

Adaptation of the Interpersonal Emotion Regulation Questionnaire to the Turkish Language and Investigation of its Psychometric Properties



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SUMMARY

Objective: This study aimed to adapt the Interpersonal Emotion Regulation Questionnaire (IERQ) to Turkish, and to investigate its psychometric properties.

Method: A total of 467 volunteers with a mean age of 26.63 years participated to the study. Exploratory and confirmatory factor analyses were conducted after preparing the Turkish version of the IERQ. The relationships between IERQ and other emotion regulation scales were investigated for criterion-related validity. In order to assess reliability, internal consistency coefficients were calculated and subsequently, test-retest analyses were repeated on 50 students.

Results: As in the original form the Turkish version of IERQ has a 4- factor structure, 'social modelling', 'soothing', 'enhancing positive affect' and 'perspective taking'. As expected, these factors were related to various emotion regulation strategies. Particularly the social modelling and soothing factors differed according to the level of difficulties in emotion regulation. These factors were found to be related to depression, anxiety and stress symptoms. Furthermore, the Turkish version of the IERQ satisfied the conditions of reliability. The internal consistency coefficients of factors were between .81 and .89. Test-retest correlation coefficients were found to be strong.

Conclusion: This study showed that the Turkish version of IERQ is a reliable and valid scale for the Turkish population. The psychometric properties of the Turkish version were similar to those of the original form.

Keywords: Emotion, emotion regulation, interpersonal emotion regulation, interpersonal relations, factor analysis

INTRODUCTION

Emotions have been frequently investigated in psychology since they directly affect several behaviours; and in the recent years studies on emotions have accelerated the concept of emotion regulation (ER) (Niemic & Warren 2002). According to Thompson (1994), ER comprises internal and external reaction processes that the individual uses to monitor, assess and change intense and transient emotional reactions. ER can also be defined as a process that involves how humans experience, express, and try to tone up or down our emotions (Gross, 1998).

The importance of ER has been emphasized in reference to its neural basis (Goldin et al. 2008), and its relation to psychopathological symptoms (Aldao 2012, Aldao et al. 2010), and has been made use of in psychotherapy (O'Toole et al. 2014). In addition, ER has been considered as a significant part both of personal development and interpersonal relations (Onat & Otrar 2010).

Development of ER is believed to begin early in life. Children at around the age of 3 years gradually start understanding that some situations cause certain emotions and that these can affect their own emotions as well as of others. (Cole et

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al. 2009). On the other hand, children make impressions of the ER processes of their parents as models and can regulate their own emotions according to these impressions of parental behaviour (Morris et al. 2007). Thus, ER should be considered as a process that takes place in a social context. Also, the fact is that people, as social beings, experience emotions in the process of interpersonal relations (Lazarus 2006; Parrott & Harre 1996). According to Rime (2007), individuals generally share the emotions they experience. Hence, although ER refers to internal processes, there is also an external side to it.

Considering the social aspects of emotions and the ER process, researchers have examined the concepts of interpersonal emotion regulation (IER) as well as intrapersonal ER. It has been pointed out that despite the theoretical significance of IER, it has not been studied extensively. Hofmann (2014) argued that intrapersonal ER assumes a simple input-output relation with extensive emphasis on the internal processes in particular and that both emotions and ER are formed in a social context. It was observed that when individuals expect benefit or harm from others, their ER processes alter accordingly; and that humans, as social beings, were expected to evaluate others by attention to their various characteristics (Netzer et al. 2015). Zaki and Williams (2013) and Coan (2011) have drawn attention to the importance of social factors in the process of ER and have emphasized the necessity of investigation of the topic of IER. Given that ER also contributes to the continuation of relationships, the interpersonal factors were said to have a vital role in ER; and IER was defined as the regulation of one's own emotions through social interaction with others (Hofmann et al. 2016).

Social support is another subject that supports the concept of IER. There are reports in the literature (e.g., Gross & John 2003) that individuals receiving relatively less social support share less emotions with others, and these reports have indicated a connection between social support and IER. However, the important difference between giving social support and IER is that IER affects emotional state of other. There may be intentions to affect the emotions of others positively or adversely. Also, IER enables to reach a variety of targets such as affecting the attitudes and behaviours of others and the realization of their expectations (Niven et al., 2009). Therefore, despite the relationship between IER and social support, the two concepts should not be used in place of one another.

IER, as a new research domain, has been studied in relation to several topics and disciplines. Reports in the literature include relationship between couples (e.g., Butler et al., 2014), at childhood (e.g., López-Pérez et al. 2016), on sports people (e.g., Friesen et al. 2013), in working life (e.g., Troth et al. 2017), in using the social networks and technology (e.g., Niven et al. 2015), in emotional processes such as anxiety

(Christensen 2015), and its model for anxiety and depression (Hofmann 2014). However, these and similar studies have reviewed or qualitatively approached the subject, and have made interpretations by utilizing tools not directly measuring IER. There are very limited tools in the literature to enable standardized measurement of IER.

Niven et al, (2011) developed the Emotion Regulation of Others and Self (EROS) in order to examine how people regulate their own and others' emotions. However, Hofmann and collaborators (2016) criticized EROS on grounds of uncertainties about the validation of some items, and theoretical and psychometric problems and have developed the Interpersonal Emotion Regulation Questionnaire (IERQ) tool.

The IERQ was developed through a study consisting of four stages. In the first step, 105 items were determined with an open-ended questionnaire. In the second step, 1014 participants attended to determine the 6-factor structure with 60 items. Following exploratory and confirmatory factor analyses the psychometric properties of some factors were found to be inadequate and finally the IERQ was designed as a 4-factor scale with 5 items in each factor. In the final step, evaluating the 20-item final structure of the tool, in which 99 people participated, the 4-factor structure, the relationship with other psychometric tools for assessment of ER and psychological symptoms, and the adequacy of its internal consistency were confirmed (Hofmann et al. 2016).

Starting with the research and the importance of other individuals on ER it is believed that IER is a new concept to be investigated in clinical psychology and other related disciplines. A broader investigation of IER will assist the complementation of intrapersonal ER and IER. As there is not a psychometric tool in the Turkish language to estimate IER, the researchers have aimed at adapting the new IERQ to the Turkish language and to assess its psychometric properties.

METHOD

Participants

Our sample consisted of 467 adults (332 females) with an age range between 18 and 60 ($M = 26.63$, $SD = 9.55$); and 35 (7.5%) holding primary school, 86 (18.4%) university and 333 (71%) high school diplomas, 277 (59%) of the last group still attending the university.

Instruments

In addition to the special questionnaire prepared to acquire demographic information from the participants, the following instruments were used in order to examine the validity of the IERQ.

Interpersonal Emotion Regulation Questionnaire (IERQ): The scale developed in 2016 by Hofmann and collaborators measures how people use other people to regulate their own emotions. IERQ has 20 items and 4 factors consisting of 'social modelling', 'soothing', 'enhancing positive affect' and 'perspective-taking'. Cronbach alpha coefficients of these factors are respectively .93, .94, .89, .91. It was observed that these factors correlated with Difficulties in Emotional Regulation Scale and with depression or anxiety disorder symptoms.

Difficulties in Emotional Regulation Scale (DERS): The 36-item scale developed by Gratz and Roemer (2004) has 6 factors including non-acceptance, goals, impulse, awareness, strategies and clarity. The coefficient of internal consistency is 0.93 for the total score, and between 0.88 and 0.89 for the factors. The Turkish language version of DERS was prepared by Rugancı and Gençöz (2010). Cronbach's alpha values for this version being between 0.75 and 0.94.

Cognitive Emotion Regulation Questionnaire (CERQ): This scale was developed by Garnefski, Kraaij and Spinhoven (2001) in order to assess people's cognitive emotion regulation strategies after negative life events. CERQ has 9 factors. In the original study, their alpha values were between 0.68 and 0.86. Tuna and Bozo (2012) adapted the CERQ to the Turkish language, and estimated internal consistency values between 0.74 and 0.83 for the factors.

Emotion Regulation Questionnaire (ERQ): This scale developed by Gross and John (2003) and has 2 subscales on suppression and cognitive reappraisal, the respective alpha values being 0.73 and 0.79 in the original language study; and 0.71 and 0.78 in the Turkish language version prepared by Totan (2015).

Experiences in Close Relationships-Revised (ECR-R): This scale, developed by Fraley, Waller and Brennan (2000) to examine the individual's attachment characteristics in relationships, has 2 factors on anxiety and avoidance attachment style. The Turkish language version of the ECR-R was prepared by Günaydın, Sümer and Uysal (2005), with the respective alpha values of the two factors being 0.86 and 0.90.

Multidimensional Scale of Perceived Social Support (MSPSS): The 12-item scale was developed by Zimet, Powell, Farley, Wekman and Bekoff (1988). The MSPSS aims to evaluate social support levels perceived by one's family, friends and a significant other, with alpha values of these factors being, respectively, 0.87, 0.85 and 0.91 in the original language. Psychometric properties of the Turkish language version of MSPSS were found satisfactory (Eker et al. 2001).

Depression Anxiety and Stress Scale (DASS): This scale with 42 items and a high internal consistency coefficient was developed by Lovibond and Lovibond (1995). Akın and Çetin

(2007) adapted the scale to the Turkish language and found good psychometric values with the subscale scores increasing in parallel to the increasing severity of the symptoms.

Procedure

Firstly, we obtained the approvals and permissions of Stefan G. Hofmann and the Ege University Scientific Research and Publication Ethics Committee for the current evaluation study. The Turkish language version of the IERQ was set up as proposed by Brislin (1978), Herrera et al. (1993) and Savasır (1994). Firstly, the items were translated by two translators and a clinical psychologist. Subsequently, the translated version was tested on a small sample group for clarity and equivalence. After revision of some of the samples which were not well understood by the participants, the items were retranslated by the back-translation method, resulting in the local language psychometric tool.

All items, which were presented in a different order using the counterbalance method, were completed by participants in approximately 45 minutes. For test-retest reliability, the scale was applied to a sample group of 50 students who filled out the IERQ with an interval of two weeks. Principal component analysis (exploratory factor analysis), confirmatory factor analysis, the Pearson correlation analysis and the Cronbach alpha coefficients were used to investigate the psychometric properties of the Turkish language version of the IERQ.

RESULTS

Validity Results

Structure Validity. Principal component analysis (exploratory factor analysis- EFA) and confirmatory factor analysis (CFA) were used for structure validity. Firstly, EFA was conducted by using Varimax rotation. The Kaiser-Meyer Olkin was 0.91 and the Barlett's test was significant (χ^2 (190, N = 467) = 5151.79, $p < 0.001$). According to the results, 4 factors explained 65.85 % of the variance with Eigenvalues of 1.45-7.74. After the rotation, the first factor had 6 items (numbers 1, 2, 5, 11, 15, 20), the second factor had 5 items (numbers 4, 9, 12, 16, 19), the third factor has 5 items (numbers 3, 6, 8, 13, 18) and the last factor had 4 items (numbers 7, 10, 14, 17). Factor loads were between 0.60 and 0.82 (see Table 1). It was seen that items considerably similar to the original version were loaded to the factors. Additionally, it was thought that the names of the factors should be, respectively, 'social modeling', 'soothing', 'enhancing positive affect', and 'perspective taking', as in the language original form,.

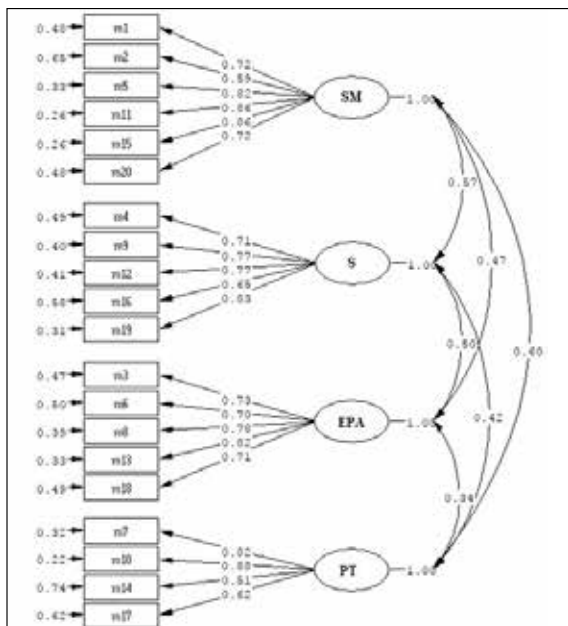
Structure validity of IERQ (both the original structure and the structure from EFA) was assessed using Lisrel 8.8. Firstly, the above model was tested. While some fit indices (χ^2 (164)= 605.44, $p < 0.001$, $\chi^2/sd = 3.96$, GFI= 0.88, AGFI= 0.84)

Table 1.Principal Component Analysis, Internal Consistency and Test- retest of IERQ

Items	Mean	SD	Components			
			1	2	3	4
1. It makes me feel better to learn how others dealt with their emotions.	3.48	.99	.81			
11. Seeing how others would handle the same situation helps me when I am frustrated.	3.52	.95	.81			
5. Hearing another person's thoughts on how to handle things helps me when I am worried.	4.25	.78	.79			
15. When I'm sad, it helps me to hear how others have dealt with similar feelings.	3.6	1.15	.76			
2. It helps me deal with my depressed mood when others point out that things aren't as bad as they seem.	3.66	.96	.65			
20. If I'm upset, I like knowing what other people would do if they were in my situation.	4.29	.75	.60			
19. When I feel sad, I seek out others for consolation.	2.71	1.14		.82		
9. Feeling upset often causes me to seek out others who will express sympathy.	4.21	.78		.80		
12. I look to other for comfort when I feel upset.	3.30	1.10		.74		
4. I look for other people to offer me compassion when I'm upset.	2.74	1.13		.73		
16. I look to other people when I feel depressed just to know that I am loved.	3.45	.99		.66		
8. I like being in the presence of others when I feel positive because it magnifies the good feeling.	3.26	1.06			.82	
13. Because happiness is contagious, I seek out other people when I'm happy.	3.98	.94			.81	
18. When I feel elated, I seek out other people to make them happy.	2.36	1.09			.74	
6. Being in the presence of certain other people feels good when I'm elated.	3.28	1.06			.74	
3. I like being around others when I'm excited to share my joy.	2.55	1.12			.72	
10. When I am upset, others make me feel better by making me realize that things could be a lot worse.	2.78	1.07				.77
7. Having people remind me that others are worse off helps me when I'm upset.	4.04	.87				.74
14. When I'm annoyed, others can soothe me by telling me not to worry.	2.98	1.13				.72
17. Having people telling me not to worry can calm me down when I am anxious.	3.07	1.15				.72
Eigenvalue			7.74	2.24	1.75	1.45
Variance (%)			38.67	11.19	8.75	7.24
Internal consistency coefficient			.89	.86	.86	.81
The test-retest coefficient *			.76	.88	.76	.63

* All correlation coefficients are significant at a level of $p < .001$.

Note: Component 1: Social Modeling, Component 2: Soothing, Component 3: Enhancing Positive Affect, Component 4: Perspective Taking.

**Figure 1.** The results of Confirmatory Factor Analysis of IERQ.

Fit Indices of the model: $\chi^2(164) = 605.44$, $p < .001$, $\chi^2/df = 3.96$, GFI = .88, AGFI = .84, RMSEA = .08 [%90 GA .07-.09], CFI = .96, IFI = .96, NFI = .95, SRMR = .06.

Note: SM: Social Modelling, S: Soothing, EPA: Enhancing Positive Affect, PT: Perspective Taking.

confirmed the structure, others (RMSEA= 0.08 [%90 GA 0.07-0.09], CFI= 0.96, IFI= 0.96, NFI= 0.95, SRMR= 0.06) showed that the model could be acceptable or even fit.

Secondly, the original structure, which contained the connection of the second item to 'perspective taking', was tested with CFA. Results show that this model was not fit according to some indices ($\chi^2(164) = 762.6$, $p < 0.001$, $\chi^2/df = 4.65$, GFI = 0.86, AGFI = 0.82, NFI = 0.94, RMSEA = 0.09 [%90 GA 0.08-0.10]), but it could be acceptable for others (CFI = 0.96, SRMR = 0.07). However, when evaluated generally, the first model appeared to be better. When models were compared, model comparison indices showed that the first model was better than second (AICfirst model [742.12] < AICsecond model [855.34]). Therefore, using the model in Figure 1 was considered to be more favourable.

Criterion-Related Validity. Correlation coefficients, both between factors and other measurements, were analyzed in order to examine the validity of the IERQ. All results are presented in Table 2. There were moderate correlations between subscales ($r = 0.33 - 0.55$, all $p < 0.01$). In addition, factors of the IERQ correlated with certain emotion regulation scales. Both social modelling ($r = 0.18$, $p < 0.01$) and soothing ($r = 0.34$, $p < 0.01$) were linked to the DERS total score.

Table 2. Correlation Coefficients between IERQ, its Factors, and Other Scales.

	Mean	SD	SM	S	EPA	PT
IERQ						
Social Modelling	20.44	4.92	-	.52**	.43**	.55**
Soothing	15.68	4.45		-	.45**	.41**
Enhancing Positive Affect	20.77	3.32			-	.33**
Perspective Taking	10.59	3.53				-
DERS						
Total Score	82.14	20.22	.18**	.34**	.00	.07
Awareness	11.72	3.50	-.16**	-.04	-.15**	-.07
Clarity	10.91	3.68	.13**	.18**	-.07	.10*
Non-accept	12.21	4.88	.23**	.23**	.02	.14**
Strategies	18.31	6.52	.19**	.36**	.03	.01
Impulse	13.38	4.94	.07	.26**	-.04	.04
Goals	15.62	4.67	.19**	.33**	.12**	-.04
ERQ						
Suppression	13.46	4.80	.03	-.05	-.13**	.10*
Reappraisal	26.56	7.00	.18**	.02	.17**	.12**
CERQ						
Self-Blame	11.60	2.64	.18**	.24**	.09	.04
Acceptance	11.90	3.05	.21**	.24**	.14**	.06
Rumination	15.05	3.04	.25**	.23**	.18**	-.03
Positive Refocusing	11.64	3.47	.06	.01	.14**	.26**
Refocusing on Planning	15.50	2.80	.13**	-.02	.12**	.02
Positive Reappraisal	14.27	3.42	.13**	-.07	.15**	.21**
Putting into Perspective	12.72	3.48	.28**	.10*	.19**	.47**
Catastrophizing	9.28	3.42	.15**	.30**	.03	.14**
Other-blame	10.41	2.85	.09*	.26**	.03	.11*
MSPSS						
Family	19.98	5.35	.14**	.14**	.27**	.09
Friends	19.35	5.77	.16**	.05	.17**	.12**
Significant Other	21.19	5.11	.15**	.11**	.19**	.11**
ECR-R						
Anxiety	59.93	18.09	.26**	.42**	.12*	.14**
Avoidance	61.84	19.92	-.14**	-.14**	-.40**	-.09
DASS						
Depression	5.84	7.52	.00	.17**	-.06	-.07
Anxiety	4.01	5.25	.00	.16**	-.06	.01
Stress	7.86	7.73	-.02	.13**	-.06	-.12*

*p< .05 **p< .01. SM: Social Modeling, S: Soothing, EPA: Enhancing Positive Affect, PT: Perspective Taking.

Generally, factors were seen to be positively correlated with the other subscores of the DERS.

Moreover, when the correlations between the IERQ and the CERQ were considered, factors of the IERQ were seen to correlate with negative strategies of the CERQ. Rumination was linked to social modelling ($r = 0.25$, $p < 0.01$) and soothing ($r = 0.23$, $p < 0.01$). Also, catastrophizing and blaming others were correlated with these factors.

It was seen that all factors of the IERQ were linked to 'anxious-attachment' pattern. Especially, the relationship between soothing and anxious-attachment were significant. ($r = 0.42$, $p < 0.01$). Furthermore, investigating whether or not the IER strategies were associated with depression, anxiety and stress symptoms showed that only the 'soothing' subscale was found to be associated with these symptoms.

As an alternative validity assessment, the multivariate variance analysis (MANOVA) was used to see whether or not the scores taken from the IERQ of people experiencing low or high difficulty in ER were different. Accordingly, before the analysis, participants were divided into two groups according to one standard deviation above ($n = 76$) and below ($n = 72$) the mean DERS total score. It was observed on the basis of this grouping that the IER skills of the individuals in the two groups were significantly different. ($F(4,143) = 12.24$, $p < 0.001$, Wilks' Lambda = 0.75, $\eta^2 = 0.26$).

When interpreting the oneway ANOVA results for each of the dependent variable, the Bonferroni correction (Tabachnick et al, 2001) was made and the significance level was adjusted to 0.01. On this basis, only the scores of the participants on the subscales 'social modelling' ($F(4,143) = 11.23$; $p < 0.01$) and 'soothing' ($F(4,143) = 36.57$; $p < 0.01$)

differed significantly according to the grouping such that those experiencing less difficulty in ER had lower score on the social modelling subscale (Mn. = 19.05, SD= 4.95) as compared to the other group (Mn. = 21.82, SD= 5.07). Also, the group experiencing less difficulty in ER soothing subscale (Mn. = 13.53, SD = 4.42) scored lower on the soothing subscale as compared to the other group (Mn. = 17.83, S = 4.23). Similar intergroup differences were not found in the other subscales of the IERQ.

Additionally, whether or not the IERQ scores were different for each gender was investigated. Because of the inequality between the number of males and females, randomly chosen 135 women and men were compared by conducting independent samples t-tests. Results showed that scores of social modelling ($t = 2.32$, $p < 0.05$, Cohen's $d = 0.28$) and enhancing positive affect ($t = 4.57$, $p < 0.001$, Cohen's $d = 0.56$) differed on the basis of gender. Female participants scored higher both on social modelling ($X = 21.02$, $SD = 4.8$) and on enhancing positive affect ($X = 21.47$, $SD = 2.93$) than the male participants ($X = 19.62$, $SD = 5.11$; $X = 19.61$, $SD = 3.71$, respectively).

Reliability Results

Internal Consistency and Test-Retest. For reliability, both Cronbach Alpha coefficients and test-retest correlation coefficients were tested (see Table 1). Cronbach Alpha coefficients were satisfactorily between 0.81 and 0.89. Results of test-retest analysis conducted on 50 participants with a 2-week interval were significant.

DISCUSSION

In the present study, the Interpersonal Emotion Regulation Questionnaire (IERQ) developed by Hofmann and collaborators in 2016 was adapted to the Turkish language, and its psychometric properties were examined. This new scale in the literature that measures IER by means of 20 items and 4 factors was translated to the Turkish language after obtaining Hofmann's permission. Its psychometric values were tested on a relatively wide sample, and generally, its usage was found to be proper for the Turkish population sample.

On the exploratory factor analysis, the 4 factors of the translated IERQ, the same as the original format, successfully explained more than half of the variance. Factor loading in the present study showed similar results to the original study (Hofmann et al. 2016). As expected, the items loaded into the factors were similar to the original work, except for item 2. Although it loaded to perspective taking in the original study, in our study it loaded to social modelling. Thus, this structure was confirmed by the CFA, and it was understood that people regulate their emotions by social modelling, soothing,

enhancing positive affect, and perspective taking. As Hofmann et al. (2016) stated, people regulate their negative emotions by seeing how others cope with their negative emotions (social modelling), by regarding advices of others (perspective taking), and by taking inspiration and consolation from other people (soothing). Also, people regulate their own positive emotions by sharing them with others (enhancing positive affect). The interrelationships of these 4 factors have been shown both in this and the original study.

Additionally, reliability of these 4 factors of the translated IERQ was seen to be adequate and similar to that in the original study. The test-retest procedure indicate that the scale assesses the same non-variable structures. These results show that the IERQ can be used reliably for the Turkish population samples.

Correlation analysis for validity showed that the factors of the Turkish language version of the IERQ were related to both other emotion regulation measurements and questionnaires that assess interpersonal relationships and emotions. When the relationship of the IERQ and the DERS factors are analysed, the characteristics on soothing and social modeling gain prominence. Experiencing difficulties in intrapersonal ER appear to be positively related to these two factors. Also, the correlation coefficients between the IERQ and the DERS emphasize the relationship of the IERQ with cognitive emotion regulation strategies and its reliability in this respect.

Results of MANOVA support this interpretation. Individuals with low and high scores on the DERS score differently on the soothing and social modeling subscales, with higher scores on the part of those experiencing difficulty regulating their emotions.. Thus, so long as individuals have difficulty in regulating their emotions, they may need to be soothed by others or to model someone to regulate their own emotions. But, this situation can cause dependence or the need for the help of others. It has been emphasized that individuals feeling more negative emotions need more support to regulate their own emotions (Hofmann et al. 2016). If one becomes dependent on someone in order to regulate his/her own emotions, it is possible that the IER can be maladaptive (Hofmann 2014). When it is considered that emotion regulation is closely related to psychopathology (Aldao et al. 2010), it is possible that people are dependent dependence on others in regulating their emotions and that they are constantly in constant need of them is related to psychopathology.

In our study, only the soothing factor of the IERQ was seen to be related to depression, anxiety, and stress. Maybe, people with depression and/or anxiety disorder cannot regulate their emotions, and can find relief by seeking help from someone else. Thus, they can get into a vicious circle, and their symptoms can increase. The correlation coefficients between the factors of the IERQ and psychological symptoms in the

original study (Hofmann et al. 2016) were stronger than in our study. This can be explained by cultural differences. In Turkey, with most characteristics of the collectivist culture (Göregenli, 1995), individuals spend more time together than people living in the USA. Considering that people in collectivist cultures depend on others and social systems, the higher scores of our participants as compared to those in the original study are expected results. However, the relationships between the IERQ scoring and depression, anxiety and stress scores were not strong. Although IER is related to psychopathology, this relationship may not be as strong as seen in another population because of cultural differences. This may explain the weak relationship between the enhancing positive affect factor and the other emotion regulation assessment tools. Since positive emotions are not readily shared in Turkey (Akan & Barışkın 2017), it may not be possible to regulate positive emotions using others. Results on this factor of the IERQ should be investigated in future studies. Additionally, our results showed that the female participants scored higher as compared to the males on the social modelling factor and the enhancing positive affect factor. This was not surprising as Nolen-Hoeksema (2012) emphasized similar gender differences in intrapersonal emotion regulation process. Moreover, females may enhance their positive emotions by sharing, because Fox (2008) highlighted that women express more their emotions.

To sum up, having high or low scores on IERQ refer to negative situations, indicating either dependence on others or isolation from others. So, having moderate scores are said to indicate a more functional situation. This, however, should be clarified in future studies, especially in studies on clinical samples.

Marroquin (2011) claimed, without providing any empirical results, that emotion regulation is sensitive to interpersonal relationships, IER and social support and can explain depressive symptoms. The present study shows that IERQ is correlated with social support. Thus, future studies may empirically investigate using the IERQ whether or not social support explains psychopathology by IER.

In conclusion, the present study on adapting the IERQ to the Turkish population demonstrates that this new measurement method is a valid and reliable questionnaire for the Turkish population. However, our study has limitations. One of them is the use of a non-clinical sample in spite of the large size of the experimental sample. The gender imbalance of the sample may be another limitation. Also, the test-retest analysis was carried out with only undergraduate students. Moreover, many measurements were used to assess the validity of IERQ. Although this is important in determining which strategies are associated with subscales, using the DERS, the CERQ, and the ERQ as three different measurements for comparisons

may have resulted in disadvantages. Future studies should take these limitations into consideration..

In summary, it has been shown that IERQ can be used in Turkey. Future studies using the IERQ may provide interpretations of ER in different areas such as sports psychology, psychopathology, and investigations on the effectiveness of any therapeutic method. It is a suitable measurement for studies that aim to address IER in addition to the intrapersonal ER process.

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