TRANSLATION AND VALIDATION OF THE MALAY VERSION OF THE COGNITIVE EMOTION REGULATION QUESTIONNAIRE (CERQ-M) IN MALAYSIAN ADULTS

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DECLARATION

I, Nur Hani Liyana Binti Kamarul Azahar, declare that the content presented in this Final Report Research Project are my own unless stated otherwise. The Final Report Research Project has not been previously submitted for any other degree.

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ABSTRACT

Introduction: Coping strategies are important for any individual to manage stressful and negative experiences, and Cognitive coping strategies have been suggested to be the one of the most effective coping strategies. However, objective measurement for cognitive coping is unavailable in Bahasa Malaysia for the Malaysian adult population. This study aims to translate the CERQ, a measure of cognitive coping strategies into Bahasa Malaysia, and investigate the validity of the CERQ model to apply to the Malaysian population. Validation of the CERQ-M is anticipated to facilitate practitioners in identifying the cognitive coping strategies among Malaysian adults. **Methodology:** In Phase 1, the CERQ-M was translated into Malay and reviewed by three expert panels. Pre-testing of the questionnaire was conducted on 10 participants to evaluate its content validity. The translated CERQ-M was distributed through an online questionnaire platform to 260 participants throughout Malaysia in Phase 2. **Results:** The translation of CERQ into Bahasa Malaysia was achieved. Face validity and Content validity was determined. Overall, the reported frequently used cognitive coping by rank is Positive Reappraisal and Refocus on Planning. CERQ-M reported high internal consistency (α =.891) and no extreme outliers were detected. However, Confirmatory Factor Analysis on the model discovered the original CERQ Nine-Factor model was below acceptable fit. A more fitting fit was revealed when Item 20 was modified to be under Rumination rather than under the original Acceptance cognitive strategy. The modified Nine-Factor model indices criterion value was satisfactory (RMSEA $\leq$ 0.08, (SRMR) <0.10, (CFI) >0.80). **Conclusion:** The CERQ-M is a valid and acceptable objective measure of cognitive coping strategies in the Malaysian adult population. However, findings suggest for further research to explore the factors in the CERQ-M to develop a better CERQ-M model fit for the local population.

Keywords: cognitive emotion regulation, cognitive coping, CERQ, adults, validity, reliability

ABSTRAK

Pengenalan: Strategi *Coping* penting bagi setiap individu untuk mengatasi tekanan dan pengalaman negatif. Strategi kognitif *coping* telah dikenal pasti sebagai salah satu jenis strategi *Coping* yang berkesan. Ketiadaan instrumen objektif untuk mengukur kognitif *Coping* dalam Bahasa Malaysia menjadi penghalang. Kajian ini bertujuan untuk menterjemahkan CERQ, satu instrumen strategi kognitif *Coping*, ke dalam Bahasa Malaysia dan menyelidik kesahan model CERQ dalam populasi orang dewasa Malaysia. Pengesahan CERQ-M diharapkan membantu untuk mengenal pasti strategi *Coping* kognitif di kalangan orang dewasa Malaysia. **Metodologi**: Dalam Fasa 1, CERQ-M diterjemahkan ke dalam Bahasa Malaysia dan disemak oleh tiga panel pakar. *Pre-testing* kemudian dijalankan pada 10 peserta untuk menilai *Face validity* dan *Content Validity*. Dalam Fasa 2, terjemahan CERQ-M diedar melalui platform *Online* kepada 260 peserta di seluruh Malaysia. **Hasil**: CERQ Berjaya diterjemah ke Bahasa Malaysia. *Face validity* dan *Content Validity* dikenalpasti. Secara keseluruhan, *Coping* kognitif yang sering digunakan adalah *Positive Reappraisal*, *Refocus on Planning* dan *Acceptance*. CERQ-M melaporkan *Internal Consistency* yang tinggi ($\alpha = .891$) dan ketiadaan *outlier* melampau. Walau bagaimanapun, *Confirmatory Factor Analysis (CFA)* mendapati model CERQ Nine-Factor yang asal tidak sesuai dengan data. Model yang lebih sesuai ialah apabila *item* nombor 20 dikategorikan di bawah *Coping* kognitif *Rumination* daripada strategi *Coping* kognitif Acceptance. Nilai kriteria indeks *Modified model Nine-Factor* yang diubah memuaskan (RMSEA $\leq$ 0,08, (SRMR) <0,10, (CFI)> 0,80). **Kesimpulan:** CERQ-M adalah ukuran objektif strategi *Coping* kognitif yang sah dan boleh diterima di Malaysia. Walaubagaimanapun, penemuan mencadangkan kajian lanjutan dilakukan untuk meneroka faktor-faktor dalam CERQ-M untuk mengembangkan model yang lebih sesuai bagi orang dewasa Malaysia.

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LIST OF ABBREVIATIONS

CERQ   Cognitive Emotion Regulation Questionnaire

CERQ-M   Cognitive Emotion Regulation Questionnaire Malay Version

CFA   Confirmatory Factor Analysis

CFI   Comparative Fit Index

CVI   Content Validity Index

KMOS   Kaiser-Meyer-Olkin Measure of Sampling Adequacy

JEPeM   Jawatankuasa Etika Penyelidikan Manusia Universiti Sains Malaysia
                (The Human Research Ethics Committee of the Universiti Sains
                Malaysia)

RMSEA   Root Mean Square Error or Estimation

SRMR   Standardized Root-Mean-Square Residual

WHO   World Health Organization

LIST OF SYMBOLS

α	Alpha value
M	Mean Average
N	Number
%	Percentage
SD	Standard Deviation

CHAPTER 1

1.0 INTRODUCTION

This chapter discusses the background of the study and the relevant connection of coping strategies to the Cognitive Emotion Regulation Questionnaire (CERQ). The problem statement underlines the need for the Malay translation of the CERQ in Malaysian adult population. Thus, the research questions, objectives and hypotheses are introduced as a guideline for the research direction. Lastly, the operational definitions are laid out for reference moving forward.

1.1 BACKGROUND OF STUDY

Coping strategies are the efforts that a person uses, whether consciously or unconsciously, to face and manage stressful events in their life (Folkman & Lazarus, 1980). Coping strategies can vary from social coping strategies to emotional coping strategies, behavioural coping strategies and others. According to the psychological perspective, the coping strategies of a person can be either positive or negative. Coping strategies that causes dysfunction and unhelpful consequences are considered negative, while coping strategies that help a person to adapt and adjust to a stressful event or experience are considered positive. Negative coping strategies are shown to be detrimental to an individual and studies have shown that individuals using more negative and maladaptive coping strategies are more likely to develop depressive symptoms (Sawyer, Pfeiffer, & Spence, 2009; Thompson et al., 2010).

One of the most prominent coping strategies in an individual is the emotion regulation coping strategies whereby it is suggested that a person's emotions and how it is regulated, ultimately affects how they cope with the events in their life (Webb, Miles, & Sheeran, 2012). A meta-analysis by Webb et al. reported that the most effective stage in the emotion regulation strategies is the Cognitive change stage (2012). Therefore, the current study focuses on the cognitive emotion regulation strategy which is a conscious coping strategy that is mainly focused on how thoughts and feelings of an individual affect how they cope with a stressful event. There are adaptive and less-adaptive cognitive coping strategies in the Cognitive Emotion Regulation Strategies. To measure the use of these strategies, the Cognitive Emotion Regulation Questionnaire (CERQ) was developed by Garnefski, Kraiij and Spinhoven in 2001. It is the only available questionnaire that measures purely the cognitive strategies aspect of emotion regulation. The CERQ English version has been translated to various languages with

good validation properties. There are 9 scales in the CERQ with 4 items in each of the scales making the CERQ a questionnaire with a total of 36 items.

The CERQ has been used in past literatures to identify cognitive coping strategies in an individual to further investigate on various research topics including mindfulness-based recovery study (Garland et al., 2014), Schizophrenia patients' cognitive coping strategies (O'Driscoll et al., 2014), forgiveness study (Butt et al., 2013), gender differences study (Zlomke & Hahn, 2010), gambling disorder study (Navas et al., 2016) and associations with depressive symptoms studies (Sakakibara & Kitahara, 2016). It is shown that the CERQ may be utilized for identification of specific cognitive coping strategies in each individual, moreover, it could be further used to facilitate researchers in determining cognitive coping of respondents by structured questionnaire instead of otherwise having to interview each participant on their cognitive thoughts in coping for negative events. Furthermore, a validation of the CERQ-M will help to determine whether the tool is valid to be applied to Malaysian adults.

The objective of the study is to evaluate the reliability and validity of the translated Malay version of the Cognitive Emotion Regulation Questionnaire (CERQ-M) in Malaysian adults. This section will illustrate the problem statement, research questions, research objectives, and hypotheses.

1.2   PROBLEM STATEMENT

As mentioned in the introduction, the CERQ is helpful in determining and identifying specific cognitive coping strategies a person adopts generally after a negative experience. Unhelpful cognitive coping has shown to have adverse effects on an individual's mental health and well-being. With the presence of an objective measurement such as the CERQ, it facilitates practitioners and researchers to structurally examine these copings that are otherwise not easily identified unless using the interviewing method which may lengthen and take a longer duration. Identification of less-adaptive coping strategies may assist practitioners to focus on which less-adaptive strategy that can be targeted and unlearned. On the other hand, practitioners can acknowledge the adaptive strategies of an individual and continue to work with these strategies to improve the individual's resilience and coping.

The CERQ is available and accessible to be used at no cost by the authors for practitioners to benefit for their clients. Moreover, the CERQ have been translated to many languages such as Persian, French, Spanish, Chinese, and Portuguese with acceptable and good psychometric properties (Feliu-Soler et al., 2017). Nonetheless, to date, there is no available and accessible Malay translation of the full 36-item CERQ that can be utilized for the Malaysian adult population.

1.3 RESEARCH QUESTIONS

The questions that the current study would like to answer are as the following:

1. Do the Malay CERQ-M and English CERQ have similar psychometric properties?

2. Is the Malay CERQ-M valid to measure cognitive emotion regulation strategies in Malaysian adults?

3. Is the Malay CERQ-M reliable to measure cognitive emotion regulation strategies in Malaysian adults?

1.4 RESEARCH OBJECTIVES

The objective of the study is to determine and evaluate the psychometric properties of the Malay CERQ by achieving the following objectives in the study:

1. Translate the English version of CERQ into CERQ Malay version (CERQ-M)

2. Establish the validity of the CERQ-M to measure cognitive emotion regulation strategies in Malaysian adults.

3. Establish the reliability of the CERQ-M to measure cognitive emotion regulation strategies in Malaysian adults.

1.5 HYPOTHESES

1. The English CERQ and the Malay CERQ-M has similar psychometric properties.

2. The Malay CERQ-M is a valid tool to measure cognitive emotion regulation strategies in Malaysian adults.

3. The CERQ-M is a reliable tool to measure cognitive emotion regulation strategies in Malaysian adults.

1.6 OPERATIONAL DEFINITIONS

Adult. The definition of an adult, according to the law of Malaysia in Act 21, is an individual who is 18 years old and above. (Act 21, 1971).

Cognitive emotion regulation strategies. The current study defines the cognitive emotion regulation strategies as according to the strategies in the Cognitive Emotion Regulation Questionnaire (CERQ) which refer to thoughts and cognitions of an individual after an event and experience that is stressful. As the name suggests, it focuses mainly on the mental activity of the individual to regulate their emotions rather than their social or behaviour responses. These cognitive strategies have been suggested to be generally divided into two categories which are Adaptive strategies and Less-adaptive strategies (Domínguez-Sánchez, Lasa-Aristu, Amor, & Holgado-Tello, 2013).

Adaptive CER Strategies. As according to Domínguez-Sánchez et al., Adaptive CER strategies are helpful and adapting thoughts and feelings an individual has about a negative experience and situation (2013). The adaptive CER strategies are measured with five scales which are Acceptance, Positive Refocusing, Putting into Perspective, Refocusing on Planning, and

Positive Reappraisal. A higher score on the scales indicates higher frequency of use for the specific cognitive strategy. Cumulatively, a higher score on all the five scales compared to the scales in Less-adaptive strategies indicate a higher frequency use of adaptive CER strategies as compared to Less-adaptive CER strategies.

Less-adaptive CER strategies. The definition for Less-adaptive CER strategies are dysfunctional and unhelpful thoughts and feelings a person has about a negative experience and situation. The scales for less-adaptive strategies in the CERQ are measured with the scales of Rumination, Catastrophizing, Self-Blame, and Other blame (Garnefski, Kraiij & Spinhoven, 2001). Like adaptive strategies scoring, a higher score on one less-adaptive CER strategy indicates a higher frequency of using that specific less-adaptive strategy. Additionally, higher scores on less-adaptive strategies throughout the four scales similarly indicate a higher regularity of overall using less-adaptive strategies compared to adaptive strategies in an individual.

CHAPTER 2

2.0 LITERATURE REVIEW

This literature review will cover on the coping strategies generally before focusing on Emotion Regulation, and specifically diving into the Cognitive Emotion Regulation (CER) Strategies, the development of the Cognitive Emotion Regulation Questionnaire (CERQ) and the validation of the CERQ in other validation studies. Lastly, at the end of this chapter, the gaps of knowledge will be presented.

2.1 COPING STRATEGIES

Humans cope with various challenges in their life by adopting coping strategies whether consciously or unconsciously. One definition of the concept of coping strategies is "an individual's efforts to master demands (conditions of harm, threat or challenge) that are appraised (or perceived) as exceeding or taxing his or her resources" (p.5) (Monat & Lazarus, 1991). There are many kinds of coping strategies that may be used to cope such as social coping, physiological, behavioural coping and coping through regulating emotions. In the following subsection, this paper will focus on Emotion Regulation Strategies specifically in the Cognitive strategies.

2.2 EMOTION REGULATION STRATEGIES

When a human goes through any experience in their life that provokes their emotions, they try to manage their emotions and consequently their thoughts and behaviours. There are various definitions on Emotion Regulation and although there is no unified agreement on it, Emotion Regulation, as according to the meta-analysis by Naragon-Gainey, McMahon and Chacko (2017), is generally defined as a set of strategies adopted by an individual as an effort and an initiation, whether conscious or unconscious, to affect and manage their emotions.

There are multiple models presented in Emotion Regulation, however, the most notable and widely used model is Gross' (1998) Temporal Process Model. The model is also used as the theoretical framework of the current study. The model is made up of four stages which are a situation that evokes an emotion, attention to the situation, appraisal or the evaluation of the

situation's meaning, and inclination of producing an emotional response which may be expressed through physiology, behaviour or experiential element of an individual (Naragon-Gainey et al., 2017). Initiation of Emotion Regulation strategies can begin at any stage of this process, and they are categorized into five classifications: Situation Selection, Situation Modification, Attentional Deployment, Cognitive Change, and Response Modulation. These strategies are illustrated in figure 1 below.
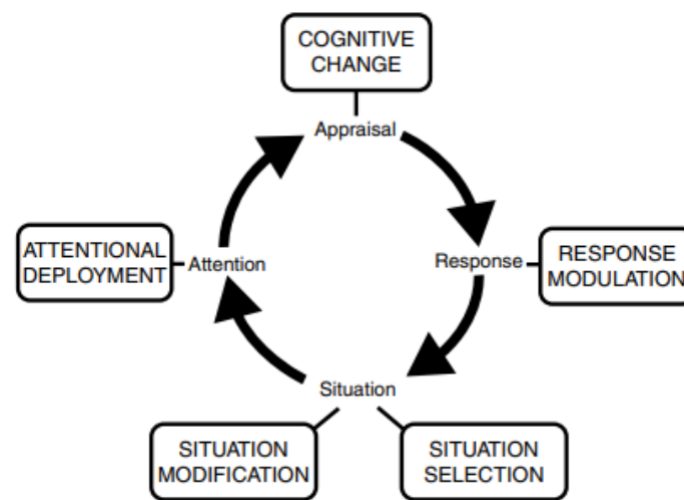

Figure 2.2.1: Theoretical framework for the study (Gross, 1998)

A meta-analysis studies the effectiveness of Emotion Regulation strategies, and the results showed the difference of effectiveness in each strategy from the model (Webb et al., 2012). The meta-analysis was done by selecting 12,740 literatures and theses to examine and the findings suggest that one of the most significantly effective Emotion Regulation strategies is reappraisal under the category of Cognitive Change. Cognitive change is a cognitive emotion regulation strategy that involves changing the way an individual think about the situation to affect their emotions. Furthermore, positive reappraisal has been shown to be negatively correlated with symptoms of psychopathology (Webb et al., 2012). This study's focal point will be on Cognitive Emotion Regulation Strategies and the validation of the Cognitive

Emotion Regulation Questionnaire (CERQ) to identify the cognitive strategies in Malaysian adults.

2.3 COGNITIVE EMOTION REGULATION STRATEGIES

As previously explained, Cognitive Emotion Regulation strategies stem from the Cognitive change category in the Emotion Regulation Strategies. However, as the name suggests, Cognitive Emotion Regulation mainly focuses on the cognitive aspect of regulating emotions such as the thoughts and feelings of an individual on a negative experience.

There are many types of thoughts and cognition that a person may have, therefore, to better classify and understand the CER strategies, Granefski, Kraaij and Spinhoven have developed a questionnaire specifically to measure and identify the cognitive coping strategies of an individual.

2.3.1 Cognitive Emotion Regulation Questionnaire (CERQ)

Cognitive Emotion Regulation Questionnaire (CERQ) was formed by Garnefski, Kraaij and Spinhoven in 2001. The CERQ is used to identify an individual's cognitive coping strategies in managing their emotions generally after an unpleasant or negative experience they went through (Granefski et al., 2001). Other than identification, it may additionally be used as an assessment of how the individual differs from their peers in terms of the CER strategies they tend to use.

The authors further explained that it is not meant to be used as an intervention rather it is for practitioners or researchers to assess the extent of which strategies do the individual adopt and this may additionally assist practitioners to plan and decide further intervention or treatments such as unlearning very high less-adaptive strategies and learning more functional and helpful strategies (Granefski et al., 2002). The CERQ has several versions, however, this study will exclusively be on the full 36-item CERQ.

2.3.1.1 CERQ subscales

According to CER questionnaire authors Garnefski, Kraaij an Spinhoven (2001), the scale is made up of nine subscales, each with four items under them (refer to Table 1). These nine subscales are Self-Blame, Acceptance, Rumination, Positive Refocusing, Refocus on Planning, Positive Reappraisal, Putting into Perspective, Catastrophizing, and Blaming Others. The scales are divided into two types of strategies which are either Less-adaptive strategy or Adaptive strategy (Domínguez-Sánchez et al., 2013). Descriptions of each scales are explained below.

Less-adaptive Strategies

Self-blame. Blaming oneself after any experience and situation is known as self-blame. Studies showed that individuals diagnosed with Major Depressive Disorder (MDD) scored high in Self-blame as one of the less-adaptive strategies often used (Zhang et al., 2014; Zahn et al., 2015).

Self-blame is a less-adaptive strategy in the CERQ and is labelled as an unhelpful cognitive coping strategy in the current study.

Rumination. When a person is fixated on thinking of their thoughts and feelings of a negative experience they went through repetitively, it illustrates the cognitive emotion coping strategy of rumination (Granefski et al., 2001). Rumination is a less-adaptive cognitive strategy. It has been reported to have a positive relationship with individuals with eating disorders (Smith, Mason, & Lavender, 2018) and individuals with negative affect such as anxiety, stress and depressive symptoms (Kirkegaard Thomsen, 2006).

Catastrophizing. Catastrophizing is a cognitive coping strategy that over highlights the severity of an unpleasant experience (Garnefski et al., 2001). Therefore, this strategy is referred to be one of the less-adaptive cognitive coping strategies.

Blaming others. An individual's thoughts of placing the blame or mistake on other people for the negative experience they faced is defined as blaming others in the CERQ. Blaming others is labelled as a less-adaptive strategy (Garnefski et al., 2001).