given two weeks to assess and the return rate over the period was 100%.

Overall, thirteen experts were involved in the content validity process. There were eight experts from various universities and five experts from the Institutes of Teacher Education (IPG), comprising five experts from the field of counseling, four experts from the field of psychology, and one each from the field of psychometric and language.

### Data Analysis

Data from the expert consensus assessment through Lawshe's Content Validity Ratio (1975) technique were analysed using Microsoft Excel (version 2016) software. Lawshe (1975) had

outlined guidance on the minimum value as a measurement in the calculation of expert consensus whether an item is retained, removed, or refined based on the number of experts involved. The minimum CVR value is the value of expert consensus measurement for Lawshe's Content Validity Ratio (1975) method (Table 1).

Table 2 : Minimum CVR value, one-tailed test  $p=.05$  (Lawshe 1975)

Number of Experts	10	11	12	13	14	15	20
Minimum CVR Value	0.62	0.59	0.56	0.54	0.51	0.49	0.42

The number of experts involved in this study is thirteen; hence, the minimum CVR value required to meet the five percent acceptance level is 0.54. Only items with CVR values that meet this minimum requirement will be retained, while items with CVR values below the minimum value can be refined or removed in the final testing form. Refining refers to improving the language used or changing the properties of negative item sentences to positive items. However, Lawshe (1975) insisted that the use of CVR to reject items does not prevent the use of discriminatory indexes or other item analysis procedures in re-selecting the removed items.

## Results and Discussion

The percentage of questionnaire return rate is one hundred percent (100%) for all thirteen experts involved in this study. Content validity of 54 psychological well-being items adapted from Ryff's Scales of Psychological Well-Being (1989) was assessed by experts in the fields of counseling, psychology, psychometric, and language. The adaptation of the instrument was made by converting English into the Malay language and negative items were transformed into positive items to suit the Malaysian context.

The demographic profile shows eleven experts (85%) in the category of professional experts and two experts (15%) in the lay expert category. This panel of experts consists of four males (31%) and nine females (69%). There are eight experts (62%) from public universities and five experts (38%) from the institutes of teacher education with a minimum period of nine years of experience. This panel of experts is still active in their respective fields of service, with one (8%) in the field of psychometric, four (31%) in psychology, seven (54%) in the field of counseling, and one (8%) in the field of language. Table 3 shows the distribution of the content validity experts' demographic profiles.

Table 3 : Distribution of content validity experts' demographic profiles

	Demographics	Frequency	Percentage (%)
Expert Category	Professional Experts	11	85
	Lay Experts	2	15
Gender	Male	4	31
	Female	9	69
Institution of Service	University	8	62
	Institut Pendidikan Guru	5	38

Field	Psychometric	1	8
	Psychology	4	31
	Counseling	7	54
	Language	1	8
Duration of Service	6 to 10 years	2	15
	11 to 15 years	2	15
	16 to 20 years	4	31
	More than 20 years	5	38

Fifty-four items from six dimensions have undergone content validity through expert consensus using the Content Validity Ratio (CVR) method. Based on expert consensus, the following entails the distribution of CVR values for all items (Figure 1 – Figure 6).

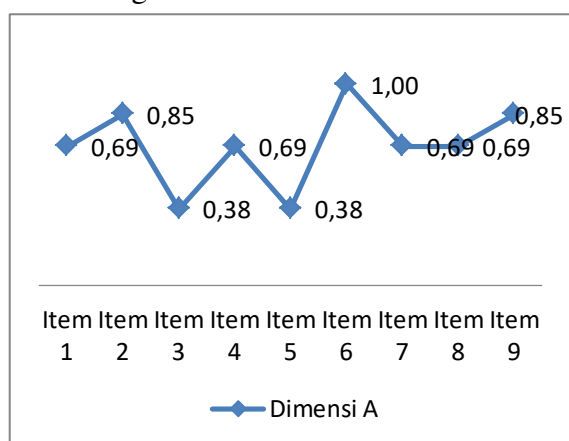


Figure 1 : Distribution of CVR value for Dimension A

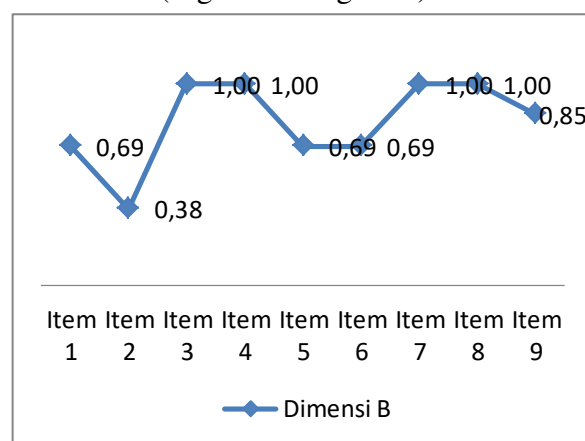


Figure 2 : Distribution of CVR value for Dimension B

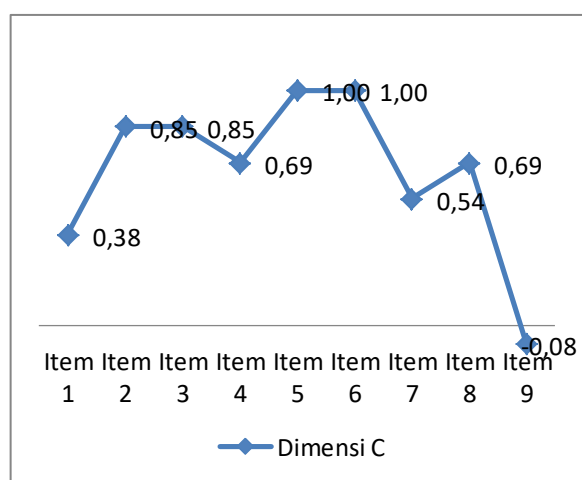


Figure 3 : Distribution of CVR value for Dimension C

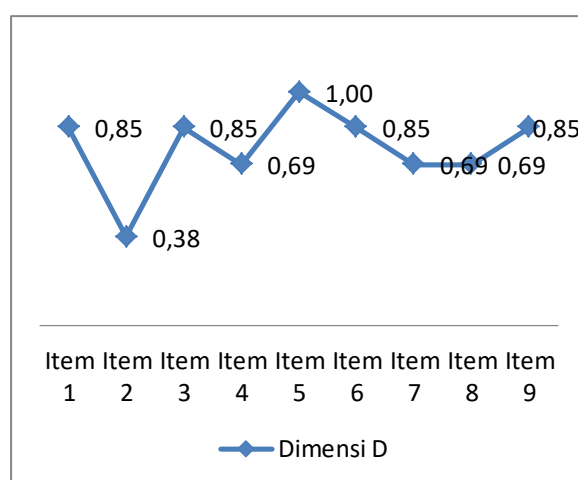


Figure 4 : Distribution of CVR value for Dimension D



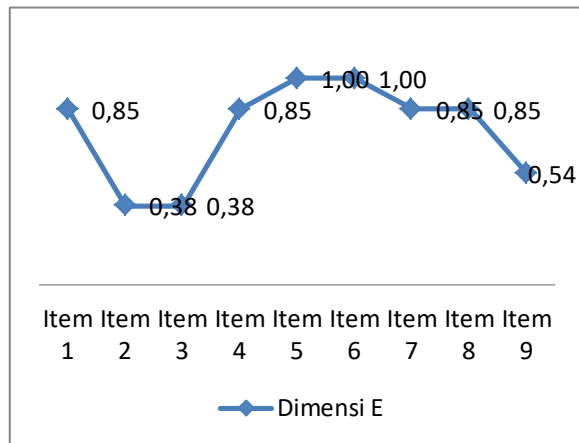


Figure 5 : Distribution of CVR value for Dimension E

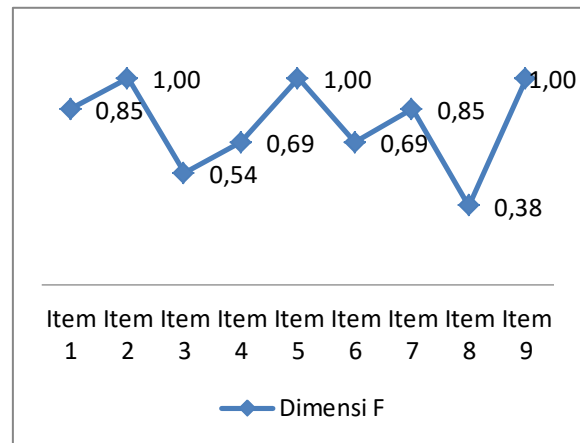


Figure 6 : Distribution of CVR value for Dimension F

Findings from the expert consensus assessment through measurement using the Content Validity Ratio method found nine items to be refined, while forty-five items were retained. However, negative score items were suggested by all experts to be changed into positive score items. Table 4 shows the distribution of twenty-eight negative score items.

Table 4 : List of negative score item distributions

Dimension	Number of Items	Negative Score Items
A	4	A3, A5, A7, A8
B	4	B2, B3, B5, B8
C	6	C1, C2, C4, C6, C8, C9
D	5	D2, D3, D5, D6, D8
E	6	E1, E2, E3, E4, E5, E9
F	3	F3, F6, F7

Meanwhile, Table 5 shows Lawshe's Content Validity Ratio (1975) analysis results. Based on the table, thirteen items obtained full expert consensus, fifteen items recorded a CVR value of 0.85, fourteen items recorded a CVR value of 0.69, three items recorded a CVR value of 0.54, and nine items recorded the lowest CVR value that is less than the minimum value of 0.54 and must be refined. Even though the items were below the CVR minimum value requirement, this does not imply that the items were poor, but they rather need to be reviewed, refined, and allowed to be returned in the instrument to be piloted. The items comprise the dimensions of autonomy (two items), environmental domination (one item), personal development (two items), positive relationships with others (one item), life goals (two items), and self-acceptance (one item).

Table 5 : Content Validity Ratio Analysis Results (Lawshe 1975)

CVR Value	Number of Items	Item	Interpretation
1.00	13	A6, B3, B4, B7, B8, C5, C6, D5, E5, E6, F2, F5, F9	Retained
0.85	15	A2, A9, B9, C2, C3, D1, D3, D6, D9, E1, E4, E7, E8, F1, F7	Retained

<b>0.69</b>	14	A1, A4, A7, A8, B1, B5, B6, C4, C8, D4, D7, D8, F4, F6	Retained
<b>0.54</b>	3	C7, E9, F3	Retained
<b>&lt; 0.54</b>	9	A3, A5, B2, C1, D2, E2, E3, F8, C9	Refined

Table 6 shows the list of items that did not reach the minimum CVR value (Lawshe 1975) and refining suggestions.

Table 6 : List of items that did not reach the minimum CVR value (Lawshe 1975) and refining suggestions

Item	Statement	CVR Value	Refining Suggestion
<b>A3</b>	I tend to worry about the opinions of others against me.	0.38	I tend to not worry about the opinions of others against me.
<b>A5</b>	I tend to be influenced by people with strong opinions.	0.38	I tend to not be influenced by people with strong opinions.
<b>B2</b>	Everyday life demands often make me disappointed.	0.38	I am not disappointed about the routines of my everyday life.
<b>C1</b>	I am not interested in activities outside my expectations.	0.38	I am interested in activities that I have never done.
<b>C9</b>	It is true that it is difficult to teach new skills to someone.	-0.08	I find it true that it is easy to teach new skills to someone.
<b>D2</b>	It is hard and disappointing for me to maintain a close relationship with someone.	0.38	I can maintain a close relationship with someone.
<b>E2</b>	I tend to concentrate on the present because the future always brings problems to me.	0.38	I tend to concentrate on the present because the future is always seen as not bringing problems to me.
<b>E3</b>	My daily activities often seem trivial and not important to me.	0.38	My daily activities often seem important to me.
<b>F8</b>	Even though the past is good and bad, I still do not want to change it.	0.38	I still do not want to change even though my past is good and bad.

## Conclusion

The main conclusion that can be drawn is that content validity is an important process in ensuring that an instrument has good items and able to measure what should be measured. Through the method of Content Validity Ratio (CVR), fifty-four items adapted from Ryff's Scales of Psychological Well-Being (1989) have successfully gained expert consensus in the content validity process. There were only nine items to be reviewed and refined, while the remaining forty-five items were retained because the experts agreed that the items are very important. This proves that the adapted items could measure what should be measured well. The use of the Content Validity Ratio (CVR) method also demonstrates the strengths and weaknesses of each item based on the assessment made by the panel of experts from the fields of counseling, psychology, psychometric, and language from public universities as well

as the institutions of teacher education. Based on expert consensus, twenty-eight items with negative scores were recommended to be transformed into positive scores. This study is important as exposure to the researcher in the process of improving measurement items. These results require further testing through a pilot study using the Rasch Model. This provides a good starting point for further discussion and research to test construct validity. Further testing is recommended to obtain rigid study findings and the pilot study to be conducted is recommended to use the Rasch Measurement Model in the data analysis process so as to form a good instrument.

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