

URDU TRANSLATION AND VALIDATION OF EMOTION REGULATION QUESTIONNAIRE IN PAKISTANI ADOLESCENTS

Sadia Bano Abbasi

Associate Professor in Psychology at Government Girls Post Graduate College No. 1 Abbottabad &
Ph. D Scholar at Hazara University, Mansehra, Khyber Pakhtunkhwa
sadiaabbasi70@yahoo.com

Syeda Farhana Kazmi

Chairperson, Department of Psychology, Hazara University, Mansehra, Khyber Pakhtunkhwa
s.farhanakazmi@gmail.com

Abstract

The current study aims to translate and cross language validate the emotion regulation questionnaire (ERQ) from English to Urdu. The process of study was divided into two phases: Phase one employed the forward-back translation (Brislin, 1976) approach, while phase two described the psychometric properties of the translated version of the ERQ into Urdu. On a sample of 503 students, exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were performed to verify the factor structure of the Urdu translated version. The alpha reliability value of the ERQ was good ($\alpha=.81$). EFA and CFA confirmed two-factor model with good model fit indices (CRS, GFI, AGFI, and CFI) all the values fell in the acceptable range of .95 to .97, $p > .05$ and RMSEA $< .06$, $\chi^2/df < 3$. The estimated composite reliability, convergent validity, construct validity and criterion-related validity for both factors was satisfactory. A final model of ERQ with two dimensions in the Urdu language is the best fit for Pakistani culture in Urdu and to evaluate how people emotionally regulate different situations. A statistically significant gender difference in the adaptation of emotion regulation techniques was also revealed by the results of the current study.

Keywords: Emotion Regulation Questionnaire, Cognitive Reappraisal, Expressive Suppression, Urdu, Pakistan

INTRODUCTION

Emotions are a cognitive process that emerged from the evaluation of human beings for showing reactions on the basis of environmental cues (Davison et al., 2017). While emotion regulation (ER) may be automatic/controlled, intrinsic/extrinsic, a conscious/unconscious practice, a set of cognitive processes, and different ways of expression of emotion by which an individual's responses are influenced (Sloan et al., 2017). The process of ER isn't simply restricted to diminishing the power of profound reactions, but in addition, liable for creating and supporting an emotional response. In the ER, individuals try to manage their specific emotions such as positive or negative emotions, stress, surprise, disgust, and fear (Kobylynska & Kusev, 2019; Thompson, 1994; Zafar et al., 2021).

Each ER has specific objectives and functions. Objectives generate emotional responses involving attention, factual information, and bodily responses. However, functions are responsible for supporting specific goals' activities, satisfying hedonic needs, and balancing the personality. ER is classified into three major strategies: need-oriented, goal-oriented, and person-oriented. Need-oriented strategies are involved in converting attention from negative to positive information, interpretative biases, and involvement in physical activities like overeating or smoking. Goal-oriented strategies involve distraction of attention, cognitive reappraisal, and expressive suppression. Person-oriented strategies include attention counter-regulation, cognitive activities, and bodily activities like muscle relaxation and deep breathing (Koole, 2009; Zhang, 2019).

To evaluate ER, numerous self-report scales have been developed. The emotion regulation questionnaire (ERQ: Gross & John, 2003), one of the most often used scales, is still one of the most popular scales in the field of research. The ERQ is based on Gross's (1998) process model of ER, which places a strong emphasis on the variety of ways that emotion is expressed. The process model embodied four different aims of ER: situation selection/ situation modification, attentional disposition, cognitive

appraisal, and response modulation. Situation selection or situation modification refers to change, whether people are exposed or alter the nature of their inducing. Attentional disposition refers to the focus of attention while cognitive appraisal focuses on how stimuli are evaluated. Response modulation leads to the development of response on the basis of experimental, behavioural, and physiological manifestations (Witten et al., 2022).

According to the process model of ER, emotions are categorised into two strategies: antecedent-focused strategy and response-focused strategy. Antecedent-focused is called cognitive reappraisal, where an individual aims to change how they contemplate what is happening to change in order to change its emotional impact. A response-focused strategy is known as expressive suppression, where individual endeavours are restrained from the social articulation of their emotions (Preece et al., 2020). The current study emphasised goal-oriented ER strategy, antecedent-focused strategy, and response-focused strategy because all items in ERQ comprised of cognitive reappraisal (CR) and expressive suppression (ES).

The ERQ is a self-reported measure, having ten items along with two dimensions: CR and ES. CR, also known as adaptive strategy, is linked with an optimistic view, helps to develop personal functioning, promote well-being and change the way of thinking about the incident (CR consists of six items). While ES is known as a maladaptive strategy, it deals with poor personal functioning, negative emotions, and is unable to express emotions effectively (ES consists of four items). Each item in the ERQ consisted of a 7-point Likert scale, with 1 signifying strongly disagree and 7 signifying strongly agree, with higher scores suggesting the technique was mostly adopted. In the process of ER, the way people adopt first to regulate their emotions has more worth than how they might be taken on later (Gross & John, 2003; Muazzam et al., 2021).

The ERQ was initially developed in the English language and has since been converted into 33 languages, yet only a couple of concentrates officially inspected the psychometric prosperities of the questionnaire (Stanford Psychophysiology Laboratory, 2018). It is worth mentioning that ERQ has been utilised in different contexts and has demonstrated great psychometric properties. Eldeleklioglu and Eroglu (2015) in Turkish context, Melka et al., (2011) in American, and Wang et al. (2022) in China verified its good internal consistency. Therefore, CFA confirmed the two-factor (CR and ES) model with good model fit indices; (CRS, GFI, AGFI, CFI).95 to .97, $p > .05$ and RMSEA $< .06$, $\chi^2/df < 3$.

Mostly, researchers took graduate students as samples and applied ERQ to them. However, just a few researchers have scrutinised its factorial validity in clinical samples (drug addicts and personality disorders). CFA supported the original two-factor structure: CR and ES, along with good omega and alpha reliability, good convergent validity, and correlation with other constructs (Gross & John, 2003; Marco et al., 2021; Pastor et al., 2019; Preece et al., 2021).

There are some contradictory findings related to the psychometric properties of the ERQ. Batistoni et al. (2013) in the state of Paraíba confirmed the alpha reliability, construct and convergent validity of the ERQ and found that the ERQ has three factors that are CR (item No. 5, 8 and 10), ES (item No. 1, 3 and 7) and a new merging component was a redirection of attentional focus (item No. 2, 4 and 6) along with satisfactory psychometric properties. However, in confirmatory factor analyses, Spaapen et al. (2014) showed that item 3 should be removed from the scale. Preece et al. (2020) also conducted CFA and against the removal of item 3 from the scale and justified that it plays an important role in justifying negative emotions for respondents.

In Pakistan, Khan and Kausar (2014) translated ERQ into Urdu, but there is no information available about the psychometric properties of the Urdu translated ERQ. Fahd et al. (2021) found satisfactory psychometric properties and a two-factor model of ERQ for both genders, i.e., married males and females. As far as we could possibly know, no review with Pakistani adolescents to date investigated the EFA and CFA of ERQ on college students of the Hazara division, KP Pakistan.

Pakistan is a developing country that suffers with a lot of problems relating to physical and mental health, employment, education, and resource accessibility. These types of issues lead to a negative impact on mental health. Among these issues, emotion regulation seemed to be the most significant predictor of psychological problems (Walayat & Butt, 2017). Different research conducted with Pakistani adolescents offers insight into the processes of ER and its predictor factors such as parenting styles, personality traits, and family system handle adoption of ER. However, if any discrepancies occur in predictive factors, it negatively affects emotion regulation, which leads to

psychopathic tendencies (Jabeen et al., 2013; Khalid, 2015). Therefore, it was proved that proper emotion regulation is helpful in the prevention and coping with psychological problems.

CR and ES, linked with different psychological outcomes like studies on young adults, revealed CR is a vigorous, adaptive strategy while ES is a prediction of worse mental health (John & Gross, 2004). CR users deal with stressful situations by reconsidering what is happening proactively, and thus think and express positive aspects, resulting in more noteworthy confidence and life fulfilment. On the other hand, those individuals who used ES mostly discussed negative aspects of any circumstance and showed a lower level of confidence (Freire & Tavares, 2011; Gross & John, 2003).

The current study has three main objectives: to translate the ERQ from the source language (English) to the target language (Urdu), to describe its psychometric properties and evaluate its validity and reliability and assessed the gender difference in the use of different ER techniques in Pakistani culture. For researchers who used less educated samples and found it difficult for them to understand the items written in English, the Urdu translated scale might be useful. The Urdu translation scale has tremendous value in Pakistan and its neighbouring countries, where the majority of Urdu speakers reside, as Urdu is the official language of Pakistan.

The way that emotions are expressed differs significantly between genders. Males have stronger emotional experiences with anger and positive boosts, but females express their emotions freely (Deng et al., 2016). Females used ER strategies in a more flexible way than males. Males are more adaptable in acknowledgment, suppression, and denial, according to self-reported assessments (Goubet & Chrysikou, 2019). Noor et al. (2022) found that scores of males were high in ERQ-CR than females, and females attained higher scores in ERQ-ES than males.

However, the interaction between ES and life satisfaction was not significant for both genders across all stress levels, except at the high stress level of males, where suppression had a significant positive relationship with life satisfaction.

Jiang et al., (2022) investigated the effects of orientation (male, female), social pressure (low, moderate, and high levels), and emotion regulation strategies (reappraisal, suppression) on life satisfaction in young adults. A significant positive correlation between CR and life satisfaction was found among male and female participants across all stress levels, with the exception of males at the low stress level. A non-significant gender difference was found in ES and life satisfaction.

METHODS

The current study was divided into two phases: first, the ERQ's translation from English to Urdu language, and then the development of the scale's psychometric qualities. A CFA was used to evaluate the ERQ's contributing components. The Berkeley Expressivity Questionnaire (BEQ; Gross & John, 1997) was selected to check the criterion-related validity of the ERQ. The scores of ERQ were correlated with the scores of BEQ by the Pearson correlation method. The BEQ consists of three main components: positive expressivity, negative expressivity, and impulse strength.

Measures

The present study used the following measures.

Emotional Regulation Questionnaire (ERQ)

Gross and John (2003) proposed the ERQ to assess individuals' tendency to regulate their emotions. ERQ consists of ten items with a seven-point Likert scale, with one signifying strongly disagree, four neutral, and seven strongly agree, along with two subscales: the first one is CR, having six items (1, 3, 5, 7, 8, 10) and the second is ES, having four items (2, 4, 6, 9). Scores on specific subscales, i.e., CR and ES, summing up separately. Participants attained higher scores on specific subscales, showing the prevalence of that strategy, while lower scores represent the less frequent use of emotion regulation strategy. On the ERQ, the average Cronbach's alpha internal reliability coefficients for cognitive reappraisal (0.73) and expressive suppression (0.79) (Gross & John, 2003).

The Berkeley Expressivity Questionnaire (BEQ)

To gauge how people communicate their emotions, Gross and John (1997) created the BEQ. The BEQ includes three unique subscales: positive expressivity, negative expressivity, and impulse strength. It was composed of 16 items that were each scored on a scale of 1 to 7, with 1 being strongly disagreed upon and 7 strongly agreed upon. A high level of emotional expressivity was demonstrated by the high scores. For each subscale, the Cronbach's alpha value was .70, .70, and .80 respectively, and overall .86 (Gross & John, 1997).

Phase 1: Translation of ERQ in the Urdu language

The ERQ was converted from the English language to the Urdu language by using the four-step translation procedure proposed by Brislin (1976).

Six bilingual specialists, consisting of three lecturers, two assistant professors, and one associate professor from the English and Urdu departments of Government Girls Postgraduate College No. 1 Abbottabad, were chosen for the first stage of forward translation. They were instructed to translate the scale word by word in order to preserve the sense of the words. Three associate professors from the University of Hazara's psychology department were selected. They possessed a high level of English language ability in addition to being native speakers of Urdu. Every item that seemed to be closer to the original test in terms of style, grammar, and word choice was thoroughly evaluated by these specialists.

The second step involved the translation of the scales from Urdu to English by two additional bilingual translators. They were not made aware of the initial iterations of both scales. To test for accuracy and cross-cultural equivalency, the measures' original and back-translated versions were compared. Then, a second, impartial expert retranslated a few passages into English that the first translators couldn't agree on. The iterative approach persisted until the alignment of the two versions was achieved.

In the third step, the committee approached three experts (one professor and two associate professors) to assess the translated Urdu versions of ERQ against the original versions. The purpose of this step was to highlight the discrepancies and to make alterations, if any. The committee members did not have any prior knowledge of the measures and had never used them. They counter-checked the accuracy, relevance, and appropriateness of each item in the Urdu-translated versions, comparing them with the original English versions. They recommended some syntactical, grammatical, and semantic changes.

In the fourth step of the pre-test process, 20 students from Hazara University were chosen for the sample. The researcher selected participants using a convenience sampling technique. The outcomes showed that the scale items are clear-cut. Each item is logical and unambiguous, and they can all be used in further analysis.

Phase 2: ERQ's Psychometric Properties

Cronbach's alpha was employed for a reliability analysis of the scale in order to ascertain the psychometric properties of the Urdu translation of the ERQ. To assess the construct validity of the ERQ's factors, Analysis of Moment Structure (AMOS 20; CFAs) was utilised. The construct validity of ERQ was assessed using correlation with overall ERQ scores. The criterion validity of the ERQ was assessed through correlation with BEQ.

Sample

In the current study, a convenient sampling technique was used to choose a sample from various educational institutions in the KP Hazara division (GGPC No. 1 ATD, GPC No. 1 ATD, GPC Mandian, Comsat University, Hazara University, GHSS Jhangi, and Pine Hills School and College) with a range of 14 to 25 years ($M = 19.44$, $SD = 2.75$). The appropriate academic institutions gave their written consent for the data collection. The study only included participants who signed a written informed consent form. Data were collected from 550 students, and the statistical analysis relied on the cleansed data of 503 participants. Participants were divided into two groups; males ($n = 302$) and females ($n = 201$).

Procedure

Prior to data collection in the current study, approval from the head of educational institutions was obtained (universities, schools, and colleges). Additionally, approval from the ethical committee was also attained. The researcher visited various Hazara division schools, colleges, and universities in order to gather data and informed participants about the objectives of research and made assured them that their data would be kept confidential and used merely for research purpose. The ERQ, along with a demographic sheet, was administered to participants and requested to fill the questionnaire completely, truthfully, and accurately. They were not time-bound to complete the questionnaire and were free to fill it out at their convenience.

Out of the 550 students, 200 participants ($n = 100$ males and 100 females) were asked to complete the ERQ in both Urdu and English in order to determine the correlation between the two scales. An additional 300 participants ($n = 150$ males and 150 females) were asked to complete the BEQ

along with the ERQ. The supplementary scale was administered in the original language (English) because all the participants had proficiency in both English and the Urdu languages. At the end of data collection, a special thanks to participants for their nice cooperation. Incomplete questionnaires were discarded.

Statistical Analysis

All data gathered during the pilot testing and the main study were entered using the Statistical Package for Social Sciences (SPSS) version 23. EFA was used to identify the main dimensions and factor structure of the ERQ. AMOS-22 was used to analyse the CFA and evaluate ERQ's factors. The gender difference was assessed using an independent sample t test, and the construct validity and correlation between variables were assessed using the Pearson product-moment correlation coefficient.

RESULTS

The results of the current study are as follows.

Emotion Regulation Questionnaire (Cognitive Reappraisal and Expressive Suppression)

Psychometric Properties

Reliability of the ERQ (CR and ES) was assessed. The alpha reliability for factor A (CR) was ($\alpha = .75$) factor B (ES) was ($\alpha = .75$) and for total scale ($\alpha = .81$). The analysis showed that the ERQ and its subscales (CR and ES) have good internal consistency.

The ERQ Urdu translation and the original English scale are substantially correlated with one another, correlation analysis found a significant positive correlation between both versions at the .01 level of significance.

Validation of ERQ

At the first exploratory factor analysis (EFA) was conducted to determine the main dimensions and factors of the scale in order to validate the Urdu version of the ERQ. EFA was carried out with the use of a rotated component matrix. The results of the factor analysis demonstrate the presence of two separate constructs (CR and ES) in the ERQ. Confirmatory factor analysis (CFA) was used to verify the suggested model, the structure of factors, and correlations between the dimensions of observed indicators and original factors by using SPSS-25 and AMOS-20. Composite reliability and convergent validity (AVE) were also attained to verify the results.

Composite reliability was attained by merging covariance and variance of the true score along with a composite of indicator variables, linked with paradigms and divided by the aggregate of whole variance (the formula for CR is summation of lambda whole square by summation of lambda whole square plus summation e where $e = 1 - \text{lambda square}$).

Convergent validity (AVE) was evaluated using items that were relevant to the intended construct (formula for AVE: summation lambda square divided by summation lambda square plus summation e where $e = 1 - \text{lambda square}$, squaring the factor loading of each item, adding these scores for each variable, and dividing them by the number of items).

Field (2013) specified that all observed components must have regression values greater than .35. Findings in Figure 1 showed that factor loadings for the two ERQ dimensions are greater than .35. This value serves as a suitable benchmark for the standardised regression value. For comprehensive analysis, a graphic representation of the model is shown below.

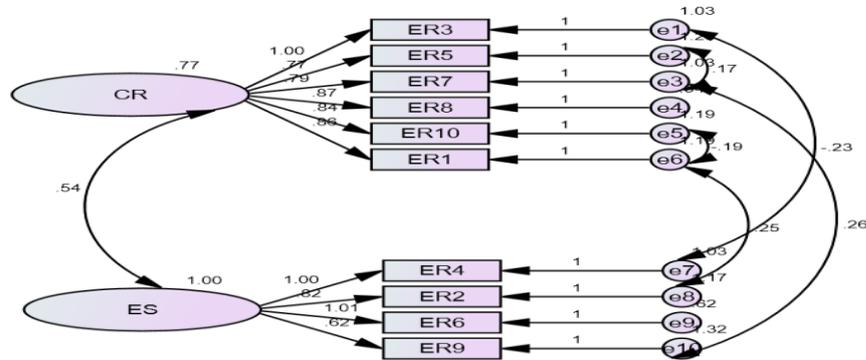


Figure No. 1 demonstrated the two factors of ERQ.

Table No. 1 Emotion Regulation Questionnaire's overall item correlation (N = 503)

No of item	R	No of item	R
1	.563**	6	.658**
2	.545**	7	.629**
3	.580**	8	.607**
4	.601**	9	.533**
5	.543**	10	.541**

Note. ** p < .01

The Emotion Regulation Questionnaire had good construct validity because all of the items had a strong positive correlation with the ERQ's overall scores.

Table No. 2 Communalities Values of Extraction Method by using Principal Components Analysis of ERQ (N = 503)

Item No.	Value	Item No.	Value
1.	.355	6.	.643
2.	.626	7.	.486
3.	.564	8.	.471
4.	.648	9.	.363
5.	.443	10.	.395

Note. ERQ = Emotion Regulation Questionnaire.

Table 2 showed that the ERQ (10 items) have satisfactory extraction values and can be used to measure emotion regulation.

Table No. 3 Factor Loading for Exploratory Factor Analysis by Using Varimax Rotation Analysis of ERQ (N = 503)

Item No	Factor 1	Factor 2
ER3	.748	
ER7	.662	
ER5	.661	
ER8	.637	
ER10	.615	

ER1	.527	
ER4		.794
ER2		.789
ER6		.751
ER9		.534
% variance	23.22	
Cumulative variance	49.93	
Kaiser–Meyer–Olkin measure	.837	
Bartlett’s test of sphericity	1205.04	< .000

Note. ER = Emotion Regulation

Two factors (CR and ES) of the ERQ Urdu translation's factor loading values were displayed in Table 3.

Table No. 4 Model Fit Indices for ERQ (N = 503)

Models	$\chi^2(df)$	χ^2/df	P	Goodness-of-fit indices				
				GFI	AGFI	CFI	IFI	RMSEA
ERQ (two factors)	35.45(29)	1.22	.19	.987	.975	.994	.995	.021

Note. ERQ = Emotion Regulation Questionnaire; GFI = Goodness-of-fit index; AGFI = Adjusted goodness-of-fit index; CFI = Comparative fit index; IFI = Incremental fit index; RMSEA = Root mean square error of approximation.

Table 4 showed CFA for goodness of fit index for both subscales of ERQ. Goodness-of-fit indices (GFI, AGFI, CFI and IFI) all fall within the acceptable range of .95 to .97, $p > .05$, and RMSEA less than .06 with the fifth trial of modification indices along with .35 regression values.

Table No. 5 The CFA Reliability and Validity Results for a final Model of ERQ (N = 503)

Construct	Items	Factor loading	Cronbach’s alpha (>.7)	CR (>0.6)	AVE (>0.5)
Factor 1 (cognitive reappraisal)	ER3	.748	.75	.81	.51
	ER7	.662			
	ER5	.661			
	ER8	.637			
	ER10	.615			
Factor 2 (Expressive Suppression)	ER1	.527			
	ER4	.794	.74	.81	.53
	ER2	.789			
	ER6	.751			
	ER9	.534			

Note. ER = Emotion Regulation; CFA = Confirmatory factor analysis; CR = Composite reliability; AVE = Average variance extracted.

Table 5 showed a satisfactory Cronbach's alpha value, composite reliability, and convergent validity measured by items linked to the intended construct.

Table No. 6 Correlation between ERQ and BEQ (N =300)

S. No	Scales	I	II
I	ERQ	—	.249**
II	BEQ	—	—

Note. ERQ = Emotion Regulation Questionnaire; BEQ = The Berkeley Expressivity Questionnaire. ** $P < .01$. Table 6 showed that ERQ has a significant positive correlation with BEQ.

Table No. 7 Correlation between subscales of ERQ and BEQ (N = 300)

S. No	Scales	I	II	III
I	BEQ	—	.473**	-.101*
II	CR	—	—	-.205*
III	ES	—	—	—

Note. BEQ = The Berkeley Expressivity Questionnaire ; CR = Cognitive Reappraisal; ES = Expressive Suppression. * $P < .05$, ** $P < .01$. Table 7 showed the patterns of relationship of ERQ sub scales (CR and ES) with BEQ. BEQ was significantly positively correlated with CR and negatively correlated with ES.

Table No. 8 Mean Comparison of gender on Cognitive Reappraisal, Expressive Suppression and Emotion Regulation (N = 503)

Variable	Male (n = 302)		Female (n = 201)		t(501)	P	Cohen's d
	M	SD	M	SD			
	CR	19.72	5.65	21.71			
ES	13.79	3.86	13.86	4.29	-.184	.854	.02
ER	33.74	7.97	35.93	6.99	-3.16	.002	.29

Note. CR = Cognitive Reappraisal; ES = Expressive Suppression; ER = Emotion Regulation.

Table 8 showed significant differences between male and female participants on CR and ER. It showed that females attained high scores on CR and ER as compared to males. On ES, there was a non-significant gender difference.

DISCUSSION

This current study aimed to translate, adapt, and evaluate the psychometric properties of the Urdu-translated measures of the emotion regulation questionnaire (ERQ). Main study was divided into two to achieve the goal. In first phase to translate the ERQ, Brislin (1976) forward back-translation method was used. In the second phase, exploratory factor analysis (EFA) and confirmatory factor analysis (CAF) was used to calculate psychometric properties.

Cronbach's alpha reliability showed that ERQ (Urdu translation) has good reliability ($\alpha = .81$) along with both subscales CR ($\alpha = .75$) and ES ($\alpha = .74$). The reliability of the present scale is in line with the original scale (Gross & John, 2003) where CR was ($\alpha = 0.73$) and ES was ($\alpha = 0.79$). ERQ also displayed good values for composite reliability (CR) and convergent validity (Average Variance Extracted: AVE). An estimated value for convergent validity was .51 and composite reliability was .81 for factor A (CR). Similar results were found for factor B (ES), where the estimated value for convergent validity was .53 and the calculated value for composite reliability was .81 (Table 5). The ERQ also displayed good construct validity because all the items were significantly positively correlated with total scores. The ERQ also demonstrated its internal consistency as a measure of emotion regulation (Table 1).

In order to validate the Urdu version of the ERQ, an exploratory factor analysis (EFA) was initially performed to identify the key dimensions and components of the scale. ERQ was used to collect data from 503 individuals for factor analysis (included all items). EFA was carried out with the use of a rotated component matrix. Varimax rotation was used to create a rotated component matrix, and principal component analysis was used for extraction (Table 2). The results of the factor analysis demonstrate the presence of two separate constructs (CR and ES) in the ERQ. The factor loadings for CR (six items) were: .747, .662, .661, .637, .615, and .527. While ES (four elements) were loaded collectively .794, .789, .751 and .534 with explained variance of 49.93% (Table 3). These two components have the greater than one eigenvalue. Whereas the KMO value of the present study was 0.837, which falls within an acceptable range that is greater than 0.5.

Confirmatory factor analysis (CFA) was used after exploratory factor analysis (EFA) to verify the suggested model, the structure of factors, and correlations between the dimensions of observed indicators and original factors. SPSS-25 and AMOS-20 was used to assess the pre-specified relationship in various scale constructs. The adjusted goodness-of-fit index (AGFI), comparative fit index (CFI), incremental fit index (IFI), and root-mean-square error of approximation (RMSEA) were all examined

to determine the overall goodness of fit indices. Cut-off scores for GFI, AGFI, and CFI are >0.90 , RMSEA is between 0.06 and 0.08, χ^2/df should be less than 3, and $p > .05$ (Brown, 2015; Schreiber et al., 2006).

The value of χ^2 was 35.45 (29), while the value of χ^2/df was 1.22, which lies within the approved standardised value of χ^2/df . As 1 is the perfect value of χ^2/df , if the value of χ^2/df is 5 or above, then it is seen as being unsatisfactory (Marques et al., 2014). In the analysis of CFA, the obtained value for p was .19, GFI was .987, AGFI was .975, CFI was .994, and IFI was .995. This was validated by all of the aforementioned descriptions that goodness of fit indices (CRS, GFI, AGFI, and CFI) falls between .95 to .97, $p > .05$ and RMSEA is less than .08 with the fifth trial of modification indices (Table 4).

The range for the ideal fitting model is 0 to 1. A number close to 1 indicates perfect model fitting. However, a good model match is seen in the .90 to .95 range. The RMSEA in the current study was .021, which is less than .05 that is the standardised value for model fit. RMSEA 90% to 95% guaranteed that the model is in the acceptable fit range (Collier, 2020).

CFA is based on specified criteria that all observed factors must have regression values greater than .35 (Field, 2013). Result showed that the factor loadings of CFA for the two dimensions of ERQ were higher than .35. This amount serves as a suitable benchmark for the standardised regression value (Figure 1). The Urdu version of the ERQ scale, which includes all items with two dimensions, is the most accurate and reliable way to assess adolescent emotion regulation, according to all of the EFA and CFA results.

ERQ has been used in different contexts, for different purposes and has proved to have good psychometric properties. Alazmi and Salem (2021) applied the same scale in Kuwait sample of teachers, Wang et al. (2022) in China using a sample of rural-to-urban migrant adolescents and young adults, Fahd (2021) in Pakistan with sample of married people, Ioannidis and Siegling (2015) used a sample of British University students from London, Preece et al. (2021) in three Australian communities, Marco et al. (2021) on clinical sample, all the aforementioned researches verified its good internal consistency, good convergent validity and correlation with other constructs and CFA confirmed the two-factor (CR and ES) model with good model fit indices; (CRS, GFI, AGFI, CFI).95 to .97, $p > .05$ and RMSEA $< .06$, $\chi^2/df < 3$.

The findings of this study demonstrated that there is a significant correlation between the English and Urdu versions of the ERQ. The ERQ and its subscales (CR & ES) were examined for criterion-related validity by the BEQ, and results showed a substantial positive correlation between the two scales. Some of the earlier studies support these conclusions. The propensity to manifest one's emotional reactions in observable behaviour is known as emotional expressivity. On the other hand, inhibition or restriction of emotional expression in front of others is known as suppression. In the ERQ subscale, ES was shown to be negatively correlated with BEQ and CR to be favourably correlated with BEQ (Fardis, 2005).

The current study also found the gender difference in regulation of ER and proved that gender differences exist in the use of ER strategy (CR & ES). The overall scores of CR and ER varied significantly by gender. It demonstrated that, as compared to males, females achieved higher scores on the CR and ER. The result of the t-test was ($t = -4.29$ and -3.16 respectively, with $df = 501$) and the mean value of CR for males 19.72 (SD = 5.65) and for females, 21.71 (SD = 4.17), ER for males 33.74 (SD = 7.97) and for females, 35.93 (SD = 6.99) respectively, and the level of significance for CR and ER was $p < .05$. Non-significant gender differences exist in ES. The t-test yielded the following results: ($t = -.184$) df (501), mean ES of 13.79 (SD = 3.86) for males and 13.86 (SD = 4.29) for females, and $p > .05$ (Table 7).

There are gender disparities in adaption of ER's strategy, including particular ER strategies, like maladaptive ER, CR, and ES. Females used more ER strategies in stressful situations than males (Goubet & Chrysikou, 2019). Previous research by Masumoto et al. (2016) was in line with the current study's findings that men were more likely to use CR as compared to women, while there was a non-significant gender difference in uses of ES. The results of the current study are comparable to Jiang et al. (2022), who discovered a gender difference in the use of CR during the emotion regulation process, but not in the use of ES.

LIMITATIONS AND SUGGESTIONS

The present study has some limitations. Despite the fact that the ERQ's norms were developed in the context of Pakistan, all the participants were residents of Hazara Division, KP Pakistan. It is suggested that future research should select samples from other regions of Pakistan. Further, the present research has taken non-clinical samples (students), so from the findings of the present research, data can only comment on its utility in general community samples rather than specialised clinical groups. For better comparison, clinical samples would therefore be useful to confirm its utility in such settings. Another limitation was that only the BEQ was used for criterion validity other scales of ER can be used for criterion validity. It is recommended that to determine the divergent validity of the ERQ other opposing scales can be used.

CONCLUSION AND IMPLICATIONS

The goal of the current study was to develop an accurate, valid, and sound ERQ measurement. It's proved that the ERQ in Urdu is a valid and accurate tool for evaluating ER in adolescents. The model's best fitting indices were revealed by the CFA analysis. The association with the BEQ also makes important additions to the literature in terms of criterion validity. It proved that the ERQ has acceptable and satisfactory psychometric properties and is a brief, easily administered questionnaire. In Pakistan, a developing nation in Asia, where religion, traditions, and customs have a significant influence on how people live their lives at work and express their feelings, more time is needed to construct a questionnaire that establishes its own norms.

REFERENCES

- Alazmi, N. S., & Salem, A. A. M. S. (2021). The Emotion Regulation Questionnaire: Validation and Psychometric Properties in Kuwaiti Teachers. *Clinical Schizophrenia and Related Psychoses*, 15(4), 02-09. <https://doi.org/10.3371/CSRP.AASN.140721>
- Batistoni, S. S. T., Ordonez, T. N., Silva, T. B. L. D., Nascimento, P. P. P. D., & Cachioni, M. (2013). Emotional Regulation Questionnaire (ERQ): Indicadores psicométricos e relações com medidas afetivas em amostra idosa. *Psicologia: Reflexão e Crítica*, 26, 10-18. <https://doi.org/10.1590/S0102-79722013000100002>
- Brislin, R. W. (1976). Comparative research methodology: Cross cultural studies. *International Journal of Psychology*, 11(3), 215–229. <https://doi.org/10.1080/00207597608247359>
- Brown, T. A. (2015). *Confirmatory factor analysis for applied research*. Guilford publications. <https://books.google.com.pk/books?hl=en&lr=&id=tTL2BQAAQBAJ&oi=fnd&pg=PP1&dq>
- Collier, J. E. (2020). *Applied structural equation modeling using AMOS: Basic to advanced techniques* (1st ed.). Routledge. <https://doi.org/10.4324/9781003018414>
- Davison, C. B., Attallah, S., & Argyriou, E. (2017). Emotion regulation and internet gaming disorder. *Journal of Environmental Research and Public Health*, 15(1), 30. <https://doi.org/10.3390/ijerph15010030>
- Deng, Y., Chang, L., Yang, M., Huo, M., & Zhou, R. (2016). Gender differences in emotional response: Inconsistency between experience and expressivity. *Plos One*, 11(6), e0158666. <https://doi.org/10.1371/journal.pone.0158666>
- Eldeleklioglu, J., & Eroglu, Y. (2015). A Turkish adaptation of the emotion regulation questionnaire. *Journal of Human Sciences*, 12(1), 1157-1168. <https://doi.org/0000-0003-1261-888X>
- Fahd, S., Hanif, R., Bukhari, F. K., Akram, M., Jafar, M., Kanwal, F., Malik, N., Sultana, S., & Pano, S. (2021). Regulation of emotions among Pakistani married individuals: Exploring strategies of emotional regulation questionnaire (ERQ). *Ilkogretim Online*, 20(4), 670-683 <https://doi.org/10.17051/ilkonline.2021.04.71>
- Fardis, M. (2005). *Emotion regulation and the quality of romantic relationship* [Doctoral dissertation, University of Montana]. ScholarWorks at University of Montana. <https://scholarworks.umt.edu/cgi/viewcontent.cgi?article=6011&context=etd>
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. Sage. <https://books.google.com.pk/books?hl=en&lr=&id=c0Wk9IuBmAoC&oi=fnd&pg=PP2&dq=related:7ZGdt571KNkJ:>

- Freire, T., & Tavares, D. (2011). Influencia da autoestima, da regulação emocional e do gênero no bem-estar subjetivo e psicológico de adolescentes. *Archives of Clinical Psychiatry (São Paulo)*, 38, 184-188. <https://doi.org/10.1590/s0101-60832011000500003>
- Goubet, K. E., & Chryssikou, E. G. (2019). Emotion regulation flexibility: Gender differences in context sensitivity and repertoire. *Frontiers in Psychology*, 10, 935. <https://doi.org/10.3389/fpsyg.2019.00935>
- Gross, J. J. (1998). Antecedent- and response-focused emotion regulation divergent consequences for experience, expression, and physiology. *Journal of Personality and Social Psychology*, 74(1), 224-37. <https://doi.org/10.1037//0022-3514.74.1.224>.
- Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, 85(2), 348-362. <https://doi.org/10.1037/0022-3514.85.2.348>
- Gross, J.J., & John, O.P. (1997). Revealing feelings: Facets of emotional expressivity in self-reports, peer ratings, and behavior. *Journal of Personality and Social Psychology*, 72, 435-448. https://dtreboux.files.wordpress.com/2021/01/emotions_expressivity.pdf
- Ioannidis, C. A., & Siegling, A. B. (2015). Criterion and incremental validity of the emotion regulation questionnaire. *Frontiers in Psychology*, 6, 247. <https://doi.org/10.3389/fpsyg.2015.00247>
- Jabeen, F., Anis-ul-Haque, M., & Riaz, M. N. (2013). Parenting styles as predictors of emotion regulation among adolescents. *Pakistan Journal of Psychological Research*, 85-105. <file:///C:/Users/Pakistan/Downloads/495-Article%20Text-907-1-10-20200812.pdf>
- Jiang, X., Moreno, J., & Ng, Z. (2022). Examining the interplay of emotion regulation strategies, social stress, and gender in predicting life satisfaction of emerging adults. *Personality and Individual Differences*, 185, 111255. <https://doi.org/10.1016/j.paid.2021.111255>
- John, O. P., & Gross, J. J. (2004). Healthy and unhealthy emotion regulation: Personality processes, individual differences, and life span development. *Journal of Personality*, 72, 1301-1334. <http://dx.doi.org/10.1111/j.1467-6494.2004.00298.x>
- Khalid, A. (2015). *Correlates of mental health among Pakistani adolescents: An exploration of the interrelationship between attachment, parental bonding, social support, emotion regulation and cultural orientation using structural equation modeling* [Unpublished PhD thesis, University of Edinburgh]. Edinburgh Research Archive. <http://hdl.handle.net/1842/15925>
- Khan, S., & Kausar, R. (2014). *Emotional Regulation Questionnaire*. University of the Punjab, Lahore-Pakistan. <https://spl.stanford.edu/sites/g/files/sbiybj19321/files/media/file/urdu.pdf>
- Kobylinska, D., & Kusev, P. (2019). Flexible emotion regulation: How situational demands and individual differences influence the effectiveness of regulatory strategies. *Frontiers in Psychology*, 10, 72. <https://doi.org/10.3389/fpsyg.2019.00072>
- Koole, S. L. (2010). The psychology of emotion regulation: An integrative review. *Psychology Press*, 23 (1), 4-41. <https://doi.org/10.1080/02699930802619031>
- Marco, J. H., Fernandez-Felipe, I., Fonseca, S., Garcia-Palacios, A., Banos, R., & Guillen, V. (2021). Confirmatory factor analysis and psychometric properties of the emotion regulation questionnaire in participants with personality disorders. *Clinical Psychology and Psychotherapy*, 28(6), 1598-1606. <https://doi.org/10.1037/a0034474>.
- Masumoto, K., Taishi, N., & Shiozaki, M. (2016). Age and gender differences in relationships among emotion regulation, mood, and mental health. *Gerontology and Geriatric Medicine*, 2. <https://doi.org/10.1177/2333721416637022>
- Melka, S. E., Lancaster, S. L., Bryant, A. R., & Rodriguez, B. F. (2011). Confirmatory factor and measurement invariance analyses of the emotion regulation questionnaire. *Journal of Clinical Psychology*, 67, 1283-1293. <https://doi.org/10.1002/jclp.20836>
- Muazzam, A., Ali, N., Niazi, Y., & Hassan N. (2021). Emotion regulation, optimism and quality of life among gastric ulcer patients. *Pakistan Journal of Medical Sciences*, 37(4), 988-992. <https://doi.org/10.12669/pjms.37.4.3894>
- Noor, N., Latif, S., & Irfan, R. (2022). Social appearance anxiety, emotional regulation and quality of life in individuals with premature canities: A correlational study. *Journal of the Pakistan Medical Association*, 72(2), 239-242. <https://doi.org/10.47391/JPMA..178>
- Pastor, M. C., López-Penadés, R., Cifre, E., & Moliner-Urdiales, D. (2019). The Spanish version of the emotion regulation questionnaire for children and Adolescents (ERQ-CA): a psychometric

- evaluation in early adolescence. *The Spanish Journal of Psychology*, 22. <https://doi.org/10.1017/sjp.2019.30>.
- Preece, D. A., Becerra, R., Hasking, P., McEvoy, P. M., Boyes, M., Sauer-Zavala, S., Chen, W & Gross, J. J. (2021). The emotion regulation questionnaire: Psychometric properties and relations with affective symptoms in a United States general community sample. *Journal of Affective Disorders*, 284, 27-30. <https://doi.org/10.1016/j.jad.2021.01.071>
- Preece, D. A., Becerra, R., Robinson, K., & Gross, J. J. (2020). The emotion regulation questionnaire: psychometric properties in general community samples. *Journal of Personality Assessment*. 102(3), 348-356. <https://ro.ecu.edu.au/cgi/viewcontent.cgi?article=6921&context=ecuworkspost2013>
- Sloan, E., Hall, K., Moulding, R., Bryce, S., Mildred, H., & Staiger, P. K. (2017). Emotion regulation as a transdiagnostic treatment construct across anxiety, depression, substance, eating and borderline personality disorders: A systematic review. *Clinical Psychology Review*, 57, 141-163. <https://doi.org/10.1016/j.cpr.2017.09.002>
- Spaapen, D. L., Waters, F., Brummer, L., Stopa, L., & Bucks, R. S. (2014). The emotion regulation questionnaire: Validation of the ERQ-9 in two community samples. *Psychological Assessment*, 26, 46. <https://doi.org/10.1037/a0034474>
- Stanford Psychophysiology Laboratory (2018). *Resources: The emotion regulation questionnaire*. Retrieved from <https://spl.stanford.edu/resources>
- Thompson, R. A. (1994). Emotion regulation: A theme in search of definition. *Monographs of the Society for Research in Child Development*, 59(2-3), 25–52. <https://doi.org/10.2307/1166137>
- Walayat, S., Butt, M. (2017). Parental acceptance-rejection, childhood trauma, emotion regulation, and psychological adjustment as the risk factors of psychopathic tendencies in adolescents of Pakistan. *International Journal of Business and Social Research*, 7(5), 9–24. <https://ideas.repec.org/a/mir/mirbus/v7y2017i5p9-24.html>
- Wang, D., Yuan, B., Han, H., & Wang, C. (2022). Validity and reliability of emotion regulation questionnaire (ERQ) in Chinese rural-to-urban migrant adolescents and young adults. *Current Psychology: A Journal for Diverse Perspectives on Diverse Psychological Issues*, 41(4), 2346–2353. <https://doi.org/10.1007/s12144-020-00754-91-8>.
- Witten, J. A., Coetzer, R., & Turnbull, O. H. (2022). Shades of rage: applying the process model of emotion regulation to managing anger after brain injury. *Frontiers in Psychology*. <https://doi.org/10.3389/fpsyg.2022.834314>
- Zafar, H., Debowska, A., & Boduszek, D. (2021). Emotion regulation difficulties and psychopathology among Pakistani adolescents. *Clinical Child Psychology and Psychiatry*, 26(1), 121-139. <https://doi.org/10.1177/1359104520969765>
- Zhang, Y. (2019). Research progress of children's emotional regulation ability. In *5th Annual International Conference on Social Science and Contemporary Humanity Development (SSCHD 2019)*: Atlantis Press, 376, 34-40 <https://doi.org/10.2991/sschd-19.2019.7>