The Role of Cognitive Emotion Regulation Strategies in the Prediction of the Features of Borderline Personality in University Students

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The purpose of this research was to investigate the role of cognitive emotion regulation strategies in the prediction of the features of borderline personality disorder. In this descriptive correlation study, 378 students (187 males & 191 females) from the statistical population of all the students from Arak University during 2015 were selected through a stratified random sampling method. The students filled in the Cognitive Emotion Regulation Questionnaire and the Borderline Personality Scale. Data analysis was performed using correlation and regression analysis. The results indicated that the features of borderline personality disorder had a significant

positive correlation with maladaptive cognitive emotion regulation strategies and a significant negative correlation with adaptive cognitive emotion regulation strategies. The regression analysis showed that the cognitive emotion regulation strategies could predict the features of borderline personality disorder in the university students. In general, it can be concluded that maladaptive cognitive emotion regulation strategies predicted higher levels of borderline personality disorder.

Keywords: cognitive emotion regulation, borderline personality disorder, university student

Borderline personality disorder is a serious and complex mental disorder, which can be diagnosed based on a pervasive pattern of instability in emotion regulation, the interpersonal relationships, self-image, and impulse control (New, Triebwasser & Charney, 2008) and is often diagnosed in both clinical and non-clinical samples. According to existing studies, borderline personality disorder is associated with a severe functional disorder, high suicide rate, and high costs for the community (Leichsenring, Leibing, Kruse, New, & Leweke, 2011). Despite the fact that borderline personality disorder is often considered a disorder of dysregulation in interpersonal relationships, behaviour, identity, and recognition, but emotional dysregulation is the most important key features of this disorder (Ibraheim, Kalpakci, Sharp, 2017; Feliu-Soler et al., 2013; Leichsenring et al., 2011; Crowell, Beauchaine, & Linehan, 2009; Putnam, & Silk, 2005; Johnson, Hurley, Benkelfat, Herpetz, & Taber, 2003; Zanarini, Frankenburg, Hennen & Silk, 2003).

According to the Linehan's biosocial theory (Crowell et al., 2009), individuals with borderline personality disorders are emotionally sensitive since birth. This sensitivity leads to a

tendency to experience negative mood in different situations and can create problems in the learning of the emotional regulation strategies. This deficiency in the regulatory strategies facilitates inappropriate behaviour in order to manage and reduce the negative emotions. Therefore, it seems that these processes lead to negative consequences, which, in turn, strengthen the emotional sensitivity, so that an emotional dysregulation will be created. Linehan's biosocial theory proposes that individuals with borderline personality disorders are like children who are emotionally sensitive, who experience severe negative mood, and have not learned the skills required to regulate their emotions. So, it is difficult for them to control and find a way to express their emotions. Emotional dysregulation could be defined as the frequent and intense experience of emotions, combined with an inability to cope with their occurrence (Matusiewicz, Weaverling, Lejuez, 2014). Gratz & Roemer (2004) introduced emotional dysregulation as a multidimensional construct, encompassing emotional awareness, understanding, and the acceptance of one's emotions, and also, the ability to manage emotional arousal and to act "in desired ways regardless of emotional state." To regulate emotions, people use some different strategies. Parkinson & Totteredell (1999) pointed out that there are three aspects of emotion regulation strategies, which include cognitive intervention, behavioural intervention, and a combination of the two. The cognitive strategies could be defined as cognitive responses to emotion-eliciting events that consciously or unconsciously attempt to modify the magnitude and/or type of the individuals' emotional experience or the event itself (Aldao & Nolen-Hoeksema, 2010). There are two types of cognitive strategies,

adaptive and maladaptive (Gross & Thompson, 2007; Kring & Sloan, 2010). Additionally, researches conducted among normal individuals demonstrate that cognitive emotion regulation predicts the general health of the participants (Abdi et al., 2012).

It has been argued that some cognitive emotion regulation strategies are negatively correlated with psychopathology, and some are correlated positively (Aldao & Nolen-Hoeksema, 2010). Most of the studies indicated a significant relationship between some of the maladaptive strategies and a variety of mood and anxiety disorders (Nolen-Hoeksema, Wisco & Lyubomirsky, 2008; Feldman, Joormann, & Johnson, 2008; Mennin, Holoway, Fresco, Moore & Heimberg, 2007).

In this regard, Kim, Sharp & Carbone (2014) have found that the features of borderline personality disorder have a negative correlation with the adaptive strategies and a positive correlation with the maladaptive strategies of cognitive emotion regulation. In particular, borderline personality disorder is associated with low levels of acceptance (Gratz, Rosenthal, Tull, Lejuez, Gunderson, 2006; Schramm, Venta, & Sharp, 2013) and cognitive reappraisal (Koenigsberg, et al., 2009; Schulze, et al 2011); and high levels of rumination (Smith, Grandin, Alloy, & Abramson, 2006; Abela, Payne, & Moussaly, 2003), catastrophising (Selby, Anestis, Bender, & Joiner, 2009), suppression (Rosenthal, Cheavens, Lejuez, & Lynch, 2005), avoidance (Chapman, Dixon-Gordon, & Walters, 2011), and internal/external blame (Conklin, Bradley & Westen, 2006). Recently, it has been shown that prevalence of borderline personality features increased in the non-clinical population (Meaney, Hasking, & Reupert, 2016; Taylor, James, Bobadilla, & Reeves, 2008) such as university students. Moreover, Baer &

Sauer (2011) indicated that the severity of the borderline personality features is affected by rumination in response to the negative emotions, especially anger, in the non-clinical samples. Among all the cognitive maladaptive emotion regulation strategies, according to the emotional cascade model, rumination is one of the most important features of borderline personality disorder (Selby, Anestis, Bender, & Joiner, 2009).

Taken together, research and clinical evidence support the idea that emotional dysregulation is a critical characteristic of borderline personality disorder (Weinberg, & Klonsky, 2009); however, there are some points that lead us to conduct this research. First, some degree of emotional dysregulation is typical for adolescents, and the ability to regulate emotions develops till early adulthood (Berk, 2007). Second, it has been shown recently that the prevalence of borderline personality features increased in the non-clinical population; who have not been diagnosed as a patient, specifically, in university students (Ibraheim, Kalpakci, Sharp, 2017; Meaney, Hasking, & Reupert 2016; Taylor et al., 2008). Finally, it is not clear enough which strategies of cognitive emotion regulation play a more important role in the borderline personality features in a non-clinical population. Therefore, the aim of this study was to answer the following questions:

1- Can the adaptive and maladaptive strategies of cognitive emotion regulation predict the features of borderline personality in university students?

2- Which of the cognitive emotion regulation strategies play the main role in predicting the features of borderline personality in university students?

Method

A total of 400 undergraduate students from the Arak University were selected through a cluster random sampling method. The sample size was determined using the Morgan table. From this sample, 22 persons were excluded because of incomplete data and finally, 378 (181 male, 197 female) university students participated in the present study (mean age = 22.21 and SD = 4.23). The participants were asked to complete the Cognitive Emotion Regulation Questionnaire and the Borderline Personality Scale.

The order of the two measures was counterbalanced across the participants. Then, the data were analyzed by using the Pearson correlation and regression analyses.

Borderline Personality Traits Scale

Borderline Personality Traits Scale (STB) is a part of the questionnaire of schizotypal traits and borderline personality traits scale that was developed by Claridge and Broks (1984). Mohammad Zadeh, Goudarzi, Taghavi, & Molazadeh (2005) modified this scale based on the criteria of the diagnostic and statistical manual for mental disorders (DSM-IV) and added 6 items to this scale. They introduced a 24-item version in Persian. This scale assesses the three elements of disappointment, impulsivity, and stress-related dissociative and paranoid symptoms. The items are rated on the yes/no method of answering (score: yes = 1, no = 0). The reliability coefficients have been reported by test-retest in four weeks to be .84 for the total scale of borderline personality and to be between .50-.72 for the subscales. The split-half and internal consistency reliability coefficients for the total and the subscales were

reported to be between .53-.77. The results of the concurrent validity for this scale showed that STB was correlated with neuroticism and psychoticism, the values being .29 and .64, respectively (Mohammad Zadeh et al, 2005). In the present study, the alpha coefficient for the total scale was obtained to be 75%.

Cognitive Emotion Regulation Questionnaire

The 36-item Cognitive Emotion Regulation Questionnaire (CERQ) assesses individual differences in coping, across nine 4-item subscales: self-blame, blaming others, acceptance, refocusing on planning, positive refocusing, rumination, positive reappraisal, putting into perspective, and catastrophizing. The items are rated on a 5-point Likert scale ranging from 1 (almost never) to 5 (almost always). The individual subscale scores are obtained by summing up the scores belonging to a particular subscale or cognitive emotion regulation strategy (from 4 to 20). Higher scores reflect greater use of the strategy. The internal consistencies range from .68 to .93 (Martin & Dahlen, 2005). All 36 items of the CERQ refer exclusively to what someone actually thinks, but not what someone actually does, after having experienced negative life events (Dadkhah & Shirinbayan, 2010). A version of the CERQ in the Persian language, validated by Abdi et al. (2012), was used in this study. An evaluation of the internal reliability of the CERQ subscales by Cronbach's alpha coefficient showed that the ranges of all the subscales were from .64 to .82. Thus, self-blame and acceptance had acceptable internal reliability (.69 and .64); focus on thought, refocus on planning, putting into perspective, and catastrophizing had good internal reliability (> .70); and positive

refocusing, positive reappraisal, and other-blame had very good (> .80) internal reliability. The Persian translation of the CERQ-36 had acceptable construct validity among the university students (Abdi et al, 2012). In the present study, the Cronbach's alpha coefficient for the total scale was .91.

Results

The average age of all subjects was 22.2 (SD=4.33), it was 22.4 (SD=3.75) for the males and 22.8 (SD=3.48) for the females. The maximum and minimum scores, the mean, and the standard deviation of the research variables are presented in Table 1.

Table 1
The Descriptive Data for the Borderline Personality Features, Adaptive and Maladaptive Cognitive Emotion Regulation

Variables	M	SD	Min	Max
Borderline Personality Features	7.26	4.30	0	20
Adaptive Cognitive Emotion Regulation	56.86	13.05	29	89
Maladaptive Cognitive Emotion Regulation	43.38	8.98	24	63

The borderline personality features had a significant negative correlation with adaptive cognitive emotion regulation (r= -.14, p < .01), and a significant positive correlation with maladaptive cognitive emotion regulation (r=.39, p <.01).

Table 2 shows the results of the multivariate regression analysis to predict the borderline personality features on the basis of cognitive emotion regulation. The results indicate that to predict the borderline personality features, the regression is

conducted in two steps. The variables of maladaptive cognitive emotion regulation and adaptive cognitive emotion regulation are entered into the equation in order and explain 24% of the total changes of the borderline personality features.

As shown in Table 3, there is a significant positive correlation between rumination, self- blame, catastrophizing, and borderline personality features. There is a significant negative correlation between putting into perspective, positive refocusing, acceptance, positive reappraisal, and borderline personality features. In addition, there is no significant correlation between refocus on planning and borderline personality features.

Table 2

The Results of the Multivariate Regression Analysis (Stepwise Method) for Predicting the Borderline Personality Features through Cognitive Emotion Regulation

Regression	Progress	Entered Variables	B	β	t	R^2	F
Step one		Maladaptive cognitive emotion regulation	.19	.39	8.18**	.15	66.92**
Step two		Maladaptive cognitive emotion regulation	.24	.51	10.46**	.24	59.51**
		Adaptive cognitive emotion regulation	-.10	-.32	-6.66**		

**P<.01

Table 3

The Bivariate Correlations of the Borderline Personality Features and the Cognitive Emotion Regulation Strategies

Variables	Borderline Personality Features
Acceptance	-.11*
catastrophizing	.26**
Other-blame	.15**
Positive Reappraisal	-.13**
Refocus on Planning	-.03
Rumination	.43**
Putting in to Perspective	-.16**
Positive Refocusing	-.14**
Self- blame	.30**

$**P<0.01$ $*P<.05$

Table 4 shows the results of the multivariate regression analysis to predict the borderline personality features on the basis of cognitive emotion regulation strategies. The results indicate that to predict the borderline personality features, the regression is conducted in four steps. The variables of rumination, acceptance, self-blame, and putting into perspective are entered into the equation in order and explain 35% of the total changes of the borderline personality features. Also, the results indicate that rumination has the largest square of adjusted R ($R^2_=.19$) in the prediction of the borderline personality features.

Table 4
The Results of the Multivariate Regression Analysis (Stepwise Method) for Predicting the Borderline Personality Features through the Cognitive Emotion Regulation Strategies

Regression Progress Steps	Entered Variables	B	β	t	R^2	F
Step one	Rumination	.53	.44	9.46**	.19	89.54**
Step tow	Rumination	.75	.62	12.79**	.31	84.96**
	Acceptance	-.56	-.39	-8.07**		
Step three	Rumination	.61	.50	8.92**	.33	63.95**
	Acceptance	-.67	-.46	-9.10**		
	Self- blame	.35	.23	3.92**		
Step four	Rumination	.62	.51	9.28**	.35	52.59**
	Acceptance	-.54	-.38	-6.78**		
	Self- blame	.33	.22	3.81**		
	Putting in to Perspective	-.23	-.16	-3.54**		

**P<.01

Discussion

This study aims to determine the role of the cognitive emotion regulation strategies in predicting the features of borderline personality. The research results indicate that the adaptive cognitive emotion regulation strategies have significant negative relationships with the features of borderline personality (P<.01, r=-.14) and the adaptive strategies of cognitive emotion regulation are the significant predictors of the borderline personality features (P<.01). This finding is consistent with the results of the research by Kim et al. (2014), Konigsberg et al. (2009), Schulz et al. (2011), Schramm et al. (2013) and Gratz et al (2006).

The unpleasant events and negative emotions are the inevitable parts of life and most of the individuals are more or less able to manage their negative emotions with relative success. But individuals with borderline personality disorders have failed to learn the necessary skills for emotional regulation and their high emotional sensitivity leads to their experiencing high levels of negative emotions and thus, they find it problematic to express or control such emotions. This defect or the lack of appropriate emotion regulation strategies in borderline personality disorder is a critical component of emotional dysregulation (Crowell et al., 2009).

The studies indicate that individuals with borderline personality disorders have a lot of problems with the emotion regulation strategies in terms of both self-report and behavioural measures and the neuroimaging studies (Schulze et al., 2011). Furthermore, the low level of distress tolerance in this disorder (Gratz et al., 2006) suggests that in the patients with borderline personality disorders, the appropriate and adaptive coping

strategies are not developed enough to manage the unpleasant pressures and tensions.

Probably, the ability to tolerate pain and sadness and consequently, the use of adaptive emotion regulation strategies prevents the creation of borderline personality disorder and strengthens the protective role of this ability, especially in those who have experienced strong, negative emotions. Therefore, it is expected that individuals who are sensitive to emotions or are prone to the severe negative emotions and those with low levels of distress tolerance are more likely to show impulsive and reckless behaviour.

Furthermore, the research results indicate that the maladaptive strategies of cognitive emotion regulation have significant positive correlation with the features of borderline personality (P<.01, r=.39) and the maladaptive strategies of cognitive emotion regulation are the significant predictors for the features of borderline personality (P<.01). This finding is consistent with the results of the research by Kim et al. (2014), Abela et al. (2003), Smith et al. (2006), Selby et al. (2009), Baer & Sauer (2011) and Rosenthal et al. (2005).

The maladaptive emotion regulation strategies refer to the types of behaviour which can occur instead of the appropriate emotion regulation strategies and are observable by others. The emotional cascade model is able to explain how such types of behaviour are created (Selby et al., 2008). According to this model, if a negative mood is severe enough, the individual intention to select the maladaptive behaviour is more than the intention to select the adaptive one because the maladaptive types of behaviour often have more immediate impact and are easier applied than the adaptive behaviour. However, despite the

fact that such maladaptive behaviour may be more effective in reducing the negative mood, it will eventually become problematic due to its negative consequences; thus, it will not be effective in the long-term.

Borderline personality disorder is associated with the maladaptive cognitive strategies such as the rumination and thought suppression. These strategies increase the negative affects instead of reducing them. The studies also indicate that borderline personality disorder is associated with experiential avoidance (Chapman et al., 2011), and the impulsive and self-harm behaviours, common in borderline personality disorder, are specifically applied as the tools to regulate the emotions. In general, borderline personality disorder is associated with a number of impulsive behaviours such as eating disorders and drug abuse, which seek to reduce the negative emotions.

In general, the cognitive theorists have suggested that the emotional and interpersonal functional disorder in borderline personality disorder is the outcome of a series of thoughts, beliefs, and inefficient schemas (Beck & Freeman, 1990). When the emotional states are unbearable, the individuals use the cognitive and behavioural strategies for their emotional regulation. Such strategies, which are applied with the aim of changing the situation (e.g. problem-solving) or changing the cognitive schema, may be learned through the interaction with others (e.g. model-making) and are strengthened based on their impact on the positive or negative emotional states. In accordance with Linehan's view (Crowell et al„ 2009), the deficiency in learning the adaptive strategies in individuals with borderline personality makes them more prone to the use of maladaptive cognitive behavioural resources. Moreover, the

cognitive abilities in borderline individuals are impaired during sadness, due to the sense of uncontrollability and their inability to use logical thought and judgment to solve the problems. In this case, individuals with borderline personality are more likely to resort to behavioural models which have already proved effective in the short-term reduction of painful emotions or the creation of fleeting positive emotions. Therefore, suicidal behaviour, self-harm, and impulsive behaviour can be enhanced with the aim of coping with the intense emotions. Finally, it ends in the temporary improvement of the severe emotional states, but the risk of the consequences of negative emotion is increased because the problems remain or are intensified.

Furthermore, the research results indicate that the rumination, acceptance, self-blame, and putting into perspective, as the cognitive emotion regulation strategies, are the only significant predictors of borderline personality features; and rumination plays the largest role in this prediction (R^2=.19, P<.01). This finding is consistent with the research results by Abela et al. (2003), Smith et al. (2006), Selby et al. (2009) and Baer & Sauer (2011).

Rumination as a cognitive style means the repeated consolidation of past thoughts, emotions, actions, or events (Nolen-Hoeksema, 1991); and despite the fact that sometimes it is known in the form of a coping or problem-solving strategy (Liverant, Kamholz, Sloan, & Brown, 2011), constant rumination results in maintaining and intensifying the negative mood (Nolen-Hoeksema et al., 2008). It leads to a continuation of the processing of the negative emotions (McLaughlin, Borkovec, Sibrava, 2007). Rumination is often associated with intensified self-focus because the analysis of events and

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lamenting over them can severely facilitate the self-awareness emotions such as shame and experiences such as self-blame. According to the previous studies, rumination is associated with an increased self-criticism and self-blame (Nolen-Hoeksema et al., 2008) and also, strengthened shame (Orth, Berking & Burkhardt, 2006).

In this regard, the emotional cascade model (selby et al., 2008) suggests that the relationship between the emotional and behavioural dysregulation in borderline personality disorder can be explained by the use of rumination. According to this model, rumination exacerbates the negative emotion, followed by reinforced rumination and starts a vicious cycle. Thus, the negative emotional cascade leads to the incidence of full borderline personality disorder syndrome through self-perpetuation.

In general, it seems that we should focus on the cognitive emotion regulation strategies and particularly, on the maladaptive strategies of cognitive emotion regulation in predicting and treating the borderline personality disorder, so that the individuals can regulate their emotions and act healthily and adaptively.

It should be mentioned that there were some limitations in this study such as utilizing the instrument of self-report to measure the personality disorder features and emotion regulation strategies; so it is suggested by researchers of this paper, in addition to self-report measures clinical interview could be very helpful. Another limitation is related to the generalizability of the results to a clinical population and it is suggested that the results be generalized only to non-clinical populations. It is also suggested that future researchers conduct an interventional study

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to investigate the effectiveness of cognitive emotion regulation strategies training in decreasing the borderline personality features.

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