COGNITIVE SCIENCES AND HUMAN DEVELOPMENT

Development of Cognitive Therapy Group Intervention (CTGI) on Resilience among Adolescents

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ABSTRACT

The purpose of this paper is to evaluate the validity and reliability of Cognitive Therapy Group Intervention (CTGI) which focuses on the elements of resilience among adolescents with behavioural problems. It is developed based on Cognitive Theory (comment: it'd be more sufficient if you can mention whose theory) and Sidek Module Development Model and consists of eight interventions. Cognitive Therapy Intervention (CTI) manuscripts and a five-item questionnaires were distributed to five content experts to determine the intervention's validity. The findings reported the validity index of 0.87. The target group were thirty-two adolescents chosen to measure the reliability of each intervention by evaluating the objectives in each intervention session. As a result, a reliability index of 0.85 was obtained. From these two indexes, it is proven that the Cognitive Therapy Group Intervention (CTGI) possesses high validity and good reliability and is ready to be put to use. This implies that, counselling interventions in schools are required in working with adolescents with at risk behaviours.

Keywords: Cognitive therapy intervention; Validity; Reliability; Resilience, Adolescent

INTRODUCTION

Studies have shown that disciplinary problems need to be given serious attention because the involvement of adolescents in these disciplinary issues is increasing. Indicators used to describe the disciplinary problems among adolescents include inner and outer disciplinary problems, substance abuse, delinquency, academic failure, antisocial behaviour, and risky sexual behaviour (Sun & Shek, 2013). The main risk factors that contribute to disciplinary problems are family, school adaptation and psychological adaptation issues, as well as negative peer relationship (Milkman & Walberg, 2012). On top of those factors, negative life occur-

rences, learning pressure, lack of belonging to school and passive reflex have also been identified as common risk factors (Chang et al., 2013; Wang, Liu & Wang, 2014).

The element of resilience is an important mechanism because individuals who are resilient adapt and adjust themselves quickly when facing painful life occurrences. Resilience can also be a defence mechanism to counter psychological disturbance by assimilating healthily towards life's stress (Loh, Schutte, & Thorsteinsson, 2014). Several typical individual traits that contribute to resiliency include action towards stress, personalities, cognitive skills, positive self-reflection, emotional arrangement, and effective behaviour (Chapin, 2015). Hence, through resiliency development process, adolescents would be able to overcome behavioural problems.

A result from past research shows that group counselling intervention is effective in improving the resiliency in adolescents by focusing on factors such as studying skills, emotional arrangement, and healthy relationship aspects (Rose & Steen, 2014). Other than that, group approach can also help adolescents confront various risky factors in and out of school and results in an improvement of grade achievement in the class and growth in their personal and social development (Rose & Steen, 2014). Therefore, the development of a group module known as CTGI (Cognitive Therapy Group Intervention) that comes in as an early treatment intervention emphasises the growth process. This CTGI Module is developed based on Beck's cognitive theory which states that emotional disturbances such as anxiety and depression, emerge from dysfunctional information processing.

Through interaction between their individual vulnerabilities and stressors in the environment, adolescents may develop negative cognitive structures or 'schemata'. In the presence of new life stressors, these schemata are activated and subsequently generate automatic and erroneous negative thoughts about self, environment, and future (Beck, 1967). Cognitive Therapy Group Intervention counselling approach is especially conducted on adolescents who have disciplinary problems with the hope of building up their resiliency. Development of this CTGI module is drawn from the Sidek Module Development Model (SMDM) (2005) which is deemed to be more comprehensive for module development in the counselling field. As Malaysian's norms are factored into the development of this model, it is also considered as a more compatible module than the rest. There are two different phases in the model with different goals designated for each stage. The first phase involves the developer preparing a draft module. In the draft module, there are nine steps involved; it begins with the aims of module setting and ends with a combination of activities. At this phase, the validity and reliability of the module has not been measured yet. In this study, module is referred to the intervention module. Hence, module and intervention terms are used interchangeably.

The second phase of SMDM is the evaluation for the drafted module. At this stage, the developed module needs to be tested through a pilot study to ensure the validity and reliability of the module. This module development process is considered complete once the module draft has been proven to have high validity and reliability as shown in the diagram below. If both phases show good results, then this module development

is completed and the drafted module is ready to be used. Otherwise, reassessment needs to be done starting from the content selection until a good value of validity and reliability is obtained.

This model (see Figure 1) has two development phases which are preparation phase and validity and reliability testing phase of a module. This model is considered complete and functional after every development phase is complied with good validity and reliability.

In research methodologies, validity is used to measure the accuracy of a tool that is being utilized. According to Pallant (2011), validity refers to how far a tool that is being utilized measure the research's attributes accurately. This indicates that an instrument can be considered coherent if it is able to measure what is supposed to be measured.
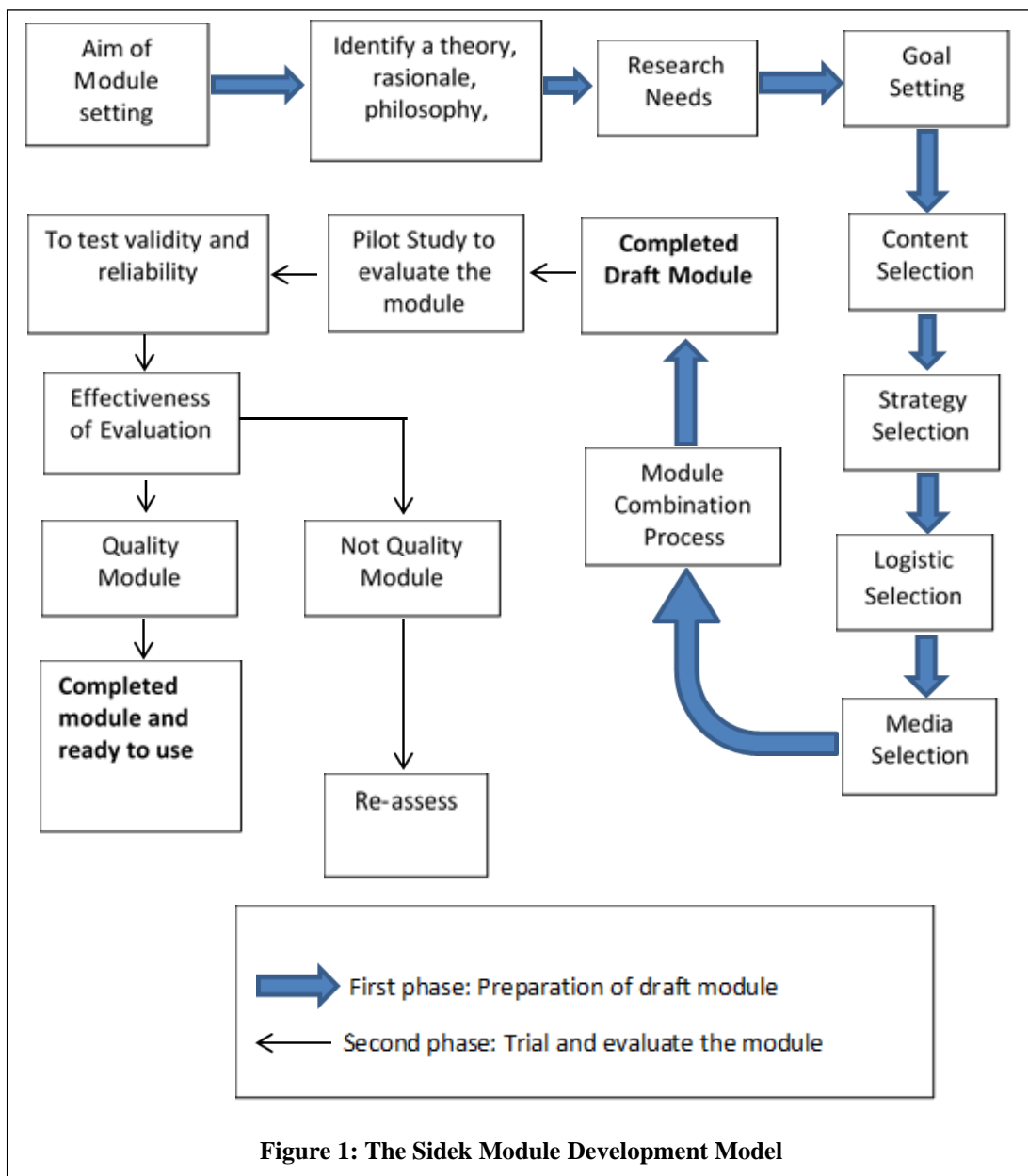

Figure 1: The Sidek Module Development Model

Module's validity refers to concept's accuracy and content of a module. A tool can be considered the same as a module because both are tools, sources, and materials that guide module developer to get various information and data related to research and studies that will be conducted (Jamaludin Ahmad & Sidek Mohd Noah, 2005). Russell (1974) on the other hand, stated that a module is validated when it fulfils five rules of validity such as: a) suitability of target group, b) suitability of lesson situation or method of module's execution, c) time allocated to run or execution method is enough, d) module successfully causes an increment of student's achievement in targeted aspect, and e) module successfully change student's attitude towards excellence. These rules are known as educational module. These five aspects have been applied and adopted for this module's development assessment in evaluating counselling module or interventions (Sidek, 2005; Jamaludin & Sidek, 2005; Amalia, Sidek, Maznah, & Wan Marzuki, 2014)

Mohd Majid (2000) suggests that researcher who developed a module could get a feedback and opinion from expert to decide the validity of applicable module and Jamaludin (2002) has created one questionnaire to measure the reliability of a module. This questionnaire was given to module expert for him/her to fill out the required information. Content validity is considered good if it can measure the content accurately and effectively. Reliability of a module is determined when the respondents are able to master the objectives and follow the steps for every activity in the module successfully. In Amalia Madihie et al. (2015), it was suggested for researchers to check and recheck the reliability index after the harmo-nization of contents have been obtained by the content experts. At the same time, to further ensure the reliability of a module, Rusell (1974) stated that students' achievement in following steps in every activity and their ability to master given objectives are also tested. Sidek and Jamaludin (2005) have proposed two ways to examine the reliability of index value of a module; by using a method to develop questionnaire items or by referring to the objectives of the module. Researchers from in and out of the country agreed that there is no standard resolution to determine the reliability value index of a tool or a module.

Most of the researchers suggest that alpha value index more than 0.8 usually shows high level reliability (Cohen et al. 2000; Bogden & Milken 2003; Mohammad Aziz 2010; Sekaran & Bougie 2010; Ahmad Jazimin et al. 2011; Sekaran 2014). Fraenkel and Wallen (1996), and Kerlinger (1986), declared that the acceptable average reliability value index is 0.70. However, Othman Mohammed (2000) stated that the acceptable value for alpha reliability value is between .65 to .85 on significant level of 0.5. Meanwhile according to Mohd Najib (1999) and Mohd Majid (2000), index alpha value of 0.6 is sufficient to be an instrument in social science in education field. Therefore, the higher the value of the reliability of a particular module has, the higher it is in terms of consistency. However, if the reliability value of a module does not meet 0.60, that module falls into an unsatisfactory consistency level and needs to be improved so it is up to date.

The aim of the study is to validate and measure the reliability of the Cognitive Therapy Intervention (CTI) through the

process of development of intervention module.

METHODOLOGY

There are two reliability methods that were conducted, namely face validity and content validity by subject matter expert. After the CTI is written, reviews from module comprehension aspect and the language accuracy need to be done first. In order to make sure that the language accuracy and content understanding are exact; this module had been checked by two language experts and two counsellors before it was handed in to five expert panels. Generally, feedbacks were given which focused on the terms usage, spelling and vocabulary structure that were used in this intervention. After amendment in language was made, the intervention contents were validated.

CTI's content validity was assessed by the content validators thoroughly. Five expert panels were appointed based on their expertise and experiences in counselling especially who are well-versed in Cognitive Theory to determine the level of this CTI content. Each expert has great experience in group counselling and psycho-educational intervention programs. On top of that, other criterion experts were selected because they also practice and apply cognitive therapy. The five experts are from five different universities in Malaysia (UPSI, UKM, USM, UNISZA and UMT). They worked through the initial draft and some of them made several recommendations to improve the syntax, sentence, and terminology used in the module and overall structure. A five-item questionnaire was also attached with the CTI manuscript. The evaluation scale consists of a ten-point satisfaction scale with options ranging from 1 (Strongly Agree) to 10 (Strongly Disagree). According to Sidek and Jamaluddin (2005), a module is said to be of high quality if it scores above 70%, otherwise, the content needs to be rechecked based on the research objectives. Sidek and Jamaludin (2005) have invented a formula to get the content validity by dividing the total score given by experts (x) with total score (y) and multiplied by 100. The formula is as follows:

$$\frac{Total\ score\ given\ by\ experts\ (x)}{Total\ score\ (y)} \times 100$$
$$= Content\ Validity\ Achievement$$

Module reliability is determined by adolescents' feedback towards a learning objective that needs to be achieved. In this research, a

Table 1: Cognitive therapy intervention module value content

Num.	Statement	Percentage (%)	Experts' opinion
1.	This module content meets the target population.	86	Acceptable
2.	This module content can be carried out perfectly.	80	Acceptable
3.	This module content is suitable with the time provided.	86	Acceptable
4.	This module content can help teenagers to increase their resilient.	90	Acceptable
5.	This module content is able change the automatic negative thinking into a new thinking scheme so that the teenagers can shaped an adaptive behaviour.	84	Acceptable
6.	This module is parallel to the theory applied.	88	Acceptable
	Total average value of module's content	**0.86**	**Acceptable**

Table 2: Summary of comments and feedbacks from experts

Expert	Constructive Comments for Improvement
Expert 1	➢ It is better if each module's content validity is tested. ➢ Details for negative thinking activities need to be explained further.
Expert 2	➢ Overall, this module is good and have potential to achieve the objectives but there are few parts that need improvement. Congratulations.
Expert 3	➢ Item 2 is a bit subjective to be evaluated but good if referring to the research objectives. ➢ Item 6, the research theories need to be mentioned in the module (theoretical research framework). Besides, this module is suitable to carry out and very helpful in helping to increase the problematic students' resilient.
Expert 4	➢ This module is produced according to concept, principles, and cognitive therapy approaches. Counsellor needs to be creative and wise to lead the group discussion and group work as in the module. This is because this module is focussing on the problematic students. Good luck and congratulations.
Expert 5	➢ The topic Smile and Greetings is not related to the activity. It is suggested to change the topic or include this activity to another activity. It is also suggested to do more exercise on automatic thinking. Congratulations, the five steps intervention is arranged perfectly, and the usage of appendices is interesting.

survey was made based on activity objectives as a procedure to determine the module's reliability by referring to Russell (1974) and Sidek and Jamaludin (2005). This method was chosen because the objectives of the sample would only be achieved if the students understood and were able to accomplish the objectives that are set in the module. The questionnaire was then analysed according to Cronbach alpha method. According to Mohd Majid (2000), if the score is 0.60 and a consistency is shown, it is considered as a good score for CTI module. However, if the score does not reach 0.60, it means the consistency level is low and needs improvement.

FINDINGS

All five experts provided feedback and commented on the overall module's content validity based on Russell's (1974) content validity questionnaire which has been modified by Sidek and Jamaludin (2005) to determine the level of CTI module content.

The evaluation of all five panels of experts towards the questionnaire items are shown in Table 1. The minimum percentage obtained is 80% which is on the item concerning whether the module content can be carried out perfectly. With 86% score for both item 1 and 3, it is supported that the module content meets the target population and it is suitable with the time provided. One particularly stark result is from item no. 4 where 90% of the experts agreed that the content of the module can help teenagers increase their resilience while 84% agreed that the module content is able to change the automatic negative thinking into a new thinking scheme in order for the teenagers to shape an adaptive behaviour. Finally, 88% agreed that this module is parallel to the theory applied. Overall, the average value of CTI module's content is 0.86%

Table 3: CTI reliability value

Num.	Topics	Alpha Value
1.	Group Introduction and Building Relationship	.803
2.	Cognitive Formulation	.785
3.	Meanings Resilience	.808
4.	Perseverance Resilience	.805
5.	Equanimity Resilience	.803
6.	Self-Acceptance Resilience	.802
7.	Authenticity Resilience	.812
8.	Group Termination Session	.833
Total		**.827**

Conclusively, all of the questionnaire items which are related to the content validity scored 80% and above. This shows that this module has good content validity, accuracy and it fits the target population. However, there are a few comments and feedbacks from the experts for the module to be worked on. Comments and feedbacks from the experts are presented in Table 2.

The research outcome for CTI Module's reliability based on the objective has been carried out on the students by using Cronbach alpha analysis as shown in Table 3.

Referring to Table 3 below, all of the alpha value score is above 0.70. This indicates a good level for the reliability index. The highest alpha value is 0.833 for the topic Group Termination Session while other topic's score is as follows; Group Introduction and Building Relationship is 0.803, Cognitive Formulation is 0.785, Meanings Resilience is 0.808, Perseverance Resilience is 0.805, Equanimity Resilience is 0.802 and Authenticity Resilience is 0.812. This gives a total score of 0.827 which shows that this CTI module has a high and acceptable reliability.

DISCUSSION

The evaluation results obtained from these five experts suggest that this module is suitable to be performed on the targeted population. The CTI reliability is established when the respondents successfully master each of the objective and are able to follow all of the steps in the activities. As stated by Sidek and Jamaludin (2005), the orderly involvement of the students while performing the activities indicates the effectiveness of the intervention module.

On average, the validity and reliability of the module is at an excellent level of 0.857 and 0.827. This shows that the Cognitive Therapy Intervention (CTI) is acceptable and reliable for use in the next process of study and to conduct an experiment to assess the effects of CTI on the adolescents' resilience and changing behaviour. This process of establishing the reliability of the module is in line with research done by Amalia and Sidek (2013), Ahmad Jazimin et. al. (2011), Mohammad Aziz (2010) and Sidek and Jamaludin (2002). All of the module reliability research done by them are proven to have high reliability results to further demonstrate the effectiveness of the module. Indeed, this process is unavoidable despite the fact that the process of doing both evaluations is complicated and time consuming.

RECOMMENDATION

With regard to the development of this CTI module, which is based on Sidek's Module Development, it is recommended for school counsellors to adapt this module because of its comprehensive nature in the counselling field. This module is suitable with the culture and community in Malaysia because Malaysian's norms are taken into account in the module development. Hence, it is recommended that this CTI to be used by school counsellors as one of alternatives to handle adolescents with behavioural problems. It is also important to note that the main challenge in the application of CTI is the lack of knowledge and skills from counsellors in the cognitive therapy field. However, this can be prevailed through sufficient training sessions by experts to a group of school counsellors before the execution of CTI to yield effective results. Therefore, it is important for counsellors who would like to adapt CTI in their practice to undergo Training for Trainer (ToT) program. This ToT will give a chance for counsellors to have better understanding about CTI and the opportunity to interact directly with the experts.

LIMITATION AND FUTURE RESEARCH

This research has some potential limitations that should be noted. Firstly, the researcher was only focusing on form four students with behavioural problems in school as the CTI target group. For future research, researchers should study the effects of CTI for students across all level of ages so that a more comprehensive generalisation can be made. Secondly, it also important to note that CTI focuses dominantly on the aspect of individual inner resilience. It is suggested that this research widens its target group including other risky adolescents like those who are involved in social disease. Future research is required to be more attentive towards the development of external resiliency such as positive peer influence, family boundaries, and neighbourhood climate.

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