

Development of Rational Emotive Education Module for Stress Intervention of Malaysian Boarding School Students

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Abstract

This article discusses the development and validation of a Rational Emotive Education (REE) module for the stress intervention of Malaysian boarding school students. The module comprises four submodules, namely, Acceptance, Feelings, Beliefs, and Disputing Beliefs that have been developed by using the Rational Emotive Behavioral Therapy (REBT) approach. The validation stage which was evaluated by a panel of experts showed that the module's content validity value is .92. Meanwhile, the reliability testing performed using a set of questionnaires indicated the reliability coefficient of .93. This article demonstrates how a rigorous procedure can be applied to develop and validate an effective stress intervention module before it can be administered in an actual study. The results also demonstrate how the REE module which is based on the REBT approach can be applied by school counselors for the purpose of stress intervention in an educational setting.

Keywords

REE module, development, content validity, reliability, boarding school students

Introduction

Stress is an issue that is synonymous with students, especially when they have to face the complexities of a variety of present-day issues and challenges (Banks, 2006; Silvergrade, Tosi, Wise, & D'Costa, 2001). While most teenagers manage to overcome self-development problems with minimal guidance from adults, there are still some students who have not achieved the cognitive development needed to handle a variety of issues effectively (Vernon, 2004a; Vernon & Bernard, 2006). In Malaysia, the level of stress among secondary school students is steadily increasing due to increasing parental expectations and the complexity of the lessons (Intan, 2007) as well as the academic requirements imposed by the Malaysian Ministry of Education.

However, in the case of boarding school students, some may experience additional emotional instability and face various psychological and physical problems due to an adjustment to living away from parental guidance (Kim, Kim, & Yang, 2015). This situation is further aggravated by the insufficient social support and the students' own negative thoughts about boarding school (Ak & Sayil, 2006). Boarding school students also have to socialize with a multitude of unfamiliar people while having to cope with stress and homesickness can affect their personality (Schaverein, 2004). Uncontrolled stress levels among these students may

lead to psychological, physiological, physical, or mental problems (Romas & Sharma, 2004).

Hence, these problems have attracted many researchers to study the issues of stress, especially in the context of boarding schools which are currently under the authority of the Fully Residential School (FRS) program by the Malaysian Ministry of Education. In this type of boarding schools, students are typically selected for entry to the program based on their excellent academic and extracurricular performance and expected to maintain outstanding academic performance throughout their secondary school education. In other words, they are required to strive to maintain their high academic achievements according to the requisites and philosophies of FRS. One of the objectives of FRS is to produce students who excel not only in academics but who also have towering personality, high moral standards, competitiveness, vision, and open-mindedness (FRS Management Division and Cluster School, Ministry of Education, 2008, p. 9).

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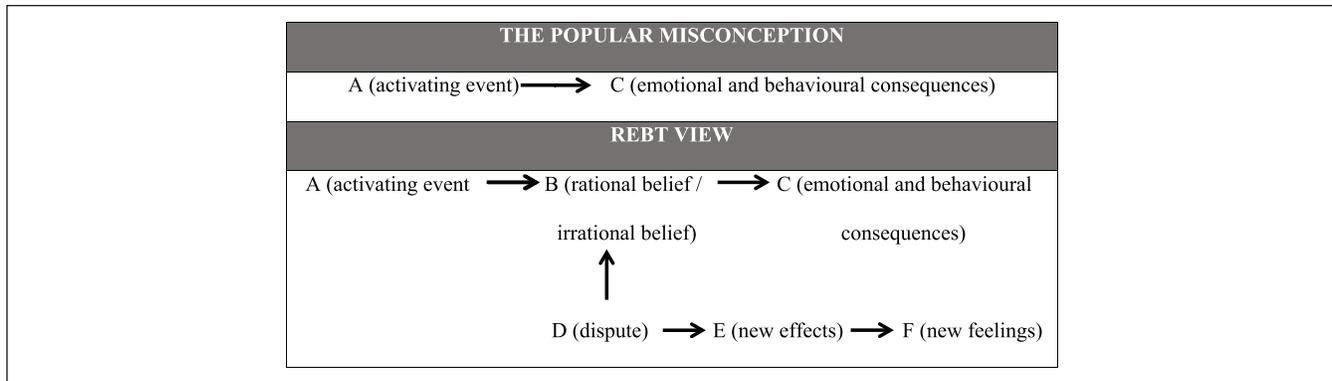


Figure 1. “ABCDEF” model based on the REBT approach.
 Source. Adapted from Ellis and Bernard (1983, p. 433); Corey (2012, p. 313).
 Note. REBT = Rational Emotive Behavioral Therapy.

However, in fulfilling the FRS philosophy and mission, some studies reported that the stress level among FRS students was exceedingly high (Mahfar, Noah, Ahmad, Wan Jaafar, & Shah, 2012; Shamsuddin, 2009). Previous studies proved that the symptoms of depression, anxiety, and stress were high among students of selected boarding schools in Kuala Lumpur (Wahab et al., 2013). The results also revealed that all stressors (academic, interpersonal, intrapersonal, teacher, learning/teaching and social group) had significant associations with depression, anxiety, and stress. Moreover, failure to manage stress had resulted in the increased cases of Form 1 students quitting residential school (Counselling Unit of Johor Fully Residential School, 2009).

These findings indicated that although the selection of students was based on excellent academic and extracurricular requirements, there were students who were unable to cope with their stress while at boarding schools. These findings were similarly found by Schaverein (2004) who reported that most high achievers who attended boarding schools had low emotional abilities. Stress that was perceived as negative or extreme could negatively affect student’s academic performance (Misra, McKean, West, & Russo, 2000; Suldo, Shaunessy, Thalji, Michalowski, & Shaffer, 2009).

Hence, to reduce stress among boarding school students, the Rational Emotive Behavioral Therapy (REBT) approach which was previously known as Rational Emotive Therapy (RET) introduced by Albert Ellis in the mid-1950s was used to develop the Rational Emotive Education (REE) module for this study. Based on the REBT approach, individual stress stems from an irrational belief which is characterized as rigid or extreme, inconsistent with reality, illogical, and largely detrimental to the individual in pursuing his basic goals and purposes (Dryden & Branch, 2008; Ellis & Bernard, 2006). REBT views psychological problems as learned maladaptive responses, maintained by irrational beliefs (Bora, Bernard, Trip, Decsei-Radu, & Chereji, 2009). Therefore, irrational beliefs are considered as the core of psychological problems (Dryden & Branch, 2008; Ellis & Bernard, 2006).

REBT is based on Ellis’s “ABCDE” cognitive model of distress (Ellis, 1962, 1994). The origin of this model was the “ABC” model (Dryden & Branch, 2008; Ellis, 1994) which posited that an individual’s emotional and behavioral disturbances (C) are largely result from the individual’s irrational beliefs (B) rather than from the activating event (A) itself (Dryden & Branch, 2008; Ellis & Bernard, 1983).

This model was expanded later into “ABCDEF” model that was used as a guideline to develop the contents of REE module in this study. The “ABCDEF” model comprises six main parts: activating events (A), the system of belief (B), and emotional and behavioral consequences (C), disputation (D), new effects (E), and new feelings (F) (DiLorenzo, David, & Montgomery, 2007).

The main assumption of REBT is that people always mistakenly blame external events for their unhappiness (Ellis, 1994). According to REBT, in the face of adversity, it is the belief about the situation but not the situation itself that leads to emotional disturbances (Dryden & Branch, 2008; Ellis, 1994; Turner & Barker, 2013). Figure 1 illustrates the interaction of components in “ABCDEF” model.

The principle goal of REBT is to replace individuals’ irrational beliefs with rational beliefs to promote functional emotions (Ellis & Dryden, 1997). Once the “ABCDEF” model framework is understood, the individuals are encouraged to dispute (D) their irrational beliefs and replace them with rational alternatives (Bernard, 2009; Dryden, 1999). Disputation helps the individuals to understand that their irrational beliefs are false, illogical, and unhelpful, and that rational beliefs are true, logical, and helpful (Dryden, 1999).

If individuals are able to actively and persistently dispute (D) their irrational beliefs, they will be able to create an effective new effect or philosophy (E) which includes strong rational coping statements that can help them to feel better, get better, and stay better (David, Szentagotai, Eva, & Macavei, 2005). Individuals will also acquire a new emotional effect (F) if the cognitive interventions have been successful. However, the goal of REBT is not to eliminate

completely all emotional distress but individuals are helped to reduce significantly the magnitude of the emotional arousal (Ellis & Dryden, 1997).

Hence, the REBT was chosen in this study to develop students' stress intervention compared with other therapies due to several reasons. First, although Cognitive Behavioral Therapy (CBT) emphasizes cognitive processes, it does not have a specific philosophic emphasis, as REBT strives for long-lasting rather than changes in client's symptoms, disregard all self-ratings, discourages problem-solving that is not related to the modification in the client's belief system, and stresses the differences between appropriate and inappropriate emotions (Ellis, 1980).

In contrast to CBT, the REBT is more comprehensive and *multimodal* approach which incorporates thoughts restructuring with emotions and behavioral applications to replace individual's irrational beliefs with more flexible and rational ones, thus reduce individual stress (Ellis, Shaughnessy, & Mahan, 2003; Walen, DiGiuseppe, & Dryden, 1992). The disputation technique to change individual's irrational beliefs to rational beliefs can only be found in the REBT approach compared with other therapies.

Other than that, REBT is more educational that includes cognitive restructuring with emotions and behavioral applications (Banks & Zions, 2009), and there is a positive effect of REBT when it is applied to clinical and nonclinical samples in school (DiGiuseppe, Miller, & Trexler, 1979; Gonzalez et al., 2004; Hajzler & Bernard, 1991).

Various studies have examined the relationship between beliefs and students' emotions. Beliefs which are either rational or irrational play an essential role in the life of human beings which can subsequently lead to happiness or sadness (Malhotra & Kaur, 2015). An individual will live a happy, more productive, more self-actualizing, and more creative life when their thoughts are rational (Nucci, 2002). However, an individual who possesses irrational thoughts will live an unproductive, negative, and stressful life (Nucci, 2002). In addition, the results of most previous studies (Boelen, Kip, Voorsluijs, & van den Bout, 2004; DiLorenzo et al., 2007; Flett, Hewitt, & Cheng, 2008; Jacofsky, 2005; Mahfar et al., 2012; Montgomery, David, DiLorenzo, & Schnur, 2007; Silvergrade et al., 2001; Szentagotai & Freeman, 2007) indicate that irrational beliefs can be associated with individual stress, especially among groups of students. In Johor FRS, the findings also found a high level of irrational beliefs among students (Mahfar et al., 2012).

Thus, Ellis (2002) asserted that the best way to manage and control the irrational beliefs is through changing the beliefs system of the individual. As stress is largely due to irrational beliefs, any changes from irrational beliefs to rational beliefs will result in the reduction of negative, dysfunctional behaviors and emotions which are among the main goals of REBT (Ellis & Bernard, 2006; Vernon, 2004b). More importantly, individuals who possess rational beliefs will usually have thoughts or ideas that are logical, flexible

or nonextreme, consistent with reality, and largely helpful to the individual in pursuing his fundamental goals and purposes (Dryden & Branch, 2008; Ellis, 2002).

Due to the increasing symptoms of stress, anxiety, and depression among Malaysian boarding school students, it is suggested that a proper mental health screening should be implemented which may help in lessening negative emotions outcomes (Wahab et al., 2013). In addition, a mechanism that provides more effective and proactive problem-solving in the form of stress prevention programs besides existing remedial programs of mental health (Vernon, 2004b) should be given priority compared with earlier methods used.

Hence, the development of the REE module is seen as crucial because it does not only assist boarding school students to manage stress by learning how to think rationally, but it is also in line with one of the focuses in the Malaysian Education Development Plan (2013-2025) to strengthen the educational system by developing quality human capital and high knowledge. The contents of this module were developed by taking into account the suitability of the Malaysian boarding school students' cultural norms.

Therefore, we consider the implementation of REE, using REBT approach in an educational setting which can be applied to secondary boarding school students. REE pioneered by William Knaus (1974) is a social-emotional learning program which uses the idea of REBT approach. A previous study indicates that REE has been proved to be an efficient method of prevention, promotion, and intervention to be applied in school settings (Vernon & Bernard, 2006).

A quantitative meta-analytical study carried out by Trip, Vernon, and McMahon (2007) by analyzing 26 published articles from 1970 to 2006 using the keywords *rational emotive education* showed that REE had a powerful effect on lessening irrational beliefs and dysfunctional behaviors, plus a moderate effect on reducing negative emotions. These findings showed that REE seemed to be a more efficient and viable approach that can affect negative emotions and behaviors, as well as lessen irrational beliefs and dysfunctional behaviors. These findings were consistent with the views of DiGiuseppe and Bernard (1990) who stated that REE was more efficient than other interventions concerning the reduction of irrational belief modifications. Hajzler and Bernard (1991) found empirical support for REE's efficacy on anxiety. This justifies the application of REE preventive interventions with students in the current study.

REE is considered a comprehensive approach that emphasizes emotive education to teach children and adolescents either individually, in a small group, in the classroom or as a curriculum about how to think rationally, to acquire insight, to learn how to manage problems effectively, and to reduce stress (Vernon, 2004b). In other words, the REE helps children and adolescents beyond merely "feeling better," but also "getting better" (Vernon & Bernard, 2006). Through exposure to rational beliefs skills, students can deal with their daily lives in a more realistic way (Ellis & Bernard,

2006; Vernon, 2004b) and enhance their social-emotional skills and self-esteem (Malhotra & Kaur, 2015).

Considering the evidence that irrational beliefs contribute to the students' distress problems and the effectiveness of REE on lessening students' stress, research on the development of the REE module, especially in the context of boarding school students, in Malaysia is timely. Thus, the development of the REE module which has high validity and reliability to aid secondary boarding school students manage stress is necessary to develop their emotional well-being and create a more adaptive and healthier life.

Our REE module was developed systematically, and its validity and reliability were tested as recommended by Russell (1974) and Noah and Ahmad (2005). The content validity of the measurement tool or module is very important to measure the content or items in the measurement (Noah & Ahmad, 2005). Thus, the REE module should be tested for its content validity to ensure that the activities in the module are accurately developed based on the REE concepts that have been introduced by Vernon (2004).

Besides having content validity, a quality module also needs to obtain high reliability. Preferably after students followed the modules, it is hoped that the changes they experience are permanent rather than only temporary in nature (Noah & Ahmad, 2005). Thus, a developed module should have high reliability because it will provide the same results every time it is used to measure certain common criteria by using the same method. The test reliability of any module is also important to gauge how individuals have successfully followed through the steps learned in the module activities (Russell, 1974). Therefore, a measurement tool is considered strong and steady when there is evidence of the validity and reliability (Julie, 1995).

Furthermore, our review on REBT literature on Web of Science database found that out of REE literature published within 2006-2018, most of the applications of REE program were on HIV risk perceptions among in-school adolescents (Onyechi, Eseadi, Okere, & Otu, 2016), teachers' emotional distress (Bora et al., 2009; Ugwoke et al., 2017), school children (Cristea, Benga, & Opre, 2008; Opre, Buzgar, & Dumulescu, 2013; Trip et al., 2007), and teenagers from a high school (Lupu & Iftene, 2009). Critical discussion on the REE model development, especially for boarding school students' stress intervention, is found to be absent. Hence, this study aims to discuss how to develop a REE module based on the REBT approach, which has high validity and reliability, in an effort to assist boarding school students to reduce their irrational beliefs and stress to improve their well-being and have a healthier life.

The Development of the REE Module

The REE module content was developed by taking into consideration the following outlines: (a) designed using ABCDEF Model component which was initially

introduced by REBT approach, (b) designed to be used by school counselors, psychologists, and educators who are trained in REBT, (c) systematically designed by taking into account the Sidek's Module Development Model (SMDM) process (Noah & Ahmad, 2005), (d) flexible in terms of the structured REE lessons in which the module can be utilized in small groups or classrooms as suggested by Vernon (2004). In a classroom situation, the learning involves students and group interactions. In contrast, the implementation on small groups could either focus on problem-solving or the formation of prevention groups, and (e) the module content takes into account boarding school students' cultural norms and background contexts.

For example, the content of this REE module was developed by taking into account the specific characteristics of the FRS students (aged 13) as they are in a transition period from elementary to secondary school. Seidman, Allen, Aber, Mitchell, and Feinman (1994) stated that the transition period could put pressure and negative implications on students such as personal development, psychological, academic performance, and social interactions. On top of that, FRS students do not only have to be separated temporarily from their families, but they also need to learn to be independent and to adapt themselves to the new FRS environment which triggers stress problems.

Therefore, the activities of rational thinking skills in the REE module are associated with the issues of students' adjustments in boarding schools such as academic, interaction with peers and teachers, personal, and school environment. As FRS students comprise high achievers, activities of challenging rational thinkings are also developed by considering their cognitive abilities based on Piaget's (1963) views that students who aged 11 years old and above have been identified to have the cognitive ability at the formal operational stage where they are able to apply logical and scientific reasoning in the problem-solving process (DiGiuseppe, 2007; Wardsworth, 1984).

Although there are a few models of module development procedures that can be employed by module developers such as Module Development Procedure (Russell, 1974) and Module Development Process (Alsagoff, 1981), SMDM (Noah & Ahmad, 2005) was selected as a guide to develop the REE module and for testing its validity and reliability in this study. The Module Development Process (Alsagoff, 1981) does not insist on a pilot test involving validity and reliability test prior to an actual study. Meanwhile, the Module Development Procedure (Russell, 1974) requires a testing process from time to time to meet the predetermined requirements (Noah & Ahmad, 2005). However, the researchers used Russell's (1974) views on five conditions to test the validity of the REE module.

Hence, the justification for using this is because SMDM is the only procedure that is considered as an integrated and comprehensive model which has specific and systematic steps in developing the module and testing its validity and

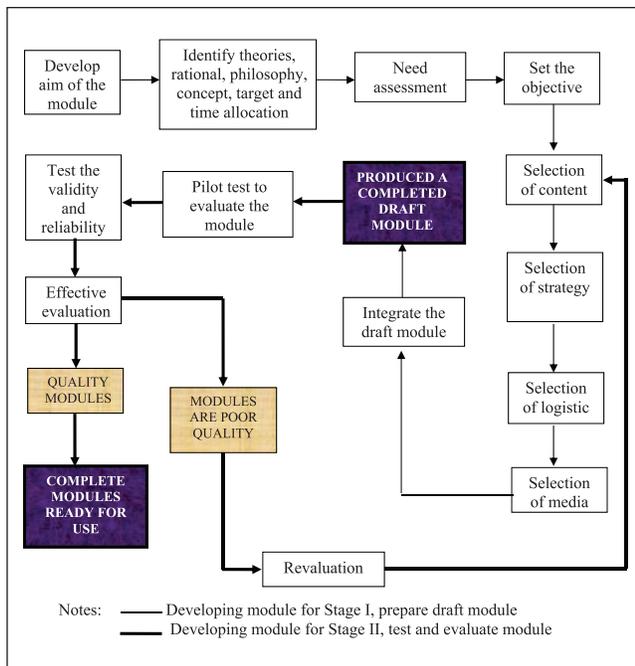


Figure 2. Sidek's module development model.
 Source. Noah and Ahmad (2005).

reliability (see Figure 2) among other models of module development. In fact, the SMDM model has been adopted in many studies, for instances, to develop a module for employees' stress management (Jalil, 2017), mindfulness module (Said, Baharom, Hamilin, Madihie, & Yusoff, 2017), students' career exploration module (Talib, Mohamad, & Wahab, 2015), an integrated holistic teaching guide module (Zuki & Hamzah, 2014), a module for orphans' counseling intervention (Madihie & Noah, 2013), students' career development module (Jaamat, 2010), peer guidance module (Kamaruddin, 2005), and a module for students' motivation (Ahmad, 2002). Thus, the REE module development must conform to the rigorous standards and procedures laid down by the SMDM.

Apart from applying the ABCDEF Model and the SMDM process, the guidelines for the REE learning content suggested by Vernon (2004) was also referred in the development and delivery of the module REE lessons are prepared based on basic concepts proposed by Vernon (2004) which are self-acceptance, feeling, beliefs, and disputing beliefs.

Various appropriate and interactive stimulus activities for secondary boarding school students were introduced in this REE module such as simulations, role plays, discussions, games, experiential activities, and individual or group tasks to maintain interests and enhance the concentration of the students. The preparation of worksheets, brief notes on the activities, and many graphic elements were also included in the module content to enhance students' knowledge and understanding of the activities that were being implemented.

Furthermore, the conceptual presentation of REBT was made sequentially to ensure students' effective conceptualization. For example, the first submodule was acceptance, followed by submodules of feelings, beliefs, and disputations. Likewise, when introducing activities in the submodule of beliefs, the "Difference between facts and assumptions" topic should precede the introduction of more challenging concepts such as "The difference between rational beliefs and irrational beliefs."

This REE module also contains learning objectives as suggested by Vernon (2004) that can be measured and are appropriate to the student's age level. There are two types of questions used to achieve the learning objectives of this REE module after the students completed the activity found in each module, namely, "content questions" and "personalization questions" based on Vernon's (2004) recommendation. The emphasis on content questions was on the cognitive concepts provided in the learning of each activity. For instance, "How would you differentiate between rational beliefs and irrational beliefs?" Meanwhile, personalization questions were more in the form of an application of the REE concepts in everyday life of the students. For instance, "Explain your irrational beliefs that you have ever had toward others?" and "How can you apply what you learned to your daily life in school?"

Overall, the formation of the REE module content had been compiled based on the submodules. There were four submodules and 21 activities in the REE module developed by researchers which were implemented in nine sessions. Nevertheless, there were a few REE learning contents in the West that had been modified by the researchers to suit the Malaysian secondary boarding school students' cultural norms, for example, *Dictionary of Feelings* and *Thermometer of Feelings* (Bernard & Joyce, 1984), *Tic-Tac-Toe: Fact or Belief* (Vernon, 1989), *Catastrophe Scale* (Bernard, 2004), *I-Diagram* (Ellis, Gordon, Neenan, & Palmer, 1997), and *REBT Self-Help Form* (Dryden, 1999).

In summary, the content of the REE module was developed in accordance with specific procedures that emphasized the cognitive restructuring process that leads to emotional awareness and problem-solving skills. Each submodule has its respective objectives and activities as well as implementation steps and measures which need to be followed by the students. A brief description of the contents of REE module developed is explained below.

First Submodule: Acceptance

This first submodule focuses on the aspect of self-acceptance where the students will learn about how to accept themselves as they are. Although they are doing good things or bad things, yet they still have self-esteem, and it is improper to evaluate them based on some behaviors (Dryden & Neenan, 2004; Vernon, 1983). In other words, students have to understand that they are not perfect; they are fallible human beings

Table 1. Summary of Submodule of Acceptance.

REBT concepts	Name of activity	Objectives
Weakness and strength (self/others)	Know Yourself and Others	a. To build a sense of trust in the group. b. To understand that each individual has a preferred character or prefer himself/herself.
Weakness and strength (self/others)	Self-Circle	a. To identify strength or weakness of self. b. To realize that self-weakness or self-strength does not affect a person's overall self-identity.
Success and failure	Wheel of Achievement	a. To identify good and bad personal achievement in doing something at school. b. To accept themselves as they are, even with good or bad achievement in doing something at school.
Perfectionism	Oops! Make a Mistake	a. To understand that self-mistakes or mistakes of others will not make the individual a bad or worthless person. b. To understand that each individual cannot avoid committing mistakes.

Note. REBT = Rational Emotive Behavioral Therapy.

who make mistakes in their lives. In addition, the importance of building realistic self-esteem is also emphasized where they will learn to accept the fact that not only they possess positive characteristics, but also negative characteristics (Vernon, 2004b). However, the negative self-characteristics should not affect their entire self-identity. Table 1 illustrates the summary of the submodule of acceptance and the importance of each activity.

Second Submodule: Feelings

Due to the irrational beliefs resulting in emotional disturbances, the students need to first understand the relationship between thoughts, feelings, and behaviors (Vernon, 2004b). Therefore, the emphasis on feelings is important in the second submodule because not only children but also adolescents are not familiar with a number of emotions. Most students are found to have a limited vocabulary when discussing aspects of feeling (Bernard & Joyce, 1984). In fact, adolescents often have the habit of expressing their feelings of using "slang," and sometimes, adolescents use inappropriate and exaggerated words.

Therefore, the first step in working with emotional development programs for students is to assist them in naming, identifying, and describing feelings. Most of the adolescents who were involved in this pilot study were still unable to identify a number of emotions listed in the psychological approach. Besides emphasizing the development of vocabulary related to the aspects of feelings, this submodule also teaches students how to deal with extreme feeling reactions, assess the degree of feelings and the appropriate ways to express them (Ellis & Bernard, 1983; Vernon, 2004b). The emphasis on the difference between healthy and unhealthy negative feelings is also important in the submodule. Table 2 illustrates the summary of Submodule of Feelings and the importance of each activity.

Third Submodule: Beliefs

After the students understand the linkage between A (activating event) and C (emotional and behavioral consequences), the third submodule focuses on the beliefs (B) which are essential components of REE (Vernon, 2004b). Beliefs consist of irrational beliefs and rational beliefs (Ellis, 1991). Hence, this submodule aims to teach students how to differentiate between irrational and rational beliefs as well as the impacts of having such thoughts.

There are four categories of irrational beliefs emphasized in this submodule, namely, demandingness, awfulizing, low frustration tolerance, and global evaluation (David et al., 2005; DiLorenzo et al., 2007; Ellis & Dryden, 1997; Walen et al., 1992). For example, demandingness refers to absolutistic ideas expressed in the form of "should," "ought," and "musts" either toward self, others, or life condition (David et al., 2005; DiLorenzo et al., 2007; Ellis, 1991). The example for demandingness is "I must perform well in my study and win other's approval. Otherwise, I am incompetent, worthless, and deserve to suffer." Irrational belief will result in negative feelings that lead to self-blaming and other-blaming (Ellis, 1991).

Other than that, the four categories of rational beliefs are also emphasized in this submodule, namely, nondogmatic preferences, nonawfulizing, high frustration tolerance, and acceptance (David et al., 2005; DiLorenzo et al., 2007; Ellis & Dryden, 1997; Walen et al., 1992). An example of nondogmatic preferences which is expressed in the form of "want," "need," or "choose" (DiLorenzo et al., 2007; Ellis et al., 1997; Walen et al., 1992) is "I would prefer if I perform well in my study, but it is not necessarily to get it." Rational belief is self-improvement that leads to appropriate feelings, adaptive behaviors, and toward achieving realistic goals (Dryden, 1999). Table 3 shows the summary of the Submodule of Beliefs and the importance of each activity.

Table 2. Summary of Submodule of Feelings.

REBT concepts	Name of activity	Objectives
Exposure to “C” (emotional consequences)	Dictionary of Feelings	a. To improve the knowledge about the vocabulary of feelings. b. To distinguish between positive feelings and negative feelings. c. To distinguish between healthy and unhealthy negative feelings.
Expression of feelings	Guess the Expression of Feelings	a. To relate the words that represent “feelings” with facial expression and body. b. To recognize that each individual can express the same feeling but in different ways when responding to a negative event.
Intensity of feelings	Thermometer of Feelings	a. To identify the kinds of feelings experienced by individuals based on an event. b. To identify the intensity of the feeling experienced by individuals based on an event. c. To recognize that each individual can express the same feelings for an event but at a different intensity.
Connection between “B-C”	My Script Story—Where Feelings come From?	a. To understand that an individual’s feelings result from his or her beliefs or thoughts. b. To identify that pleasant thinking will result in pleasant feelings. c. To identify that unpleasant thinking will result in unpleasant feelings.
Connection between “A-B-C”	“ABC” Diagram (Activating Event –Beliefs—Feelings + Behavioral Consequences)	a. To correlate between events (A), thoughts/beliefs (B), feelings and behavioral consequences (C) using “ABC” Diagram. b. To understand that feelings and behaviors of individuals can vary according to their way of thinkings.

Note. REBT = Rational Emotive Behavioral Therapy.

Fourth Submodule: Disputing Beliefs

The last submodule stresses the disputing beliefs which are a cornerstone of REBT. Once the students have understood that emotional disturbances and negative behaviors resulted from irrational beliefs, then the students can learn how to challenge their irrational belief. The main goal of disputation method is to show evidence that the irrational beliefs held by individuals are unproductive (Ellis et al., 1997).

Disputation is the most important concept in REBT based on the views that an individual’s irrational beliefs can be challenged and replaced with rational beliefs (Vernon, 2004b). Each subscale of rational belief has been strengthened through the use of various disputing strategies (D) to drive new effects (E) which replace irrational thoughts with healthy ones, and create F, a new set of feelings among students, for instance, questioning the irrational beliefs’ practical aspects (Bernard, 2004; Ellis & MacLaren, 1998), using logical, empirical, and pragmatic disputations, and among others based on REBT approach. Therefore, the disputing beliefs activities provided in the submodule could help students to develop their rational thinking skills. Table 4 shows the summary of the Submodule of Disputing Beliefs and the importance of each activity.

Method

Procedures of the Study

Sidek’s Module Development Model (SMDM) was adopted in developing the REE module and testing its validity and

reliability (see Figure 2). The SMDM was carried out in two stages with different objectives in each stage (Noah & Ahmad, 2005) as follow:

- The first stage was the preparation of the draft module that involved the formulation of goals, identifying the theory, rationale, philosophy, concepts, targets, and time frame, followed by the needs of research, objectives setting, selection of content, strategy, logistics, media, and consolidation of the module draft.
- The second stage was to test and evaluate the draft of the module by testing its validity and reliability through a pilot study. During the pilot test, the researcher can also identify any possible errors or weaknesses in the content, activities, as well as the appropriateness of the activities before conducting the actual study. Thus, from this pilot test, some improvements needed to be made.

The module can be considered as a complete module and ready to be used in the actual study if the testing of its validity and reliability showed high results (Noah & Ahmad, 2005). Figure 3 shows a flow process developed by the researchers to test the validity and reliability for the REE module utilized in this study. However, if the validity and reliability values do not fulfill the conditions, the revision of module content should be made before the module was administered in the actual study, for example, in an experimental study. All the conditions above were abided by the researchers during the development of the present REE module.

Table 3. Summary of Submodule of Beliefs.

REBT concepts	Name of activity	Objectives
Facts and beliefs	Tic-Tac-Toe: Fact or Belief	<ol style="list-style-type: none"> To define the meaning of facts. To define the meaning of beliefs. To distinguish between facts and beliefs.
Rational and irrational beliefs	Yes, We <i>Can!</i>	<ol style="list-style-type: none"> To define the meaning of rational beliefs. To define the meaning of irrational beliefs. To distinguish the characteristics of rational beliefs and irrational beliefs.
“Demandingness” vs. “nondogmatic preferences” beliefs	Beliefs Traces—Demand or Choice?	<ol style="list-style-type: none"> To distinguish between the characteristics of irrational beliefs (demandingness) and rational beliefs (nondogmatic preferences). To identify examples of “demandingness” and “nondogmatic preferences” thoughts on self, others, and life conditions. To understand the impacts of “demandingness” and “nondogmatic preferences” on individual’s feelings and behaviors.
“Awfulizing” vs. “nonawfulizing” beliefs	It’s Awful!— <i>Exaggerating</i>	<ol style="list-style-type: none"> To distinguish between the characteristics of irrational beliefs (awfulizing) and rational beliefs (nonawfulizing). To identify examples of “awfulizing” and “nonawfulizing” thoughts. To understand the impacts of “awfulizing” and “nonawfulizing” on individual’s feelings and behaviors. To identify examples of exaggeration toward negative events which occurred.
“Low frustration tolerance” vs. “high frustration tolerance” beliefs	<i>Stop!</i> —I Can’t Stand or I Can Stand	<ol style="list-style-type: none"> To distinguish between the characteristics of irrational beliefs (low frustration tolerance) and rational beliefs (high frustration tolerance). To identify examples of “low frustration tolerance” and “high frustration tolerance.” To understand the impacts of “low frustration tolerance” and “high frustration tolerance” on individual’s feelings and behaviors.
“Global evaluation” vs. “acceptance” beliefs	Nobody Is Perfect!	<ol style="list-style-type: none"> To distinguish between the characteristics of irrational beliefs (global evaluation) and rational beliefs (acceptance). To identify examples of “global evaluation” and “acceptance” thoughts. To understand the impacts of “global evaluation” and “acceptance” thoughts on individual’s feelings and behaviors.

Note. REBT = Rational Emotive Behavioral Therapy.

Participants

A pilot test was conducted to test the validity and reliability of REE module developed. To test the content validity of REE module, three PhD qualified and experienced lecturers in the field of counseling (aged between 45 and 50) were selected as a panel of independent evaluators. All the evaluators were previously school counselors and also have more than 15 years experience and expertise in counseling and intervention development, as well as in developing modules.

The process of determining the reliability of REE module involved 30 students (aged 13), in one of the boarding schools in Malaysia. According to Pallant (2013), the minimum number of respondents for the pilot test was 20. Likewise, at least 20 respondents are required in the pilot test to identify any problems that arise, as well as overcome these problems prior to the actual study (Borg, Gall, & Gall, 1993). The students underwent the pilot test of the REE module for nine sessions.

Measures

In this study, there were two questionnaires used to measure the content validity and reliability of REE module developed, respectively.

Content validity measuring process. The content validation of the REE module developed was assessed by a panel of evaluators who were qualified PhD holders in counseling. To measure the content validity of the module, researchers submitted the draft of REE module to evaluators, together with a questionnaire of the content validity constructed based on the the recommendations by Russell (1974) on the five conditions of module validity: (a) when the module suits the target population, (b) the environment of the module implementation is satisfactory, (c) the time spent to complete the module is sufficient, (d) the module can increase students’ achievement level, and (e) the module can change students’ attitudes to be better and more positive.

Table 4. Summary of Submodule of Disputing Beliefs.

REBT concepts	Name of activity	Objectives
Logic, empirical, pragmatic disputations (D)	Question Yourself—Let's Challenge Demandingness	<ol style="list-style-type: none"> To correctly define the “challenge” word. To use the strategy of challenging “demandingness” and “nondogmatic preferences” thoughts using logical, empirical, and pragmatic questioning. To identify the effects on rational beliefs (E), and new emotions (F) as a result of disputing irrational beliefs.
Disputing “awfulizing” beliefs	Catastrophe Scale	<ol style="list-style-type: none"> To understand how to change “awfulizing” to “nonawfulizing” using Catastrophic Scale. To apply a challenge strategy to “awfulizing” by comparing the events in life using the Catastrophic Scale.
	Complete the Words— <i>Not awful if . . . because . . .</i>	<ol style="list-style-type: none"> To understand how to change “awfulizing” to “nonawfulizing” (E) using the technique of completing the word either verbally or in the form of writing. To identify the effects on rational beliefs (E), and new emotions (F) as a result of disputing “awfulizing.”
Disputing “low frustration tolerance” beliefs	Self-Talk— <i>Stop! I Can Stand</i>	<ol style="list-style-type: none"> To understand how to change “low frustration tolerance” to “high frustration tolerance” using “<i>rational self talk</i>.” To identify the effects on emotions and behaviors as a result of disputing “low frustration tolerance.” To understand that disputation strategy is better than avoiding behavior when facing negative situations related to frustrations or discomfort.
Disputing “global evaluation” beliefs	I-Diagram	<ol style="list-style-type: none"> To understand how to change “global evaluation” to “acceptance” using I-Diagram. To understand that global evaluation of self, others, or life circumstances cannot be done based only on one or several characteristics. To identify the effects on rational beliefs (E), and new emotions (F) as a result of disputing “global evaluation.”
True/false Logic/illogical Healthy/unhealthy	Self-Help Form—Questioning rational beliefs and irrational beliefs	<ol style="list-style-type: none"> To increase knowledge about challenging strategies of irrational beliefs using true/false questions. To increase knowledge about challenging strategies of irrational beliefs using logic/illogical questions. To increase knowledge about challenging strategies of irrational beliefs using healthy/unhealthy effect questions.

Note. REBT = Rational Emotive Behavioral Therapy.

The component of the module validity construct consisted of five items based on a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). In addition, to enable the evaluators to provide their feedback and recommendations regarding the REE module draft, a blank space was provided in the questionnaire. Scores were given by the evaluators after they had been totally satisfied with the REE module contents developed and the module amendments that needed to be done if necessary.

Notably, the researchers modified some of the validity components from the original questionnaire to suit the researcher's objectives of the study. For example, Russell (1974) suggested “the module can increase students' achievement level” has been specifically modified to “the REE module content may help students to think rationally” and “the REE module content may help students in managing stress”

was a modified item of “the module can change students' attitudes to be better and more positive.”

The formula which was formulated by Noah and Ahmad (2005) based on Russell's (1974) formula in Figure 3 was used in this study to calculate the content validity of the achievement from each evaluator. A module can be considered to have a high content validity if the validity result is above 70% (Tuckman & Waheed, 1981). Otherwise, the researchers have to improve the module contents. The value can also be presented by changing the percentage value into a decimal figure, where 100% is changed to 1.00 and 0% is changed to .00 which is similar to the correlation coefficient value (Noah & Ahmad, 2005). For example, 85% are considered as having content validity coefficient of .85. Figure 4 illustrates the formula to calculate the REE module's content validity.

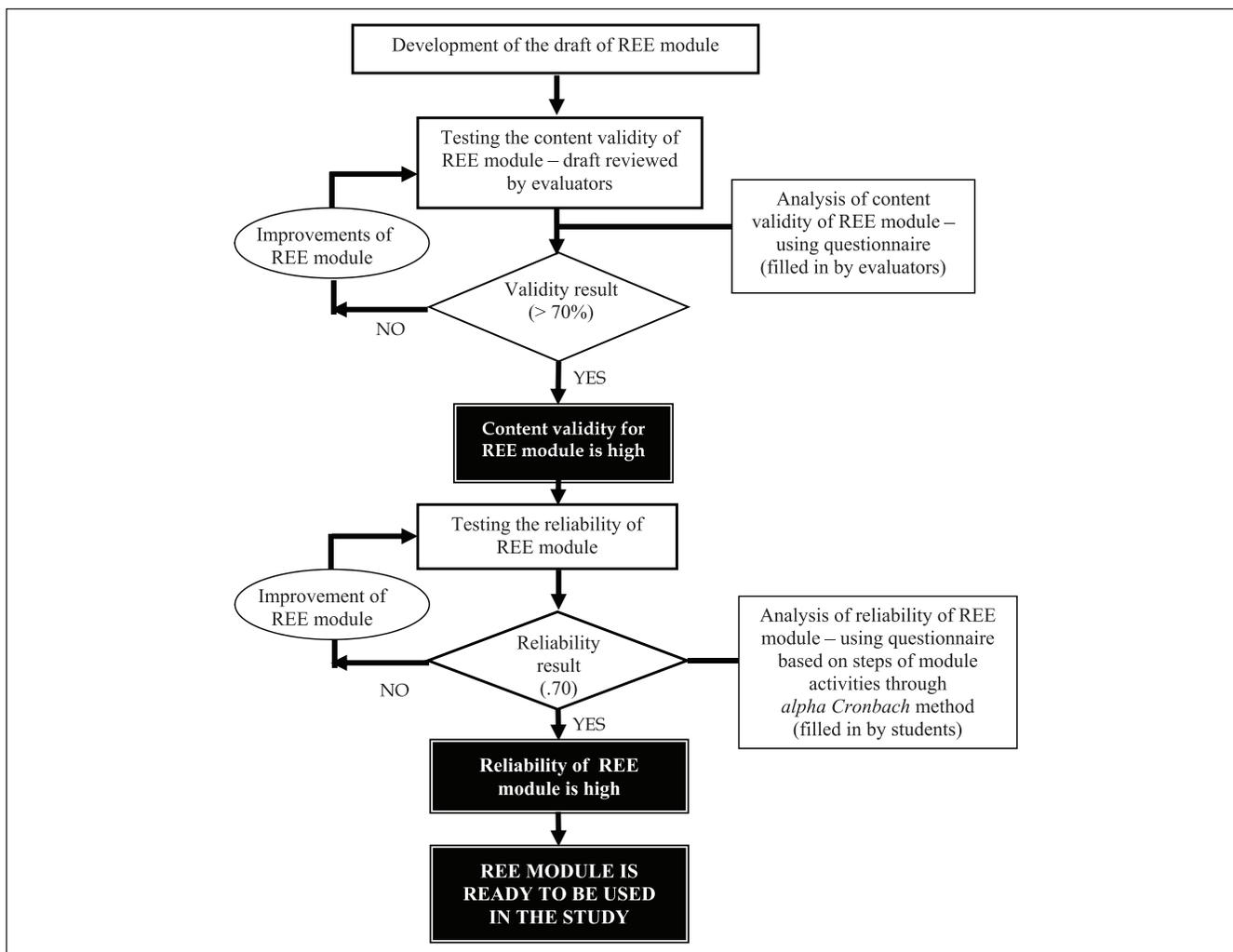


Figure 3. A flow process of testing the validity and reliability for REE module.

Note. REE = Rational Emotive Education.

Reliability measuring process. To determine the reliability of a module, the method used was similar to the method of testing reliability of a test or a measurement tool (Noah & Ahmad, 2005). Because it was developed for a specific measurable purpose, it was logical that the module can be tested for reliability. In addition, testing the reliability of a module can be identified by looking at the extent of how students can successfully follow the steps of each activity in the module (Russell, 1974).

In order to further increase the reliability of the module, the researchers ensure that (a) the facilitators have received adequate training and mastered the module before conducting the pilot test, (b) the facilitators adhere to the module instructions, and (c) the facilitators provided a summary of each module activity to the students before switching to the next topic.

A set of reliability questionnaire comprising 167 items was used to measure the reliability coefficient of the REE

module. The items were developed based on four subscales which are formed based on the REBT approach, namely, Self-Acceptance, Feelings, Beliefs, and Disputing Beliefs. The items in the reliability questionnaire were also developed according to the steps of each activity in the module as recommended by Noah and Ahmad (2005) to test the module's reliability, for example, "I can identify my irrational thoughts based on the dialogue activity."

The answers designed in the 5-point Likert-type scale from 1 (*strongly disagree*) to 5 (*strongly agree*) were answered by all the students after completing each REE session. Meanwhile, a reliability analysis was performed using the *Cronbach alpha* method. The reliability coefficient of instruments which was at least .70 based on Fraenkel and Wallen (2006) was used in this study.

Students' feedbacks to the REE module in pilot test. To determine the students' feedbacks to the REE module content

$$\frac{\text{Total score by evaluator (X)}}{\text{Maximum score (25)}} \times 100\% = \text{Content validity of achievement}$$

Figure 4. The formula to calculate the content validity of Rational Emotive Education module.

Table 5. Analysis of REE Module Content Validity.

Components of validity	%	Coefficient	Evaluators' assessments
1. REE module content meets its population target.	87	.87	Accepted
2. REE module content could be successfully implemented.	87	.87	Accepted
3. REE module content is compatible with the time allotted.	87	.87	Accepted
4. REE module content may help students to think rationally.	100	1.0	Accepted
5. REE module content may help students in managing stress.	100	1.0	Accepted
Content validity coefficient of the REE module	92	.92	Accepted

Note. REE = Rational Emotive Education.

during the pilot test, all the subjects were asked to provide feedback to the questionnaires provided after completing the REE module session. The answers designed using a 5-point Likert-type scale of 1 (*strongly disagree*) to 5 (*strongly agree*), and a blank space was also provided in the questionnaire.

Results

REE Module Content Validity

SPSS Version 19 software was used to analyze the data. Table 5 illustrates the results of the REE module content validity based on evaluators' assessments. The overall results of validity testing of the REE module show that the coefficient of content validity obtained was high at .92.

The coefficient of content validity based on each component of validity is between .87 and 1.0.

REE Module Reliability

Table 6 presents the results of the reliability test analysis based on each REE submodule. The results of the reliability test using Cronbach's alpha has shown that the coefficient reliability obtained for the REE module is .93. The analysis of the coefficient reliability based on each submodule indicates that the coefficient reliability for Submodule 1 (Acceptance) is .74, Submodule 2 (Feelings) is .86, Submodule 3 (Beliefs) is .89, and Submodule 4 (Disputing Beliefs) is .85.

Students' Feedbacks to the REE Module Contents

Table 7 presents the results of students' feedbacks to the contents of the REE module after they completed the REE module session in the pilot test.

Discussion

This article aims to provide a better understanding of how the REE module for boarding school students on stress

intervention was developed and tested for its validity and reliability. The content validity result of the REE module developed shows that the coefficient of the content validity is good and can be accepted. Thus, this article has shown that content of this REE module is deemed to be of good quality. In other words, the REE module developed can measure things that are within its scope. This article also indicates that a content module can be tested for its validity through evaluators' assessments based on the findings of previous research.

Besides the Likert-type scale responses, all the evaluators had given constructive comments related to the module content for further improvement before the pilot test can be conducted. The constructive comments include the following: (a) the duration of activities should be appropriate according to the activities that are being implemented, (b) questions used to achieve the learning objectives of each activity should be simplified according to the student's level of thinkings and their ages, (c) it is vital to keep the students' interests, so movement or kinetic activities can be added to the module.

After a minor amendment made, most evaluators consistently agreed that (a) the REE module designed based on the REBT model is a good effort, and appropriate to be applied to the concept of REBT in Malaysia, especially to boarding school students; (b) the developed REE module is a useful method, where the contents can not only be easily learned and taught by students, but it can also be understood and read by adults, especially school counselors who employ the module; (c) the developed REE module content is suitable for boarding school students and also meets their level of cognitive development as suggested by Piaget (1963).

In addition, the content of this module was reported to be of good quality based on the five components of content validity proposed by Russell (1974). First, all the panels agreed that the REE module content was suitable for its target population. This means that the REE module content

Table 6. Analysis of REE Module Reliability.

Submodule of REE	Total activities	Total items	Reliability coefficient
Submodule 1: Acceptance	4	20	.74
Submodule 2: Feelings	5	34	.86
Submodule 3: Beliefs	6	50	.89
Submodule 4: Disputing Beliefs	6	63	.85
Reliability coefficient of REE module	21	167	.93

Note. REE = Rational Emotive Education.

Table 7. Analysis of Students' Feedbacks to the REE Module ($n = 30$).

Items	Strongly agree	Not agree	Less agree	Agree	Strongly agree
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
1. REE module content can help me in understanding my belief systems.	—	—	—	11 (36.7)	19 (63.3)
2. REE module content can help me to manage my stress.	—	—	—	11 (36.7)	19 (63.3)
3. REE module content can help me to change my beliefs from irrational to rational.	—	—	1 (3.3)	8 (26.7)	21 (70.0)
4. REE module content can be applied into my daily life.	—	—	—	9 (30.0)	21 (70.0)
5. REE module content can provide benefits to other students if they are given opportunities to participate.	—	—	—	6 (20.0)	24 (80.0)

Note. REE = Rational Emotive Education.

developed by the researchers was compatible and can be applied, specifically for students in boarding school after taking into account a variety of factors such as their ages, abilities, intelligence, and their acceptance of the module. Thus, the selection of students aged 13 years was suitable for undergoing the REE module in this study.

Second, all the evaluators also agreed that the content of the present REE module could be successfully implemented. This means that the developed REE module content could be conducted in an effective and satisfactory manner, the availability of tools was sufficient, and there was no interference.

Third, all the evaluators also reached a consensus on the time allocated for REE module content to be implemented which was approximately 60 min per activity. In other words, sufficient amount of time was allocated for the implementation of each activity before the researchers can implement it in the actual study.

Finally, all the panel of evaluators also agreed that the content of the REE module could help not only secondary boarding school students to use rational thinking, but it also can also aid them in managing stress. The findings of this assessment support Vernon's (2004) statement that the content of the REE learning can help students build a rational belief system conflicts through the development of new skills learned, especially when they suffer from stress.

Based on the Likert-type scale responses, most students had also given positive feedbacks to the REE module content after they completed the pilot test session. Several

qualitative feedbacks received from the students were as follows: (a) "The REE module content can help me solve my problems in school," (b) "I can learn and understand the REE module content delivered by the facilitator easily," (c) "I know how to manage my negative emotions through rational thinkings," and (d) "The REE module is good for us to think rationally as we often have irrational thoughts at this age."

In brief, the development guide of the REE module which is based on SMDM (Noah & Ahmad, 2005) has contributed to a good content validity of the REE module after taking into account the validity conditions of the module by Russell (1974), concepts of REE guided by Vernon (2004), and the "ABCDEF" Model in the REBT approach. This claim is consistent with the views put forward by the evaluators who stressed that the content of the REE module was developed based on the theoretical model of psychotherapy and should be adopted in the study, particularly when applying the REBT concepts to students in Malaysia.

Not only did the present REE module have high content validity, but the results also showed that the reliability coefficient was considerably high. Similar to previous studies carried out by Said et al. (2017), Talib et al. (2015), Zuki and Hamzah (2014), Madihie and Noah (2013), Jaamat (2010), Kamaruddin (2005), and Ahmad (2002) who also obtained the acceptable validity and reliability when testing their modules by using SMDM procedures, the SMDM was proven to be useful to be applied in developing the module for different populations.

Considering the empirical evidence on the development of REE module which has validity and reliability, there is a reason to believe the SMDM is appropriate and can be used in the module development process because its characteristics are integrated and systematic. From the theoretical point of view, our findings have provided a significant contribution to the application of REBT in the development of REE modules.

Implications

From a practical standpoint, the findings clearly imply that the application of “ABCDEF” model using the REBT approach and basic concepts suggested by Vernon (2004) for developing the module will aid secondary boarding school students to understand the causes of stress and how to reduce it by thinking rationally. It can also assist school counselors, psychologists, or teachers to run better REE treatment or intervention strategies for managing students’ stress.

Moreover, because not all of the students see a counselor for a counseling session, the implementation of REE module is a requirement in school as they can help students to enhance their academic, personal development, and careers (Tollerud & Nejedlo, 2004). Therefore, the researchers suggest that the implementation of REE module can be applied by school counselors in the form of prevention groups. Prevention groups which focus on the normal problems faced by adolescents can also benefit from the REE contents (Gonzalez et al., 2004; Vernon, 2004a). Although the REE does not solve all problems, this preventive approach will help equip students with skills that will enable them to minimize any difficulties encountered in the future (Vernon, 2004a).

In addition, the development of the REE module content that has been tested for its validity and reliability is consistent with the country’s intention, especially the Malaysian Ministry of Education’s intention of enhancing the development of human capital by fostering the students’ spirit in mastering knowledge, competency skills, practicing moral values, and having positive attitudes. In particular, the development of the REE module activities is also clearly appropriate and applicable to secondary boarding school students. Thus, the findings of this study support Russell’s (1974) statement which claims that the module can be used for the purpose of self-improvement.

Furthermore, we also encourage future researchers to conduct pilot studies to test the module’s validity and reliability prior to an actual study. The pilot test can be considered as one of the first steps to ensure the effectiveness of the module. The SMDM can be adopted by subsequent researchers as a guide for the development of a module.

The methods and techniques of disputing irrational beliefs in the REE module content are also identified as appropriate and can be easily learned, understood, and applied by students in boarding school, after taking into account the level

of cognitive development by Piaget (1963). Indeed, the selection of Form 1 students (aged 13) is very suitable because at this early stage it is the best time and opportunity for them to learn stress management strategies based on rational thinking and could also promote the formation and sustainability of good character among secondary boarding school students.

Limitations and Recommendations

Despite the positive findings, we acknowledge there are some limitations to the present study. First, although the REE module has been shown to have good internal consistency using the Cronbach alpha method, future research can use other types of reliability such as a test–retest reliability where this aspect of reliability or stability is said to occur when the same or similar scores are obtained with repeated testing with the same group of respondents using the same measurement.

Second, the study was carried out on a sample of coeducation boarding school in Johor, Malaysia. Thus, the developed REE module is limited to be generalized to other single boarding schools due to differences in student population among different boarding schools. Thus, future research is needed to conduct studies using various samples to have a better understanding of the development of the REE module.

Third, because the implementation method of REBT is different and depends on the level of cognitive development and intellectuality of individuals (Banks & Zions, 2009), it is not necessary that the implementation of the module would produce the desired results in a study. Thus, subsequent researchers need to ensure that the content of the modules used in their studies should be tailored to the background of the subjects involved and also ensure that the method of development and implementation of the module is in accordance with the standards established.

Fourth, since most successful school-based social and emotional programs used multiple measures for program effectiveness assessment (Greenberg, Kusche, & Riggs, 2004; Zins, Weissberg, Wang, & Walberg, 2004), experimental studies need to be conducted to determine the effectiveness of the REE module among boarding school students. Comparisons in terms of gender, age, and so forth could be studied to produce various findings. Finally, the study is also limited by the small number of participants. Future study may be conducted with more samples to improve validity of the outcome.

Conclusion

This article demonstrates how the REE module specific for boarding school students’ stress intervention could be systematically developed and rigorously tested to determine its validity and reliability using module development procedures proposed by SMDM. This article also demonstrates how REBT approach can be applied for stress intervention in the context of boarding school students.

The REE module developed has the potential to be used by school psychologists and counselors to assist boarding school students in reducing stress and promoting their positive well-being.

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