# Personality Traits, Emotion Regulation and Impulsive Behaviors in Patients with Borderline Personality Disorder

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## ABSTRACT

**Objective:** The purposes of this study were to examine the relationships between personality traits, cognitive emotion regulation strategies and impulsive behaviors of borderline personality disorder, and to explore which personality traits and cognitive emotion regulation strategies can better predict and explain the impulsive behaviors in borderline personality disorder.

**Methods:** This study was a cross-sectional study design. The participants consisted of 78 patients with borderline personality disorder. Patients were recruited from health and medical centers in Tehran, Iran. The Sample was selected based on judgmental sampling. The SCID-II-PQ, Structured Clinical Interview for DSM-IV Axis II (SCID-II), NEO-PI-R, Cognitive Emotion Regulation Questionnaire (CERQ) and Impulsive Behaviors checklist were used for diagnosis and assessment. Pearson Correlation and Multivariate Regression Analysis has been used for data analysis. All statistical analyses were performed using the SPSS 16.

**Results:** Findings indicated that neuroticism and openness significantly correlated with impulsive behaviors (r=0.312 and 0.280 respectively, P<0.001, P<0.05), and can predict impulsive behaviors in borderline personality disorder. The results also showed that, self-blame, other blame and positive refocus positively correlate with impulsive behaviors (r=0.32, 0.31 and 0.27 respectively, P<0.001, P<0.05). Also significant beta weights were positive for self-blame and other-blame. Those results partially confirmed existing studies.

**Conclusion:** Overall, findings showed that neuroticism, openness, self-blame and other blame were significant predictors of impulsive behaviors in borderline personality disorder.

## 1. Introduction

**B**orderline personality disorder (BPD) is one of the most prevalent personality disorders (Torgersen, 2009). Approximately, 15 to 50% of psychiatric inpatients and 11% of psychiatric outpatients meet current criteria for BPD (Oumaya et al., 2008). In fact BPD is a common psychiatric disorder and the most dysfunctional personality disorder (American Psychiatric Association, 2000; Torgersen, 2009). Chronic and intense dysphoria, mood reactivity or affective lability, cogni-

tive problems, impulsive behaviors, recurrent suicidal threats, gestures or behavior or self-mutilation, and etc. are common in patients suffering from borderline personality disorder (Millon, Grossman, Millon, Meagher, & Ramnath, 2004; Zanarini, 2005). Oumaya et al. (Oumaya et al., 2008) found that Borderline patients with history of self-mutilation behavior have about twice the rate of suicide than those of without.

Personality disorders, especially BPD, are often linked to impulsive and high-risk behaviors. By definition, individuals with impulsive behaviors fail to think

about consequences of their actions. Patients with BPD are famous for emotional lability and impulsive actions, including spending sprees, aggressive behaviors, heavy alcohol and substance abuse. Moreover, impulsivity is linked to unprotected sex and multiple sexual partners, a principal way through which HIV is spread (Millon et al., 2004). For example, Perkins et al. (1993) found a higher prevalence of personality disorders among HIV-positive than HIV-negative subjects, with borderline the principal diagnosis. Later studies have supported this finding (Gerhardstein, Griffin, & Hormes, 2011; Millon et al., 2004; Zuckerman & Kuhlman, 2000).

Impulsive behaviors such as aggression, self-mutilating, suicidal attempts, un-protective sex, sense of urgency, and etc., may appear because of several reasons (Millon et al., 2004). One of the most important reasons is emotion dysregulation in BPD. Emotion dysregulation is a core feature of BPD (Aldao, Nolen-Hoeksema, & Schweizer, 2010; Carpenter & Trull, 2012; Glenn & Klonsky, 2009; Gross & Muñoz, 1995). Emotion regulation represents a range of processes through which people can change the nature, frequency, and the duration of emotions. In other words, people can maintain, increase and decrease emotions by emotion regulation strategies.

The emotion regulation through thoughts or cognitions is known as cognitive emotion regulation. cognitive emotion regulation helps people to manage their emotions after the experience of stressful events (Garnefski, Teerds, Kraaij, Legerstee, & van den Kommer, 2004). In the literature nine conceptually different cognitive emotion regulation strategies were distinguished to negative cognitive emotion regulation strategies which include: self-blame, other blame, Rumination, Catastrophizing. There is strong relationship between the use of these strategies and emotional disorders (Garnefski & Kraaij, 2006). Positive cognitive emotion regulation strategies consist of putting into perspective, positive Refocusing, positive Reappraisal, Acceptance and planning (Garnefski et al., 2004).

Based on the theory of emotion regulation if the healthy and adaptive individual with BPD, regulates him/her emotions, he/she acts healthily and adaptively (John & Gross, 2004; Putnam & Silk, 2005), though, one of the most effective treatment of BPD is emotion regulation training (Linehan, Bohus, & Lynch, 2007; McMain, Korman, & Dimeff, 2001).

Additionally, personality disorders have been conceptualized as substantial variants of personality traits (Bagby, Costa, Widiger, Ryder, & Marshall, 2005). One

model of normal personality traits that has been applied to personality disorder symptomatology is the Five-Factor model. The Five-Factor model is based on general personality traits consist of (a) extraversion versus introversion (b) agreeableness versus antagonism (c) conscientiousness versus negligence (d) emotional stability versus neuroticism (e) openness versus closeness to experience (Bagby et al., 2005; Costa & McCrae, 1992).

Review of literature shows that Five-Factor personality traits are closely relevant with personality disorder symptomatology (Bagby et al., 2005; Distel et al., 2009; Widiger, 2007; Widiger, Livesley, & Clark, 2009; Widiger, 2005; Widiger, 1997). The FFM profile of BPD has been investigated in many studies. The studies support that BPD is a maladaptive variant of FFM personality traits {Samuel, 2013 #60}. Previous studies showed that profile of individuals with BPD composed of large positive associations with N, negative associations with E, A and C, and little relationship to O {Morey, 2000 #246; Morey, 2014 #253; hopwood, 2009 #249; Samuel, 2011 #256; Samuel, 2013 #60}. The personality traits have also been shown to be an important factor in planning treatment and predicting its outcome.

Despite the good theoretical and empirical background of personality trait representations, previous studies have not clearly addressed the components of emotion difficulties in BPD, and their relationships with impulsive behaviors. So, further and cross-culturally studies in patients with BPD would be needed continuously. Also, an unsolved question is that which personality traits and emotion regulation strategies better predict and explain impulsive behaviors in BPD. Though, the current study pursues three goals: First, examining the relationships between personality traits, cognitive emotion regulation strategies and impulsive behaviors of borderline personality disorder. Second, exploring personality traits in the patients with Borderline personality disorders which can predict impulsive behaviors better, and three, investigating cognitive emotion regulation strategies in the patients with Borderline personality disorders which can explain impulsive behaviors better.

## 2. Methods

This study was a cross-sectional study design. The participants for the present study were all patients referred to health and medical centers in Tehran, Iran. From the 105 patients recruited, 78 patients had received a principal diagnosis of borderline personality disorder.

The Sample was selected based on judgmental sampling. The following criteria were established for inclusion in the study: (a) having borderline personality disorder (b) age 18 or older (c) being fluent in Persian (d) having at least guidance school education (e) informing their consent, and exclusion criteria were (a) presence of psychotic disorder or severe mood disorder (b) presence of mental retardation, and (c) presence of physical condition that impairs person's mental state.

The participants consisted of 32 males (41%) and 46 females (59%). The mean age of participants was 18-50 years. In terms of education, 39 guidance school (50%), 34 diploma (43.6%) and 7 were graduate and higher level (6.4%). Participants consisted of 52 bachelors (66.7%), 16 married (20.5%) and 10 divorced (12.8%).

Patients in this study were enrolled based on The Structured Clinical Interview for DSM-IV Axis II Disorders (SCID-II-PQ, and SCID-II). And personality traits, emotion regulation strategies, and Impulsive behaviors of patients were evaluated by NEO-PI-R, CERQ, and Impulsive behaviors checklist.

### NEO-PI-R

The NEO-PI-R (Costa & McCrae, 1992) was designed to measure the Five-Factor Model of personality and scores were obtained for Neuroticism, Extraversion, Openness to Experience, Agreeableness and conscientiousness. Coefficient alpha for these domains reported 0.92, 0.89, 0.87, 0.86 and 0.90, respectively (Costa & McCrae, 1992) the NEO-PI-R consisted of 240 self-report items rated on a 0-4 point scale (strongly disagree, disagree, neutral, agree, and strongly agree).

### Structured Clinical Interview for DSM-IV Axis II (SCID-II)

SCID and its versions were considered to be the most comprehensive and structured diagnostic interviews which were available. In fact, they were a new and wide range utility instruments, in 1987 by Spitzer, Gibbon, Williams and built in compliance with the criteria of the DSM-IV (Groth-Marnat, 2009). Due to high accuracy of the diagnostic criteria and extraordinary compliance with DSM-IV, the codification was translated to and adapted with different languages. In Iran SCID-II and SCID-II-PQ have been translated and adapted by Mohammadkhani, Jokar, Jahani-tabesh, and Tamannaei-far (2011).

Studies of test-retest reliability and inter-rater consistency refer to the intermediate results. For instance, the inter-rater consistency of SCID-II for general diagnostic cases was between 0.40–0.86, with an average of 0.59. Since SCID was made consistent with DSM-IV diagnostic criteria, it could be assumed to be valid.

### Cognitive Emotion Regulation Questionnaire (CERQ)

The CERQ (Garnefski, Kraaij, & Spinhoven, 2002) is a multidimensional questionnaire constructed in order to identify the cognitive coping strategies which someone uses, after having experienced negative events or situations. The questionnaire consists of 36 items, each referring exclusively to what someone thinks and not to what someone actually does, when experiencing threatening or stressful life events. The items are divided up proportionally over the nine scales, so that all CERQ subscales consist of 4 items. Respondents rate on a five-point scale to which extent –'(almost) never' (1), to '(almost) always' (5) – to declare the use of certain cognitive coping strategies.

The CERQ distinguishes nine different cognitive coping strategies, of which, independent from one another, these are: self-blame, other blame, rumination, catastrophizing, putting into perspective, positive Refocusing, positive reappraisal, acceptance and planning. The CERQ has shown excellent reliability and validity (Garnefski et al., 2002). Yousefi reported good reliability 0.82 (Yousefi, 2006).

### Impulsive Behaviors checklist

Participants were asked to identify, in the 30 days prior to assessment, they had engaged in a variety of impulsive behaviors, using a 3-point scale: 0 (Never), 1 (sometimes), 2 (often). We asked about frequency of (1) Acting on the spur of the moment in response to stimuli; (2) acting on a momentary basis without a plan; (3) self-harming behavior under emotional distress; (4) suicidal attempt; (5) aggressive behavior (6) a sense of urgency. The sum of these items showed the severity of impulsive behaviors.

### Procedure

In the implementation process (Interview and questionnaire completion), the researcher applied two post graduated in clinical psychology. To avoid probable bias outcome from these people, they were not informed of the exact goal of the study in detail and they

**Table 1.** The correlation between personality traits and cognitive emotion regulation strategies with impulsive behaviors.

| Personality traits | Impulsive behaviors | Cognitive emotion regulation strategies | Impulsive behaviors |
|---|---|---|---|
| Neuroticism | 0.31** | Self-blame | 0.32** |
| | | Other blame | 0.31** |
| Extraversion | 0.10 | Rumination | -0.01 |
| | | Catastrophizing | 0.19 |
| Openness | 0.28* | Acceptance | 0.21 |
| | | Refocus on planning | 0.09 |
| Agreeableness | -0.11 | Positive refocus | 0.27* |
| | | Positive reappraisal | 0.18 |
| Conscientiousness | 0.03 | Putting into perspective | -0.32** |

Notes: N=78, BPD=Borderline Personality Disorder, * P<0.05  ** P<0.01.

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were told that the research goal was to study personality disorders. They were entirely uninformed of the concerned disorder types. To control the probable bias, the research associates began to collect data periodically in per steps while they were quite blinded to the outcome of the previous or next steps.

Prior to the research onset, the p got aware of the research and the process and signed the consent form. To avoid fatigue and reduction in motivation in subjects, study for each subject was conducted in two days.

For data analysis we used Correlation and Regression Analysis. We used impulsive behaviors of BPD as dependent variable and NEO-PI-R scores and cognitive emotion regulation scores as independent.

## 3. Results

Pearson's correlation between personality traits and cognitive emotion regulation strategies with impulsive behaviors are presented in Table 1.

The results of Table 1 indicate that there were positive and significant correlations between neuroticism and openness with impulsive behaviors (P<0.01, P<0.05). Also, in cognitive emotion regulation strategies self-

blame, other blame and positive refocus were positively correlates with impulsive behaviors (P<0.01, P<0.05), and Putting into perspective was negatively correlates with impulsive behaviors (P<0.01).

To explore which personality traits and cognitive emotion regulation strategies in the patients with borderline personality disorders could better predict impulsive behaviors, regression analysis (step wise method) was conducted. The results of regression analysis for personality traits and impulsive behaviors are presented in Table 2.

As demonstrated in Table 2, the effect for neuroticism is significant. Neuroticism was positively and significantly correlated with the Impulsive Behaviors. The results indicated that approximately 9.7% of the variance of the impulsive behaviors could be accounted for by neuroticism. Other personality traits there have not significant correlation with impulsive behaviors, so excluded from model.

The regression analysis results of cognitive emotion regulation strategies and impulsive behaviors are displayed in Tables 3.

As presented in Table 3, the effect of other blame in the model is significant, and other-blame significantly

**Table 2.** Regression analysis for personality traits and impulsive behaviors.

| Variable | Unstandardized coefficients | | P-value |
|---|---|---|---|
| | Effect (±SD) | t-value | |
| Neuroticism | 0.10 (±0.036) | 2.858 | 0.005 |

Notes: N=78,
Dependent variable: Impulsive behavior.

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**Table 3.** Regression analysis for cognitive emotion regulation strategies and impulsive behaviors.

| Variable | Unstandardized coefficients | | P-value |
|---|---|---|---|
| | Effect (±SD) | t-value | |
| Other-blame | 0.46 (±0.197) | 2.370 | 0.022 |

Notes: N=78,
Dependent variable: Impulsive behavior.

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correlated with impulsive behaviors. The R square of regression model was 9.9%. It means that approximately 9.9% of the variance of the impulsive behaviors could be accounted for by other blame. These results showed that other-blame could be good predictor of impulsive behaviors. There was not significant correlation with other cognitive emotion regulation strategies, so they were excluded from the model.

## 4. Discussion

The present study examines the relationship between personality traits and cognitive emotion regulation with impulsive behaviors in BPD. More specifically, the purpose of this study was to examine which personality traits and cognitive emotion regulation strategies could predict and explains impulsive behaviors in BPD. There were two overall findings. First, the findings revealed that neuroticism and openness had significant positive correlation with impulsive behaviors in BPD. It means that personality traits had good relationship with BPD core feature. The present findings are consistent with the findings of Peters, Upton, and Baer (2012), Zimmerman, Chelminski, Young, Dalrymple, & Martinez (2012), Distel et al. (2009). Also, the results of regression analysis showed that in FFM personality traits, neuroticism was the good predictor of impulsive behaviors in BPD.

Second, results showed that there was a positive significant correlation between self-blame, other blame and Positive refocus, and a negative significant correlation in Putting into perspective with impulsive behaviors. The effect of these results was that negative strategies significantly related to impulsive behaviors, and could best predict impulsive behaviors in BPD. The results of regression analysis for cognitive emotion regulation strategies and impulsive behaviors approved that. Also regression analysis showed that among cognitive regulation strategies only other-blame was the good predictor of impulsive behaviors. These findings are consistent with the findings of Carpenter & Trull (2012), Glenn & Klonsky (2009), Gratz, Rosenthal, Tull, Lejuez, & Gunderson (2006), and Putnam & Silk (2005).

Findings also support that in addition to emotion regulation, cognitive emotion regulation strategies are important features of BPD. Emotion regulation difficulties resulting from impulse control difficulties and limited access to emotion regulation strategies exhibited the strongest relationship to BPD, and cognitive emotion regulation strategies could be defined as the conscious, mental strategies individuals use to cope with the intake of emotionally arousing information. So, one of the advantages of this study is that in the treatment of BPD we must specifically focus on negative cognitive emotion regulation strategies.

Overall, the present study helps us understand the relationship between personality traits and cognitive emotion regulation strategies with impulsive behaviors in BPD. Also, findings showed that the relationships between personality traits and BPD on Iranian sample were the same as other cultures.

However, the study has several limitations, future research is needed. First, the results are based on a relatively small number of cases and so caution should be used in interpreting the data. Second limitation of the current study is in the nature of the sample, which was drawn from prisoners, inpatients and outpatients with BPD. Future research should replicate findings in larger samples and with multiple personality disorders. Third, cognitive emotion regulation was assessed using self-report measures. Future research should utilize alternative measures of emotion and emotion regulation, such as neuropsychological and physiological methodologies which are not subject to the same biases as retrospective self-reports.

## Acknowledgements

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