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Establishing Content and Face Validity of a Developed Educational Module: Life Skill-Based Education for Improving Emotional Health and Coping Mechanisms among Adolescents in Malaysian Orphanages

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ABSTRACT

Introduction: The current study as a part of our investigation on improving emotional and behavioural health in Malaysian orphanages was aimed to establish Content Validity Index (CVI) as well as Face Validity of a new life skill-based module for improving emotional health and coping mechanisms in Malaysian Institutionalised Adolescents of 2 different orphanages.

Methods: In order to assess the content validity we used a 16-item questionnaire. The initial version of the module was reviewed by 9 experts in the area. Then, the face validity of the module was assessed among 30 adolescents aged 14-17 from 2 different orphanages. By Using Depression, Anxiety, Stress Scale (DASS21) and Brief COPE scale as the study instruments, the emotional heath and coping mechanisms among the participants were investigated before and after a life skills workshop (pre- and post-test). The activities in the workshop were randomly selected from the module activities.

Results: The Results of the first part of the study showed that the minimum Value of the Item-level Content Validity Index and the computed sum of items (S-CVI) for the study module were 0.78 and 0.93 respectively. The results of the second part of the study showed that the selected activities from module significantly change the coping mechanisms expect substance use, behavior disengagement, venting, humor and religion ($p > 0.05$). Furthermore, the mean score of anxiety ($t = 5.39$, $P < 0.001$) and stress ($t = 3.90$, $P < 0.001$) significantly decreased among the participants in post-test but there was no significant change on the mean score of depression ($t = 0.50$, $P = 0.59$).

Conclusion: both contend and face validity of the developed module were approved.

Keywords: Content validity; Face validity; Life skills education; Health education; Malaysian institutionalised adolescents

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Introduction

Institutionalised children and adolescents are at the highest increased risk of serious psychological problems in their lifetime and exhibit various psychological, emotional and behavioural problems such as coping and adjustment problems, aggression, personality problems, low self-esteem, depression and stress[1, 2]. By considering the several mental and behavioural health issues among adolescents living in orphanages that require serious attention, the early detection of mental health challenges is important and can minimize these problems in adulthood [3].

A host of prevention and intervention programmes have been developed to enhance the mental health of the institutionalised children set. Life skills education (LSE) is one of them and refers to a large group of emotional, social and interpersonal skills that help individuals decide wisely, communicate effectively, improve their personal management skills and have healthy and fruitful lives [4, 5].

The lack of life skills-based education and appropriate information and skills to cope with the unique life changes during the period of adolescence, place Malaysian adolescents at higher risk of mental and behavioural problems such as depression, substance abuse, juvenile delinquency and bullying. [6, 7]. Therefore, it is necessary to develop and implement the appropriate programs and plans to equip them with sufficient coping skills to address these problems [8]. Undoubtedly, the need for life skills education for vulnerable Malaysian adolescents, including institutionalised adolescents, is much higher than that of their average peers [9].

Life skills education is new built in Malaysia and there is no systematic life skills training for the children and adolescents living in orphanages and even in schools in many cases[5, 10].Therefore, as one of the vital steps to develop any new educational program is the validity of the program, this study as a part of our investigation on improving emotional and behavioural health in Malaysian orphanages was aimed to establish Content Validity Index (CVI) as well as Face Validity of a new life skill-based modulefor improving emotional health and coping mechanisms in Malaysian Institutionalised Adolescents.

Methods

The current intervention module was developed based on WHO program on LSE (WHO, 1986) in the form of “Training guideline for trainers” booklet through a process of consultation with the experts in the study field and based on WHO and UNICEF recommendation of teaching life skills. At the first step, according to study objectives, the specific requirements of target population, the study environment, the local culture, ethnic and religious differences and similarities of the target population and time limitation, after putting the sources, references and data together, in a process of approximately 5 months, 40 preliminary activities were developed and/or adopted from some available LSE handbooks, booklets, activity guideline and WHO’s life skills education frameworks in other countries. Next, after a process of re-assessment, 20 activities were selected to include the training booklet.

Content and face validity tests were conducted to finalize the training module in the last stage:

1.**Content validity:** The Item-level Content Validity Index (I-CVI) and The Content Validity Index for Scales (S-CVI) were utilized to calculate the content validity of the module by using Following formulas [11, 12]:

I-CVI= the number of experts giving a rating of either 3 or 4/ the total number of experts;

S-CVI= the sum of I-CVIs/ the number of items

In order to assess the CVI of the interventional module**,** the initial version of the module was reviewed by 9 experts in children and adolescents psychiatry, psychology, education and community health from University Putra Malaysia as well as experienced local high school teachers using a questionnaire (Table 1) containing 16 questions based on the developed module ranged 1(*not relevant*) to 4 (*highly relevant*).According to Lynn (1986), the minimum **I-CVI** of 0.77 (for 6 to 10

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experts) and the minimum **S-CVI** of 0.90 are requested for an excellent content validity [13].

2.**Face validity:** Using Paired Samples t-Test (SPSS 22), the face validity assessment was done to check the understandability, intelligibility and suitability of the activities. Five activities were randomly selected from the booklet and tested among 30 adolescents aged 14-17 years living in an orphanage during 3 educational sessions, each lasting one hour and a half. A semi-experimental pilot study with pre- and post- tests was done to investigate the effects of the selected activities on emotional health (depression, anxiety and stress)and coping mechanisms (based on Brief COPE scale) among the participants using validated Malay version of Depression, Anxiety, Stress Scale (DASS21) and Brief COPE questionnaires:

- Depression, Anxiety, Stress Scale (DASS21): The DASS21 is the short version of the DASS24, designed by Lovibond and Lovibond (1995) to measure negative effects (depression, anxiety and stress) [14]. Each of the three sets of the DASS21 scales includes 7 items with a 4-point Likert scale [15]. The minimum and maximum DASS21 scores are 0 and 21 for each subscale, respectively. Higher scores indicate higher levels of problems.
- Brief COPE scale: This self-report questionnaire consists of 28 statements with a4-point Likert scale to evaluate 14 different ways of coping with stressful situations. The minimum and maximum scores of the original Brief COPE questionnaire for each subscale including acceptance, using emotional support, humour, positive reframing and religion, active coping, using instrumental support and planning, behavioural disengagement, denial, self-distraction, self-blame, substance use and venting are 2 and 8, respectively.

Table 1. The Sixteen-itemed Questionnaire based on the developed LSE module

Item	Not Relevant1	Somewhat relevant2	Quiet Relevant3	Highly Relevant4
1. The activities are relevant to study's objectives				
2. The activities appropriately cover the study's objectives				
3. The number of activities is sufficient (according to study's objective)				
4. The activities are easy to understand for the target group				
5. The activities do not need any specific background				
6. The activities have enough and understandable details				
7. The details of activities clearly represent the concepts				
8. The module has logical arrangement and sequence of knowledge development				
9. The module has accurate content				
10. The module can be used by trainers with minimum knowledge of life skills education				
11. The activities are adopted efficiently with the local culture				
12. The activities are clearly written				
13. The activities are suitable for adolescents				
14. The activities are executable with minimum facilities and equipment				
15. Overall, the module has clear graphic, font and sufficient pictures				
16. Overall, the module is developed sufficiently regarding to the study's objectives and target group				

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Results

Content Validity

The minimum **I-CVI** and the computed **S-CVI** for the study module were 0.78 and 0.93,respectively (Table 2). The minimum value of I-CVI was given to items 5, 10 and 11 (0.78) and Items 1-4 and 12-16 had the complete value (1.00) (Table 2).

Table 2. The ranking of the questionnaire's items according to the experts (n=9)

Item	Number of Agreement (ranked 3 or 4)	I-CVI
1	9	1.00
2	9	1.00
3	9	1.00
4	9	1.00
5	7	0.78
6	8	0.89
7	8	0.89
8	8	0.89
9	8	0.89
10	7	0.78
11	7	0.78
12	8	1.00
13	9	1.00
14	9	1.00
15	9	1.00
16	9	1.00
		S-CVI (Based on mean): 0.93

Therefore, the results of the assessments showed that the majority of the experts believed that the module was valid according to the study population and objectives. However, the essential changes were applied based on the experts' recommendation such as improving the activities details and steps, adding picture to the module as well as highlighting the target life skill(s) in each session.

Face Validity

Most of the participants in both groups were female (19 females vs. 11 males) with Malay ethnicity (14 Malay vs. 7 Chinese and 9 Indian). Although the participants did not live with their parents, 40.2% of them had at least one living parent.

Using Paired Samples t-Test, the results showed that the mean score of 6 coping methods including active coping (t=-5.85, P<0.001), using of emotional supports(t=-4.80, P<0.001), using of instrumental support (t=-4.89, P<0.001), positive reframing(t=-3.89, P<0.001), planning(t=-4.91, P<0.001) and acceptance (t=-5.98, P<0.001) methods significantly increased after interventional sessions. Meanwhile, the mean score of 3 coping methods including self-distraction (t=5.43, P<0.001), denial (t = 2.80, P<0.02) and self-blame (t=7.24, P < 0.001) significantly decreased in post-test. No significant change was found in mean score of substance use, behavior disengagement, venting, humor and religion (p>0.05).

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Table 3. The mean score of study variables before and after intervention (n=30)

Variable	Before Intervention	After Intervention	t-value	P-value
Coping Methods				
Self-distraction	6.10 ± 1.78	5.09 ± 1.59	5.43	<0.001*
Active coping	4.05 ± 1.34	5.20 ± 1.69	-5.87	<0.001*
Denial	6.50±1.07	5.84±1.17	2.80	0.02*
Substance use	4.90±1.81	4.83±1.67	-1.58	0.11
Use of emotional support	4.90 ± 1.60	5.89 ± 1.58	-4.80	<0.001*
Behavioral disengagement	6.45±1.11	6.17±1.30	1.93	0.06
Venting	4.59±1.60	4.68±1.65	-0.46	0.65
Use of instrumental support	5.18 ± 1.71	6.09 ± 1.81	-4.89	<0.001*
Positive reframing	4.80 ±1.87	5.47 ± 1.39	-3.89	<0.001*
Self-blame	5.30 ± 1.58	4.23 ± 1.46	7.24	<0.001*
Planning	5.10 ± 1.60	6.01 ± 1.58	-4.91	<0.001*
Humor	5.00±1.39	5.15±1.32	-0.92	0.36
Acceptance	4.38 ± 1.87	5.32 ± 1.52	-5.98	<0.001*
Religion	5.10±1.76	5.24±1.72	-0.66	0.61
Emotional Problems				
Depression	8.36±2.65	8.28±2.21	0.50	0.59
Anxiety	8.53±3.78	7.52±2.90	5.39	<0.001*
Stress	10.55±2.91	9.86±3.10	3.90	<0.001*

Score rate: Min 2, Max 8 (Coping Methods) and Min 0, Max 21 (Emotional Problems); *Significant at level $p<0.05$

Furthermore, after finishing the interventional program, the mean score of anxiety ($t = 5.39$, $P < 0.001$) and stress ($t=3.90$, $P < 0.001$) significantly decreased among the participants but there was no significant change on the mean score of depression ($t = 0.50$, $P = 0.59$) (Table 3).

Discussion

The results of the current study approved the content and face validity of the developed life skill based module for improving emotional health and coping strategies among Malaysian adolescents living in the orphanages. The results of the Item-level Content Validity Index (I-CVI) and The Content Validity Index for Scales (S-CVI) showed the content validity of the module was accepted from the experts' viewpoint. Furthermore, the results of the second part of the study (semi-experimental with pre- and post- tests) showed the participants' emotional health and coping methods could be effected positively by the activities developed in the module. Extending the educational sessions using all activities included in the module may be more effective on the emotional and behavioural health in Malaysian Orphanages.

This educational module was developed to be used as the guideline of the first life skill-base intervention in Malaysian orphanages. Due to the importance and magnitude of the problems of children and adolescents in orphanages, this educational model is intended to help policymakers; practitioners in the health field, caregivers in orphanages and teachers to pay special attention to life skills education for promoting healthier youth and the Malaysian community.

Conclusion

The current study was aimed to assess content validity index (CVI) as well as face validity of a new life skill-based module for improving emotional health and coping mechanisms among adolescents living in Malaysian Orphanages. Overall, the results of the part one and part two of this study showed that the designed life skill-based educational module was a valid program can be used as a guideline of the life skill-based education for adolescents in Malaysian orphanages.

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Conflict of Interest

The authors declare that they have no conflicts of interest.

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