

EMOTION REGULATION PROFILING IN INDIVIDUALS WITH BORDERLINE PERSONALITY DISORDER COMPARED TO NON-CLINICAL SAMPLE

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Abstract

The main objective of the study was to evaluate the cognitive emotion regulation profiles of individuals with Borderline Personality Disorder (BPD). This was a cross-sectional study comprising 350 participants. The sample was divided into two subgroups of individuals with BPD and a non-clinical subgroup. The study employed purposive sampling technique to select sample of BPD (n=150) and age, gender and education matched control group participants (n=200). Participants were assessed on Cognitive Emotion Regulation Questionnaire to assess their reliance on maladaptive and adaptive cognitive emotion regulation strategies. Data analysis was performed using SPSS for the interpretation of data. Descriptive analysis and t-tests assessed the differences between two groups. Findings showed that individuals with BPD clinical group of patients with BPD scored significantly higher on all four maladaptive strategies of self-blame, other-blame, rumination, catastrophizing. While on adaptive strategies including positive reappraisal, refocus on planning, positive refocus, acceptance, clinical group participants reported lower scores compared to their nonclinical counterparts. In conclusion, the individuals with BPD present emotional dysregulation and poor affective regulation mechanisms. The findings have several implications for theory, practice, and clinicians.

Keywords: Borderline Personality Disorder, Cognitive emotion regulation, Emotion regulation profiles

Introduction

Borderline Personality Disorder (BPD) is a mental health problem characterized by symptoms of persistent instability in affective expression and self-image, and difficulties in impulse control. Several studies have shown that the occurrence of BPD is approximately 1 percent in the general population, undefined 9% of the overall population; however, this increases in specialty care settings with an estimate of 10% for outpatient and 20% for inpatient psychiatric settings (Lenzenweger et al., 2007). It is a chronic mental health condition marked by intense impulsivity, unstable relationships and mood, identity disturbance, and agitated efforts to avoid abandonment (American Psychiatric Association, 2022). Experts consider it as one of the hardest personality disorders characterized by temper outbursts, sustained feelings of discontent or emptiness, and relationship problems (Crowell et al., 2009). Additional symptoms include high levels of rage, impulsivity, feelings of emptiness, strong feelings of abandonment, suicidal or self-mutilating thoughts, acute dissociative symptoms, or temporary stress-related paranoid ideation (Leichenring et al., 2024). With these core characteristics, difficulties in emotion regulation have been recognized as a considerable concern related to the clinical condition, generally manifested in heightened emotional reactivity, maladaptive regulation interpersonal dysfunction (Chapman et al., 2024). Given that self-regulation and emotion regulation are significant predictors of life outcomes for clinical and non-clinical populations (e.g., Fatima, Waheed et al., 2022; Fatima Mehmood et al., 2022), evaluation of cognitive emotion regulation needs special attention from researchers working with clinical subgroups with affective dysregulation. Considering the enduring pattern of emotional

instability, emotion dysregulation is considered as a central mechanism fundamental to the core clinical symptoms. In recent studies, an increasing trend has been observed to focus on cognitive level processes and regulation strategies that may lead to symptom expression or exacerbation related to routine life stressors (Ochsner & Gross, 2005; Petrova & Gross, 2023). Evidence reveals that negative affectivity distort thinking (Fatima & Batool, 2024; Ford & Gross, 2019) and such dysregulated mechanisms not only intensify symptoms but also lead to interpersonal problems, self-harm behaviors, and adjustment difficulties. It is difficult for people with BPD to maintain stable, healthy relationships because they often have distorted perceptions of themselves and other people. People with BPD struggle to regulate their strong, rapidly shifting emotions and behave impulsively. Fear of abandonment can lead to maladaptive behaviors like impulsiveness, self-harm, and suicidality (Chapman et al., 2024). Neuroimaging data indicates that BPD patients have structural and functional brain alterations, particularly in areas governing affective regulation and impulse control (Mishra et al., 2023).

Emotion regulation refers to the mechanisms regulating the experience and expressions of emotions in diverse situations. Cognitive emotion regulation specifically refers to cognitive mechanisms used to modulate emotional responses in stressful life situations (Garnefski et al., 2001). To assess cognitive emotion regulation, Cognitive Emotion Regulation Questionnaire (Garnefski & Kraaij, 2007), is most widely used mapping measure in diverse cultures including Pakistan (Fatima, Arshad et al., 2022). As conceptualized by Garnefski and Kraaij (2007), cognitive emotion regulation strategies are categorized into nine dimensions including adaptive and maladaptive strategies. Adaptive regulation approaches include acceptance, positive refocusing, refocus on planning, positive reappraisal, and putting into perspective, while maladaptive ones include self-blame, other-blame, catastrophizing, and rumination (Garnefski and Kraaij (2007; Dominguez-Lara et al., 2023). Evidence from a large body of research suggests that maladaptive approaches to cognitive emotion regulation are linked with symptoms onset and severity, while adaptive approaches tend to appear protective strategies and reveal compensatory links (Aldao et al., 2010; Petrova & Gross, 2023).

Specifically, in relation to BPD, limited evidence shows a greater use of maladaptive emotion modulation processes and limited use of adaptive processes which eventually leads to symptomatic outcomes such as negative affective spiral, interpersonal reactivity, social impairment, self-harm risk, suicidal ideation, etc. (Natividad et al., 2024; Schmidt, 2022). Studies that have assessed individuals with BPD on nine emotion regulation strategies conceptualized by Garnefski and Kraaij (2007) specifically found that individuals with BPD tend to endorse higher use of rumination and catastrophizing and lower use of positive reappraisal and refocus on planning compared to their health counterparts (McLachlan et al., 2022). These findings fit together with the broader therapeutic literature describing the effectiveness of interventions targeting regulation skills (Pandey et al., 2018). Practically, mapping cognitive emotion regulation strategies in BPD is important to design tailored intervention plans for more effective management of symptomatic expressions related to specific maladaptive strategies.

Rationale and Objective

Despite the evidence for greater use of maladaptive regulation strategies (e.g., McLachlan et al., 2022), crucial gap remains in Low and Middle-income countries, where BPD remains unnoticed due to scarcity of health care facilities. Pakistan also comes under the underrepresented regions where research on BPD is very much limited. Evidence from limited available research has shown that recent qualitative studies in Pakistan have started focusing on BPD to notice stigma, diagnostic indistinctness, and access barriers (Hedemann et al., 2023). Nonetheless, evidence regarding quantitative level mapping of regulation abilities used by BPD samples remains very scarce in Pakistan. given the dearth of indigenous assessment measures in Pakistan, much of the research in Pakistan utilizes Urdu translated versions of assessments

measures (e.g., Fatima, 2018; Fatima & Jamil, 2018; Fatima & Sheikh, 2014). Likewise, the current study uses Urdu version of Cognitive Emotion Regulation Questionnaire (Shahzad et al., 2022) that has been culturally adapted and validated in Pakistan with sound psychometric properties. However, this was used with substance user men rather than samples with BPD. Thus, direct evidence is lacking on the cognitive emotion regulation profiling of patients with BPD from Pakistan. Also, it is unclear whether regulation profiles in BPD observed in developed countries generalizes to Pakistan or is moderated by some culture specific socio-demographic factors. By identifying unique patterns of cognitive emotion regulation, the current research will contribute to comprehensive understanding of maladaptive and dysregulated emotional challenges in BPD to guide evidence-based interventions. Hence, the main objective of the study was to assess the cognitive emotion regulation profiles in patients with BPD compared to non-clinical sample.

Method

Research Design and Sample

Using a cross-sectional study design, the study selected a total sample of 350 adults (individuals diagnosed with BPD $n = 150$; non-clinical control group $n = 200$). A clinical subgroup of individuals diagnosed with BPD, was selected from psychiatry wards of different private and public sector hospitals of Lahore, Multan, and Bahawalpur cities. Age, gender, education, and marital status matched normal individuals were selected from same cities as comparative group. Demographic information of both groups (clinical and non-clinical) have been presented in Tables 1 & 2.

Table 1

Descriptive Statistics of Demographic Variables in Borderline Personality Disorder

BPD ($N=150$)	<i>M</i>	<i>SD</i>	Range	<i>N</i>	%
Age	30.06	5.00	20-39	-	-
Education	11.43	2.73	8-16	-	-
Onset age of BPD (years)	20.45	2.63	17-28	-	-
Treatment Duration	9.20	4.72	1-19	-	-
Gender					
Men	-	-	-	65	43.3
Women	-	-	--	85	56.7
Birth Order					
1 st Born	-	-	-	16	10.7
Middle Born	-	-	-	105	70.0
Last Born	-	-	-	16	10.7

Only Child	-	-	-	13	8.7
Family History of Borderline Personality					
Present	-	-	-	82	54.7
Not Present	-	-	-	68	45.3
Primary Diagnosis with BPD					
Anxiety	-	-	-	18	12.0
BPD	-	-	-	27	18.0
Depression	-	-	-	49	32.7
Functional Neurological	-	-	-	21	14.0
OCD	-	-	-	19	12.7
Panic	-	-	-	16	10.7

Note. BPD=borderline personality disorder, OCD= obsessive-compulsive disorder

Table 2

Descriptive Statistics of Demographic Variables in Control Group

Control Group (N=200)	<i>M</i>	<i>SD</i>	Range	<i>F</i>	%
Age	30.11	5.06	20-39	-	-
Education	11.54	2.86	8-16	-	-
Gender	-	-	-		
Men	-	-	-	90	45.0
Women	-	-	-	110	55.0
Birth Order	-	-	-		
1 st Born	-	-	-	26	13.0
Middle Born	-	-	-	155	77.5
Last Born	-	-	-	10	5.0
Only Child	-	-	-	9	4.5

Assessment Measures

Demographic Information Sheet

A demographic information sheet was designed to get information about clinical group participants' demographic and clinical history. While for participants in the non-clinical group, only demographic information was obtained.

The Cognitive Emotion Regulation Questionnaire

In addition to demographic questionnaire, participants in both groups were assessed on Cognitive Emotion Regulation Questionnaire originally developed by Garnefski and Kraaij (2007) and translated into Urdu and adapted in Pakistan by Shahzad et al. (2022). The questionnaire is comprised of 36 items with items categorized into nine distinct cognitive emotion regulation strategies. These nine strategies are broadly categorized into adaptive and maladaptive strategies. The subscales are named as self-blame, blaming others, rumination, and catastrophizing as maladaptive strategies and acceptance, refocusing on planning, positive refocusing, positive reappraisal, and putting into perspective as adaptive coping strategies. All items comprising nine subscales are rated on a 5-point Likert response format (almost never=1 - almost always=5). A couple of sample items include “I think that I have to accept that this has happened-acceptance subscale” and “I often think that what happened is my fault-self blame subscale”. Composite scores on each subscale are calculated by adding items scores comprising the subscale. A higher score on each subscale reflects respondent’s tendency of greater use of specific cognitive coping strategy. Internal consistencies for the subscales in the current study range from good to excellent (α range = .70 to .93).

Procedure

All ethical considerations were followed during the study. After obtaining approval of the study from the departmental advisory committee of the University, permission for data collection was obtained from heads of the psychiatry wards of the selected hospitals or hospital authorities. After initial formalities of obtaining permission, potential participants were approached with the help of nursing staff. All potential participants or their informants were briefed about the nature and purpose of the study. After brief introduction and rapport building, informed consent was obtained from the participants. Then, the participants were assessed on the cognitive emotion regulation questionnaire. Data collection was done in one-to-one setting. Their queries were addressed on the spot. Informed consent after briefing was also obtained from participants in the comparative group. Participants were cordially thanked for their voluntary participation and cooperation.

Statistical Analysis

Data set was screened for coding errors, missing values, and outliers. Then, descriptive statistics of the demographic variables were computed for the two subgroups. Next, descriptive statistics for the study variables were computed for both groups. Also, inter scale correlations between cognitive emotion regulation strategies were computed for the two groups. Finally, the two groups were compared on maladaptive and adaptive emotion regulation strategies using independent sample t test to assess between group differences.

Results

The descriptive statistics of maladaptive and adaptive emotion regulation strategies have been computed and presented in Table 3 for the two subsamples of clinical and non-clinical groups. Alpha reliabilities of the study variables have been computed for the combined sample.

Table 3

Descriptive Statistics and Group Differences on Cognitive Emotion Regulation Strategies between Clinical Group of BPD and Control Group

Variables	Borderline Personality Disorder				Control Group		
	α	<i>M</i>	<i>SD</i>	Range	<i>M</i>	<i>SD</i>	Range

Self-Blame	.55	13.28	2.08	9-20	10.79	2.08	4-15
Acceptance	.62	9.05	1.58	6-18	14.92	1.71	6-19
Rumination	.56	14.36	2.18	4-20	9.75	2.32	4-20
Positive Refocusing	.76	8.56	1.08	5-11	15.80	1.56	12-20
Refocus on Planning	.47	8.50	1.09	5-11	15.49	1.43	10-20
Positive Reappraisal	.78	7.80	1.37	4-11	16.11	1.47	12-20
Putting into Perspective	.59	7.79	1.04	4-10	16.13	1.46	13-20
Catastrophizing	.47	14.16	2.16	4-20	10.05	2.16	4-20
Other Blame	.57	13.52	2.00	4-18	10.29	2.11	6-20

Next, inter scale correlation between emotion regulation strategies have been calculated in presented in Table 4. It was found that there all subscales had moderate to good correlations with each other. Moreover, maladaptive strategies showed negative correlation with all adaptive strategies.

Table 4
Inter-Scale Correlation between Cognitive Emotion Regulation Strategies (Full Sample)

Variables	2	3	4	5	6	7	8	9
1 Self-Blame	-.39*	.37*	-.40*	-.39*	-.36*	-.39*	.46*	.45*
2 Acceptance	1	-.56*	.78*	.73*	.74*	.80*	-.52*	-.53*
3 Rumination		1	-.55*	-.52*	-.54*	-.55*	.54*	.59*
4 Positive Refocusing			1	.78*	.71*	.79*	-.52*	-.57*
5 Refocus on Planning				1	.71*	.80*	-.54*	-.54*
6 Positive Reappraisal					1	.78*	-.54*	-.54*
7 Putting into Perspective						1	-.55*	-.57*
8 Catastrophizing							1	.66*
9 Other Blame								1

Note: * $p < .001$

Finally, significance of group differences between clinical subgroup of BPD and non-clinical control group on maladaptive and adaptive strategies was calculated by analyzing independent sample t test. The findings have been presented in Table 5. It was found that

clinical group of patients with BPD scored significantly higher on all four maladaptive strategies. While on adaptive strategies, they reported lower scores compared to nonclinical sample.

Table 5
Significance of Mean Differences in Cognitive Emotion Regulation Strategies between BPD and Control Groups

Variable	BPD		Control group		T
	M	SD	M	SD	
Self-Blame	13.16	2.28	11.10	2.36	8.20***
Acceptance	9.30	1.77	14.35	1.95	-24.87***
Rumination	13.79	2.81	9.94	2.51	13.47***
Positive Refocusing	8.54	1.98	15.01	1.95	-30.50***
Refocus on Planning	8.70	1.60	14.44	2.20	-26.92***
Positive Reappraisal	8.48	2.73	14.85	2.45	-22.84***
Putting into Perspective	8.02	1.68	15.13	2.35	-31.43***
Catastrophizing	13.51	2.63	10.23	2.26	12.48***
Other Blame	13.66	2.28	10.43	2.09	13.72***

Note: * $p < .05$. ** $p < .01$. *** $p < .001$.

Discussion

The main objective of the current study was to compare the cognitive emotion regulation profiles of patients with BPD and a non-clinical control group. Both groups were assessed on nine cognitive emotion regulation strategies presented by Garnefski and Kraaij (2007). The findings from between group differences assessed using independent sample tests along with descriptive analysis revealed significant differences across all nine strategies between patients with BPD and non-clinical control group.

The two subsamples were assessed on four maladaptive regulation strategies. The results showed that the clinical sample with BPD endorsed significantly higher use of all four emotion regulation strategies including self blame, other blame, rumination, and catastrophizing. In general, the findings are consistent with prior evidence demonstrating persistent patterns of self-critical cognitions, distorted thinking, catastrophic evaluations of life

situations in samples with BPD (Aldo et al., 2010; McLachlan et al., 2022). The increased tendencies of self-harm behaviors and suicidal risk among clinical groups with BPD (Natividad et al., 2024) may explain the greater reliance on self-blame and rumination as maladaptive cognitive emotion regulation strategies. Also, the higher use of catastrophizing is an expected finding that justifies the affective instability, a core symptomatic characteristic of individual with BPD. Catastrophizing reflects a tendency to intensify the affective responses associated with the difficult circumstances, further intensifying the emotional instability. Likewise, the clinical sample compared to non-clinical control group reported higher use of other blame. Its higher use may explain the core features of interpersonal conflict and mistrust in clinical sample with BPD (Schmidt, 2022).

Furthermore, the study participants were also assessed on five adaptive emotion regulation strategies including positive reappraisal, acceptance, positive refocusing, planning, and putting into perspective. The results showed that clinical subsample reported lower use of adaptive regulation than control group participants. Evidence shows that the higher use of these adaptive strategies is associated with goal-oriented coping, resilience, and the ability to reconstruct perception of adverse life situations (Fatima, Arshad et al., 2022; Petrova & Gross, 2023). Reduced reliance on adaptive cognitive mechanisms of positive reappraisal, putting into perspective, and positive refocusing worsens the emotional vulnerability to affective instability and interpersonal mistrust. Greater use of adaptive mechanisms of refocus on planning and positive reappraisal improves wellbeing and its limited use reduces chances of recovery from situational setbacks and stressful encounters (Fatima & Jamil, 2024). The clinical sample also endorsed lower levels of acceptance of situational setbacks. Though acceptance is encouraged through socialization and cultural practices in the collectivistic culture of Pakistan, it is compromised in patients with BPD by pervasive pattern of distress intolerance and rejection sensitivity (Shahzad et al., 2022; Hedemann et al., 2023).

Collectively, the findings support the cognitive and emotional imbalance in patients with BPD. The excessive use of maladaptive regulation coupled with deficient adaptive cognitive mechanisms are theoretically supported and supports relational challenges, self-harm tendencies, and interpersonal dysfunctioning in patients with BPD (Gross, 2015). Though empirically supported from previous literature based on Western cultures, the study extends this literature to an underrepresented collectivistic culture of Pakistan. In this cultural context, familial and religious values and norms have a great role in shaping cognitive mechanisms to down regulate their emotional responses. For example, collectivistic norms often encourage acceptance, meaning making, putting the adversities into perspective, yet the current findings highlight that patients with BPD even struggle to utilize these culturally embedded adaptive regulation strategies. Even in the presence of protective cultural norms, they reflect pervasive problems in interpersonal mistrust and unstable self-image.

Implications

The findings have several conceptual and practical implications. Conceptually, mapping profiles of emotion regulation strategies in patients with BPD compared to non-clinical control group participants have improved basic knowledge about the underlying emotional and cognitive mechanisms. Practically, such knowledge is essential in designing effective intervention strategies linked to more precise characterization of maladaptive regulation patterns. Clinically, such knowledge highlights that dialectical behavior therapy, schema-focused therapy, and interventions focused on cognitive and affective aspects can be adapted to explicitly address specific maladaptive strategies (e.g., Petrova & Gross, 2023). Given the evidence for efficacy of specific interventions tailored to the client's needs for improved cognitive skills (Iftikhar et al., 2025; Mahmood et al., 2025; Saif et al., 2025), regulation skill modules may incorporate culturally congruent elements such as positive

religious coping, collective support system, and community-based psychoeducation to enhance the efficacy of intervention for improved wellbeing (Fatima et al., 2022; Fatima et al., 2025).

Limitations

Several limitations need to be considered while interpreting the findings. Primarily, the study uses cross sectional research design, which may limit us making causal inferences about whether the group differences are due to BPD or some other intervening mechanisms. In addition, current study's reliance on self-report measures may have introduced social desirability bias particularly in the cultural context where discussion and expression of emotions is stigmatized. Future studies are recommended to use multimethod approach incorporating experimental tasks, behavioral observations, and informant reports for clearer understanding of cognitive emotion regulation mechanisms in patients with BPD. Finally, selection of the sample from clinical and community settings in Pakistan may limit its generalizability to diverse sociocultural groups such as marginalized groups of rural populations and women from disadvantaged sociocultural context.

Conclusion

In sum, the findings provide a priori evidence that patients with BPD in Pakistan significantly differ in their reliance of cognitive emotion regulation strategies with significantly higher use of maladaptive strategies and deficient use of adaptive strategies. By profiling emotion regulation strategies in an underrepresented country of the world, this study contributes to a more global understanding of BPD and highlights the significance of culturally responsive interventions in addressing the pervasive affective dysregulation mechanisms. Given the centrality of emotion dysregulation in BPD and the clinical implications of specific emotion regulation strategies, the current study addresses a critical research gap with relevance to assessment and treatment planning in Pakistan.

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