

Full Length Research Paper

Cognitive emotion regulation questionnaire: Development of Turkish version of 18-item short form

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The purpose of this study is to develop a Turkish version of the cognitive emotion regulation questionnaire (CERQ) short 18-item version. We translated and cross-culturally adapted the English version of the CERQ, and tested the reliability and factorial validity of the Turkish version (CERQ-TR). A sample of 317 Turkish university students completed the CERQ-TR. Following stepwise omission of the items with the highest 'alpha if item deleted' on the basis of reliability analyses results, short version of the CERQ-TR was constructed. Cronbach alpha reliability coefficients obtained from CERQ-TR short scale ranged from 0.63 to 0.74, and for the original scales, alpha is ranged from 0.65 to 0.78. Finally, confirmatory factor analyses (CFA) supported the original nine factor model. Goodness of fit statistics indicates that short form of CERQ-TR is acceptable.

Key words: Emotion regulation, cognitive emotion regulation questionnaire (CERQ), 18-item short form.

INTRODUCTION

Cognitive emotion regulation refers to the cognitive processes that manage emotionally-arousing information (Zhu et al., 2008; Garnefski et al., 2007; Thomson, 1991). For a brief understanding of "emotion arousing", Gross and Thompson's (2007) modal model of emotion might be helpful. In this model a situation–attention–appraisal–response sequence was formed to represent how a psychologically relevant situation gives rise to appraisals that constitute the individual's assessment of the situation's familiarity, valence, and value relevance (Gross and Thompson, 2007). The pattern of these appraisals determines which emotion is experienced (Cote, 2005). However, emotions are not always helpful. When they are of the wrong type, when they come at the wrong time, or when they occur at the wrong intensity level, they might hurt us (Gross, 2008). The term "emotion regulation" covers strategies to reduce, maintain, or increase an emotion (Jermann et al., 2006), and refers to the processes by which individuals influence which emotions they have, when they have them, and

how they experience and express these emotions (Gross, 1998). Emotion regulation is assumed to be an important factor in determining well being and/or successful functioning (Garnefski et al., 2001), plays an important role in our adaptation to stressful life events (Garnefski and Kraaij, 2006), and perhaps might influence quality of life.

In the last decade, Garnefski et al. (2001) developed CERQ to measure the cognitive components of emotion regulation. The multidimensional CERQ was constructed in order to identify the cognitive coping strategies someone uses after having experienced negative events or situations (Garnefski et al., 2002). The scale distinguishes cognitive coping into nine conceptually distinct strategies. These are (1) Self-blame, referring to thoughts of blaming yourself for what you have experienced; (2) Acceptance, referring to thoughts of resigning to what has happened; (3) Rumination, referring to thinking all the time about the feelings and thoughts associated with the negative event; (4) Positive Refocusing, which refers to thinking of other, pleasant matters instead of the actual event; (5) Refocus on Planning, or thinking about what steps to take in order to deal with the event; (6) Positive Reappraisal, or thinking of attaching a positive meaning to the event in terms of

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personal growth; (7) Putting into Perspective or thoughts of playing down the seriousness of the event when compared to other events; (8) Catastrophizing, referring to explicitly emphasizing the terror of the experience; and (9) Other-blame, referring to thoughts of putting the blame for what you have experienced on others (Garnefski et al., 2002).

The CERQ has been translated into other languages, and these translations have been found to have similar factorial structures to that of the original version (Garnefski et al., 2002; Jermann et al., 2006; Zhu et al., 2008; Ehring et al., 2008). In the present study, Turkish version of CERQ was used to measure cognitive coping styles of university students. The translation and the cross-cultural adaptation of the Turkish version of the CERQ were established according to the latest guidelines (Hambleton et al., 2005). Its psychometric properties remain to be documented. Thus, the aim of this study was to document the reliability and validity of the Turkish version of the CERQ-TR short form.

METHODS

Participants

Respondents for this study consisted of 317 undergraduate university students in a Turkish University studying management, economics and public finance. As the current study aims to examine the factorial validity of Turkish version of CERQ, no further personal data (including age, sex, and race) were asked to participants. The questionnaire was initially pretested with 100 university students to elicit feedback regarding the clarity of instructions and questions in the instrument. Comments and suggestions obtained from the pretest served as a basis for fine-tuning items and the final presentation of the questionnaire.

Measures

The original scale of CERQ (Garnefski et al., 2001) has 36 items to evaluate the cognitive aspects of emotion regulation. Item numbers in the adapted scale were remained same, and also the explanations on the top of the questionnaire were identical with the original scale which is as follows: "Everyone gets confronted with negative or unpleasant events now and then and everyone responds to them in his or her own way. With the following questions, you are asked to indicate what you generally think, when you experience negative or unpleasant events." The items must be rated on a 5-point Likert scale ranging from 1 (almost never) to 5 (almost always).

RESULTS

In this study we examine factorial validity of CERQ-TR with confirmatory factor analysis. Original version of the CERQ is a formed 36 item questionnaire which is by developed Garnefski et al. (2001) and consisting of 9 conceptually distinct subscales. Recently Garnefski and Kraaij (2006) developed a short 18-item version of the CERQ with two item subscales. Their strategy depends

on stepwise omission of the items with the highest 'alpha if item deleted' on the basis of reliability analyses results. Following the same method, short version of the CERQ-TR was constructed and compared factorial validity of the short and original version. First of all, we applied reliability analysis on the original CERQ-TR and the items with the highest 'alpha if item deleted' were removed. Then we applied reliability analysis again on three item scales and the items with the highest 'alpha if item deleted' were eliminated. Finally, short version of the CERQ-TR with two item subscales was obtained.

Cronbach alpha reliability coefficients were computed for CERQ-TR and displayed in Table 1. According to result in Table 1, alpha reliability coefficients obtained from CERQ-TR short scales ranged from 0.63 to 0.74. The lowest alpha is found for perspective and focus on thought and the highest alpha is determined for positive refocusing. For the original scales, alpha is ranged from 0.65 to 0.78 and lowest alpha is found for self-blame and the highest for positive refocusing and planning. To examine factorial validity of Turkish translation of CERQ, CFA was conducted on the covariance-variance matrix of item responses using LISREL software (version 8.51). Several test statistics were used in the CFA to determine the adequacy of model to fit data such as chi-square test, root mean square error of approximation (RMSEA), Normed Fit Index (NFI), Non-Normed Fit Index (NNFI), Comparative Fit Index (CFI), Goodness of Fit Index (GFI) and Adjusted Goodness of Fit Index (AGFI). RMSEA was found between 0 and 0.05 indicating that model is acceptable. Other fit indices were found between 0.90 and 1.00 demonstrating acceptable fit status. Goodness of fit statistics was reported in Table 2. According to results in Table 2, χ^2 statistic was found to be statistically significant in both models. χ^2/df was found 1.28 and 1.81 for short and original scales model respectively. RMSEA suggests that measurement model is acceptable for the short scales model. Additionally, fit indices were found significantly high in the short scales model and goodness of fit statistics indicates that short form of CERQ-TR is acceptable.

Factor loadings obtained from short and original scales was reported in Table 3. Factor loadings obtained from CERQ-TR short scales ranged from 0.52 (perspective-item 16) to 0.92 (acceptance-item 11). For original scales, factor loadings were found between 0.39 (self blame-item 19) and 0.77 (positive refocusing-item 22). Finally, correlation coefficients between the subscales were reported in Table 4. According to results in Table 4, correlations between the CERQ-TR short subscales were ranged from -0.16 (perspective and reappraisal, reappraisal and other-blame) to 0.60 (reappraisal and planning).

DISCUSSION

The CERQ is the first inventory that focuses particularly

Table 1. Cronbach's Alpha Reliabilities of the CERQ-TR short and the original CERQ-TR.

Scales	Short scales		Original scales	
	α	Mean	α	Mean (SD)
Self-blame	0.64	4.83	0.65	10.81
Acceptance	0.69	5.87	0.67	10.70
Focus on thought	0.63	6.95	0.68	14.17
Positive refocusing	0.74	4.43	0.78	9.56
Planning	0.68	7.02	0.78	14.60
Reappraisal	0.68	6.62	0.73	13.80
Perspective	0.63	6.32	0.71	12.61
Catastrophizing	0.68	4.51	0.70	8.46
Other-blame	0.70	3.89	0.73	8.50

Table 2. Goodness of fit statistics.

Model	χ^2	df	χ^2/df	RMSEA	NFI	NNFI	CFI	GFI	AGFI
Short scales	111.58*	99	1.28	0.02	0.92	0.98	0.99	0.96	0.94
Original scales	1012.01*	558	1.81	0.05	0.73	0.84	0.87	0.85	0.82

Note: *df*: degrees of freedom; RMSEA: Root Mean Square Error of Approximation; NFI: Normed Fit Index; NNFI: Non-Normed Fit Index; CFI: Comparative Fit Index; GFI: Goodness of Fit Index; AGFI: Adjusted Goodness of Fit Index. * indicates $p < 0.01$.

Table 3. Standardized factor loadings of the short and original scales.

Scale name	Item	Factor loadings	
		Short scales	Original scales
Planning	I32	0.71	0.70
	I23	0.72	0.70
	I14	-	0.69
	I5	-	0.66
Positive refocusing	I22	0.76	0.77
	I13	0.78	0.74
	I31	-	0.67
	I4	-	0.56
Catastrophizing	I35	0.72	0.70
	I17	0.72	0.72
	I26	-	0.56
	I8	-	0.44
Other blame	I36	-	0.71
	I18	0.89	0.73
	I9	0.62	0.67
	I27	-	0.52
Focus on thought	I3	-	0.54
	I30	0.73	0.73
	I21	0.62	0.61
	I12	-	0.48

Table 3. Cont'd.

	I6	-	0.58
Reappraisal	I24	0.64	0.69
	I15	-	0.48
	I33	0.80	0.76
Perspective	I25	-	0.55
	I16	0.52	0.53
	I34	0.88	0.73
	I7	-	0.65
Acceptance	I2	0.57	0.57
	I11	0.92	0.68
	I29	-	0.73
	I20	-	0.36
Self blame	I10	0.53	0.66
	I1	-	0.56
	I28	0.88	0.72
	I19	-	0.39

Table 4. Correlations between CERQ-TR short subscales.

	Self-blame	Acceptance	Focus on thought	Positive refocusing	Planning	Reappraisal	Perspective	Catastrophizing	Other-blame
Self-blame	1								
Acceptance	0.26*	1							
Focus on thought	0.31*	0.26*	1						
Positive refocusing	-0.07	0.07	0.03	1					
Planning	-0.02	0.11	0.44*	0.27*	1				
Reappraisal	-0.09	0.23*	0.32*	0.52*	0.60*	1			
Perspective	0.09	0.28*	0.36*	0.24*	0.27*	0.62*	1		
Catastrophizing	0.41*	0.06	0.32*	-0.06	-0.14	-0.38*	-0.16*	1	
Other-blame	0.04	0.04	0.07	0.20*	0.04	-0.16*	0.02	0.41*	1

* indicates $p < 0.05$.

on the cognitive part of coping among children, adolescents, and adults. Since the CERQ has a broad range of usage among various domains including life, school, and work environment, cross cultural adaptation of this inventory is of paramount importance. The translation and adaptation of the questionnaire might provide valuable data of various populations contributing to universal compromise on structural validity. From this point of view, the present study aims on psychometric

attributes of Turkish version of CERQ short form together with university students. In accordance with the original CERQ scale, totally 36 items composed of 9 dimensions each consisting 4 items on an A4 sheet covering one page has been applied. The clarity of the survey was confirmed by the test subjects. The overall reliability test score in terms of cronbach α is determined to be 0.829 for original scale. Alpha scores for the dimensions are ranged from 0.65 to 0.78 with the lowest alpha for

self-blame and the highest for positive refocusing and planning subscales. The results of the Turkish version of 36 items CERQ scale correlates with the original scale of Garnefski et al. (2002) in terms of factorial structure.

The Turkish version of 18-item CERQ scale was methodologically constructed according to the original scale of Garnefski and Kraaij (2006). The statistical analysis of 18-item CERQ scale by means of χ^2 test was found to be statistically significant. χ^2/df ratio and RMSEA was determined to be 1.28 and 0.02, respectively. The results of the above mentioned analysis indicates that predicted model is acceptable for the 18-item short scale. Moreover, normed, non-normed, and comparative fit indices confirmed that nine-factor model was appropriate to explain the Turkish data. Accordingly goodness of fit and adjusted goodness of fit indices demonstrate that short form of CERQ is acceptable. The derived Turkish version of 18-item short scale's reliability score in terms of cronbach α is calculated as 0.70. Alpha scores for the dimensions are ranged from 0.63 to 0.74 with the lowest alpha for focus on thought and perspective and the highest for positive refocusing subscales. The factorial structure of the 18-item CERQ-TR short scale also correlates with the original short scale of Garnefski and Kraaij (2006).

The importance of the CERQ might be explained by the fact that it is a valuable tool to measure a wide variety of cognitive coping strategies with a single questionnaire. The results of the present study confirmed that the Turkish version of CERQ short form enables researchers and clinicians to evaluate cognitive strategies for stressful life events. Nevertheless antecedents and consequences of cognitive emotion regulation strategies need to be verified with additional measures and further studies are thus called for.

REFERENCES

- Cote S (2005). A Social Interaction Model of the Effects of Emotion Regulation on Work Strain. *Acad. Manage. Rev.* 30(3): 509-530.
- Ehring T, Fischer S, Schnulle J, Bosterling A, Tuschen-Caffier B (2008). Characteristics of emotion regulation in recovered depressed versus never depressed individuals. *Pers. Individ. Differ.* 44(7): 1574-1584.
- Garnefski N, Kraaij V (2006). Cognitive emotion regulation questionnaire – development of a short 18-item version (CERQ-short). *Pers. Individ. Differ.* 41: 1045-1053.
- Garnefski N, Kraaij V, Spinhoven P (2001). Negative life events, cognitive emotion regulation and emotional problems. *Pers. Individ. Differ.* 30: 1311-1327.
- Garnefski N, Kraaij V, Spinhoven P (2002). CERQ Manual for the use of the Cognitive Emotion Regulation Questionnaire. DATEC, Leiderdorp, The Netherlands.
- Garnefski N, Rieffe C, Jellesma F, Terwogt MM, Kraaij V (2007). Cognitive Emotion Regulation Strategies and Emotional Problems in 9-11-year-old Children. *Eur. Child Adoles. Psy.* 16(1): 1-9.
- Gross JJ (1998). The emerging field of emotion regulation: An integrative review. *Rev. Gen. Psychol.* 2(3): 271-299.
- Gross JJ (2008). Emotion Regulation. In Lewis M, Haviland-Jones JM, Barrett LF (Eds.), *Handbook of Emotions* (pp. 497-512). The Guilford Press: New York.
- Gross JJ, Thompson RA (2007). Emotion Regulation Conceptual Foundations. In Gross JJ (Ed.) *Handbook of Emotion Regulation* (pp. 3-24). Guilford Pub: New York.
- Hambleton RK, Merenda PF, Spielberger CD (2005). *Adapting Educational and Psychological Tests for Cross-Cultural Assessment*. Lawrence Erlbaum: New Jersey.
- Jermann F, Van der Linden M, d'Acremont M, Zermatten A (2006). Cognitive Emotion Regulation Questionnaire (CERQ): Confirmatory Factor Analysis and Psychometric Properties of the French Translation. *Eur. J. Psychol. Assess.* 22(2): 126-131.
- Thompson RA (1991). Emotional regulation and emotional development. *Educ. Psychol. Rev.* 3: 269-307.
- Zhu X, Auerbach RP, Yao S, Abela JRZ, Xiao J, Tong X (2008). Psychometric properties of the Cognitive Emotion Regulation Questionnaire: Chinese version. *Cognition Emotion*, 22(2): 288-307.

APPENDIX

Turkish Version of 18-Item Cognitive Emotion Regulation Questionnaire Short Form.

Self-blame

10. Gerçekleşen olayın sorumlusu olarak kendimi görürüm

28. Yaşananların kaynağı olarak kendimi görürüm

Acceptance

2. Bu olay yaşandı, gerçekleşen durumu bu şekilde kabullenmem gerektiğini düşünürüm

11. Yaşanan kötü olayı kabul etmem gerektiğini düşünürüm

Focus on thought

21. Yaşanan olayın, üzerimde neden bu şekilde bir duygu yarattığını anlamak isterim

30. Başımdan geçen kötü olayın, bende harekete geçirdiği duygular üzerinde düşünürüm

Positive refocusing

13. Bu olayla ilgisi olmayan güzel şeyler düşünürüm

22. Yaşanan bu kötü olayı düşünmek yerine güzel şeyler düşünürüm

Planning

23. Durumu nasıl değiştirebileceğimi düşünürüm

32. Yapabileceğim hamlelerle ilgili bir plan düşünürüm

Reappraisal

24. Yaşanan kötü olayın aynı zamanda olumlu yönlerinin de bulunduğunu düşünürüm

33. Durumun pozitif yönlerini ararım

Perspective

16. Diğer insanların çok daha kötü deneyimler yaşayabileceklerini düşünürüm

34. Kendi kendime hayatta daha kötü şeyler olduğunu söylerim

Catastrophizing

17. Yaşadığım olayın ne kadar kötü olduğunu sürekli düşünürüm

35. Durumun ne kadar korkunç olduğunu sürekli düşünürüm

Other-blame

9. Gerçekleşen olay karşısında başkalarını suçlarım

18. Gerçekleşen olaydan başkalarının sorumlu olduğunu düşünürüm
