



Impulsivity in major depressive and borderline personality disorder patients

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ABSTRACT

Impulsivity is the propensity to follow up on an idiosyncrasy by showing conduct described by almost no thinking ahead, reflection or thought of the outcomes. In psychology, impulsivity (or impulsiveness) is a tendency to act on a whim, displaying behavior characterized by little or no forethought, reflection, or consideration of the consequences. The present study seeks to explore the nature, intensity and extensity patterns of impulsivity in individuals diagnosed as major depression (N: 254) and borderline personality (N: 69). The selected participants were administered Barratt Impulsiveness Scale and Scale Suicide Ideation. Results show significantly high scores on certain domains of impulsivity related to non-acceptance, goals, impulsive difficulty, strategies, and clarity in patients having borderline personality problems ($p < 0.001$) as compared to no difference at all for awareness in both the groups. This paper brings together eminent scholars and rising researchers from various fields (developmental psychology, neuroscience, animal cognition, anthropology, addiction science) who use various techniques (behavioral assays, imaging, endocrinology, genetics) to provide a comprehensive and cohesive understanding of impulsiveness. A domain and item-wise analysis of the similarities and differences are presented between the two clinical conditions in the light of their suicidal ideation based on associated variables like gender and marital status before discussing their implications for therapy in the context of cultural factors unique to Indian settings.



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INTRODUCTION

Impulsive behaviours involve acting without a suitable amount of forethought. It is sometimes functional or not be functional and it always chooses short term gain over long term gain. Impulsivity is the inclination toward fast, impromptu responses to inner or outside upgrades without respect to the negative outcomes of these responses to the rash individual or others (Rachlin, 2000; Moeller *et al.*, 2001).

Depression, especially severe depression, is reported to be strongly associated with suicidality. Impulsivity is taken as almost a trademark of borderline personality disorder. It can lead them to

issues with physical wellbeing, relational connections and funds just as legitimate issues. Examples of impulsive behaviors commonly reported in borderline personality disorder are: taking steps to hurt others, self-mutilation, decimating property, shoplifting and getting into physical quarrels with individuals, continuing spending binges; driving heedlessly, indiscriminate sex, hollering, yelling, voraciously consuming food, or shouting at others ([Dowson et al., 2004](#)).

The combination of impulsivity and depression is important in understanding suicidal behavior. Impulsivity is one of the principle dimensions of suicidality. It is extensively known that the hazard of suicide is high in cases of major depressive disorder in compared to the general population. It would be worthwhile to explore the linkages between impulsivity, major depressive disorder and suicidal tendencies. Taking these facts into consideration, the present study carried out to identify impulsivity among these two clinical conditions and to compare impulsivity between them. Along with we also investigate impulsivity in major depressive disorder and borderline personality disorder in relation to significant socio-demographic correlates like gender, marital status with occupation and probe the nature, characteristics, content, intent, intensity and extensity of suicidal ideation as critical symptomatic indicators of emotion dysregulation and impulsivity among two clinical conditions.

MATERIALS AND METHODOLOGY

The present study was a cross-sectional investigation. Patients were selected on a consecutive basis for a period from December 2015 to January 2018. The sample consists of 323 subjects, including cases diagnosed as MDD (N: 254) and BPD (N: 69). The written consent was taken from the patients and confidentiality was assured. The ethical clearance was taken from IMS and SUM hospital, Siksha O Anusandhan (Deemed to be University) Ethical committee.

Inclusion Criteria

1. The age range of subjects was kept between 18 to 30 years
2. Patients who satisfied the Diagnostic Criteria for Research for major depressive disorder (N: 254) and borderline personality disorder (69) without psychotic features
3. Participants who scored at least 7 or more on the McLean Screening Instrument for borderline personality disorder (MSI-BPD)

4. Participants who scored at least 7 or more on HAM-D.4

Exclusion Criteria

1. Individuals having any other co-morbid diagnosis along with borderline personality disorder fulfilling DCR
2. Patients with intellectual disability, psychosis, bipolar disorder, substance dependence or abuse disorder

The targeted study variables of were measured using the following tools,

Socio-Demographic Personal Data Sheet

The investigator prepared instrument was used to elicit background details of participants in this study. It covered questions on the respondent's name, age, gender, educational qualifications, occupation, income, marital status, family type, and a number of dependents.

McLean Screening Instrument for Borderline Personality Disorder

This is a self-report screening instrument used to screen BPD symptoms in individuals looking for treatment or who have a background marked by treatment. This test comprises of 10 sentences. It depends on DSM-5 ([APA, 2013](#)) criteria for a finding of BPD. A score of 7 or higher has been set up to be a decent indicative sliced off to satisfy the criteria for BPD. This instrument is shown to have high-quality psychometric properties with enough internal consistency and test-retest reliability ([Zanarini et al., 2003](#)).

Depression rating scale

It is a different thing survey used to give a sign of dejection and fill in as a manual for assesses recuperation. It tests into features like a state of mind, sentiments of blame, suicide ideation, sleep deprivation, disturbance, or impediment, tension, weight reduction, and substantial side effects. A clinician rates the individuals on the basis of 21 items either on a 3-point or 5-point Likert-type scale. However, the scoring is based on the first 17 out of 21 items. Its sensitivity is reported as 86.4% and specificity is 92.2 % ([Hedlund and Vieweg, 1979](#); [Hamilton, 1986](#)).

Barratt Impulsiveness Scale

The BIS involves 30 things estimating the accompanying 3 scales: (an) attentional hastiness characterized as an inclination towards brisk responses and absence of consideration and subjective control;

(b) motor impulsiveness estimating conduct suddenness, for example, purchasing things unexpectedly, and (c) non-planning imprudence depicting an absence of activity anticipating the dimension of a common mentality to life, for example, a reduced enthusiasm for the future. The answers are replied on a four-point scale from one (seldom/never) to four (almost dependably/dependably). The scale demonstrates elevated inside uniformity (somewhere in the range of 0.79 and 0.83 in various gatherings), high test-retest unwavering quality (Patton *et al.*, 1995).

Scale for Suicide Ideation-Worst

This nineteen-item clinical research instrument intended to evaluate and survey self-destructive expectations by their intensity, inescapability, and qualities of the flow cognizant self-destructive plan and ideation by scaling different magnitude of self-hurting contemplations or wishes. Everything comprises of three elective statements evaluated in intensity 0 to 2. The total score is figured by the addition of one's scores in each item. The internal consistency of SSI as determined by coefficient alpha, KR-20 is reported as .89 and inter-rater reliability coefficient was 0.83 ($p < .001$) (Beck *et al.*, 1979, 1988).

RESULTS AND DISCUSSION

Impulsivity in major depressive disorder and borderline personality disorder

Results of comparative overall scores on impulsivity in persons having 'major depressive disorder' and 'borderline personality disorder' show statistically significant differences between the two clinical groups. The persons with BPD (N: 69; Mean: 76.01; SD: 6.40) score higher ($p < .001$) in impulsivity on BIS-11 than the sample with major depressive disorder (N: 254; Mean: 70.89; SD: 8.86). This trend is reflected as higher scores ($p < .001$) for suicidal ideation, a critical symptomatic indicator of emotion regulation difficulties and impulsivity in individuals with borderline personality disorder (N: 69; Mean: 8.28; SD: 2.30) and major depressive disorder (N: 254; Mean: 5.20; SD: 2.79).

Domain-wise profiles in Impulsivity between MDD and BPD

A domain-wise investigation of results was next undertaken on 2nd Order Factors of BIS-11 for or in between the two clinical samples'. There are three domains for comparison on the BIS-11 at this level. Results show that there is a significant difference between the two groups on all three domains, viz., motor impulsivity, non-planning impulsivity

and attention-impulsivity ($p < .001$).

A domain-wise analysis of results was next undertaken on 1st Order Factors of BIS-11 for or in between the two clinical samples'. There are five domains for comparison on the BIS-11 at this level. Results demonstrate that there is no critical distinction in two groups on just in the area perseverance' ($p > .05$).

Distribution of profiles in impulsivity between MDD and BPD in relation to key socio-demographic variables

The analysis of distribution of scores on BIS-11 in terms of gender variable for 2nd order factors showed statistically significant differences for males with borderline personality disorder (N: 54; Mean: 26.42; SD: 3.60) scoring high on the attention-impulsivity domain of BIS-11 than their female counterparts (N: 15; Mean: 24.20; SD: 2.84). There appears to be no significant difference by gender on this scale for the domains of non-planning impulsivity and motor impulsivity ($p > .05$). Gender differences are seen for both attention-impulsivity and motor-impulsivity ($p < .05$) but not for non-planning impulsivity ($p > .05$). This implies that males with borderline personality disorder score high on test items like 'I don't pay attention', 'can't concentrate easily', 'squirm or restless during lectures or in a theatre', etc. The females with borderline personality disorder score high on test items related to 'doing things without thinking', 'making up their mind too quickly', 'acting on impulse', or 'on the spur of the moment'. Both males and females with borderline personality disorder show no difference on items related to 'non-planning', such as 'planning tasks carefully', 'planning trips ahead of time', 'being self-controlled', 'being a careful thinker', 'saving regularly', etc.

By the same token, and in contrast, only 'non-planning impulsivity' emerges as the single domain wherein there is no significant difference between both the clinical conditions of MDD and BPD on gender variable ($p > .05$). Although most studies reporting BIS-11 have focused on the three 2nd order factors, an attempt is made herein to determine if any different picture would emerge when the BIS-11 scores are analyzed for gender variable according to the six scales under its 1st order factors. It is seen that all the differences generated through the analysis of 2nd order factors on BIS-11 gets fully dissolved.

Based on the occupational variable, while there is no difference ($p > .05$) for individuals having a borderline personality disorder. There are differences noticed in two domains, viz., attention-impulsivity

and non-planning impulsivity for those with major depressive disorder ($p < 0.001$). In other words, it re-affirms that persons with major depressive disorder have high scores on test items like being 'unable to pay attention', or 'paying concentration easily'. They admit having 'extraneous' or 'racing' thoughts. Their 'motor impulsivity' is also high as they admit to 'doing things without thinking', 'acting on impulse', and/or 'on the spur of the moment'.

As with the distribution of scores across domains in relation to gender for 1st order factors on BIS-11, there is statistically no significant difference seen even in relation to an occupational variable for both clinical conditions ($p > 0.05$). On marital variable, while there is no statistically critical differences across all domains for persons with BPD as well as for those having MDD ($p > 0.05$), a similar trend of nil difference is observed across all 1st order factors on BIS-11 in relation to marital variable for both clinical conditions of borderline personality disorder as well as major depressive disorder ($p > 0.05$).

Item analysis

Item-wise counts on BIS-11 show different aspects of impulsivity working between the two clinical conditions. For example, high scoring test items for patients with a major depressive disorder are that they 'plan tasks or trips carefully', and are 'future-oriented'. It is only that they experience 'racing thoughts', and 'don't pay attention' to the tasks at hand (Items # 1, 5, 6, 7, & 30). On the other hand, the persons with BPD score high in impulsivity related test items like being unable to 'make up their mind quickly', "squirming" in their seats while being a spectator at 'plays or lectures', or for 'say things without thinking' and for 'getting easily bored when solving thought problems' (Items # 3, 11, 14, & 18).

Suicidal ideation

An item-wise analysis on SSI typically rated by the investigator following a clinical interview with subjects shows that there are no positive statement scoring or responses for test item number 12-19 for both the clinical sample of respondents. In other words, they do not report of planning, seeking an opportunity, having the capability, expecting, and/or writing a note for suicide. However, between the two clinical groups, respondents with borderline personality disorder show higher (Mean Frequency Score: 573/69: 8.30) tendency for suicide ruminations or intentions than those with major depressive disorder (Mean Frequency Score: 1322/254: 5.21). These findings are measured to be statistically significant (X^2 : 83.8; Df: 7; P: 0.0001).

Analysis of score on the SSI for gender variable across the two clinical conditions shows that only about half of the test questions is rated by the clinician. More males with BPD are found to have more severe forms of 'passive desire for suicide (N: 19/54; 35.19%) and 'frequency of suicide ideation' (N: 13/54; 24.07%) than females in the same category. In contrast, both males and females with a major depressive disorder are rated as having relatively less severity of suicidal wishes, ideation, or attempts than individuals with BPD in this sample. In the case of the occupation variable, results were compatible with what was evidenced for the gender variable. It is seen that herein too, only about half of the test questions are rated by the clinician. There are more instances of the unemployed and student category of persons with BPD found having more severe forms, frequency and duration of 'passive desire for suicide and 'frequency of suicide ideation' than those in the employed group. In contrast, persons with a major depressive disorder are rated as having relatively less severity of the suicidal wishes, ideation, or attempts than individuals with borderline personality disorder in this sample.

In relation to marital variables across the two clinical conditions, results are compatible with what was evidenced for gender variable and occupational variable. There are more instances of unmarried persons with BPD who are found to have more severe forms, frequency and duration of 'passive desire for suicide and 'frequency of suicide ideation' than those in the married group. In contrast, persons with a major depressive disorder are less rated as having suicidal wishes, ideation, or attempts than individuals with borderline personality disorder in this sample. Thus, like occupation, the status of being married may be serving as a protective factor for both the conditions at least against the risk for suicide. The chances are that unmarried, single, separated, widowed, and/or divorced persons with an added borderline personality disorder and major depressive disorder may be at greater vulnerability for suicide.

Impulsivity might be viewed as an inclination to activity without reflection or respect for results. Mixes of gloom and impulsivity are essential in self-destructive conduct. (Holi *et al.*, 2005) Based on the overall trend measured in the present study, patients with borderline personality disorder are recorded to have greater mean impulsivity scores and poor response inhibition than their counterparts with major depressive disorder. Impulsivity is often considered as a clinical, diagnostic and pathophysiological feature of 'borderline personality disorder. From rushed choices to getting into phys-

ical fighting, these activities can hurt the patient just as everyone around them (Nigg *et al.*, 2005; Hochhausen *et al.*, 2002).

Impulsivity has been linked and studied hostile behaviours in persons with borderline personality disorder (Shafiee-Kandjani *et al.*, 2017). Impulsivity in borderline personality disorder has been more often attributed and studied about deliberate self-harm and suicide attempts commonly reported in these patients. Most of the subjects with a long history suicidal tendency females meeting the BPD criterion reported on Para-suicide History Interview that their attempts were wished for reducing negative emotions (Brown *et al.*, 2002). Among the recognized forthcoming danger factors for suicide endeavors in a treated example of patients with a marginal identity issue, it was discovered that the seriousness of youth sexual maltreatment anticipated such propensities amid their adulthood. (Links *et al.*, 2013; Yen *et al.*, 2004) With regard to socio-demographic variables, gender is most discussed for impulsivity vis-a-vis borderline personality disorder and major depressive disorder. However, there is a cultural dimension to this whole issue. In this study also, gender-wise differences were observed for both attention-impulsivity and motor-impulsivity but not in the case of non-planning impulsivity (Yen *et al.*, 2002).

Even though studies have repeatedly shown that persons with borderline personality disorder symptoms have impaired work performance, low decision latitude, job insecurity and co-worker supports, the occupation has not emerged as a significant variable in this study. This area probably warrants further research to make any conclusive statements (Juurlink *et al.*, 2018; Sansone and Sansone, 2012).

CONCLUSIONS

In conclusion, it is seen that there is greater motor impulsivity and non-planning impulsivity in persons having borderline personality disorder as there is higher attention impulsivity in MDD patients. There is no observed difference on the perseverance aspect of impulsivity between the two clinical samples covered in the present study. Respondents with borderline personality disorder show a higher tendency for suicide ruminations or intentions than those with major depressive disorder. Males with borderline personality disorder show greater attention to impulsivity than BPD females. Females with MDD show greater attention impulsivity as well as motor impulsivity than males with major depressive disorder. There is no difference by gender

for non-planning impulsivity in both groups. More males than females with borderline personality disorder show a high tendency for suicidal ideation. There are more instances of the unemployed and student category of persons with BPD who found to have more severe forms, frequency, and duration of 'passive desire for suicide and 'frequency of suicide ideation' than those in the employed group. The chances are high that unmarried, single, separated, widowed, and divorced persons with an added borderline personality disorder and major depressive disorder are at greater vulnerability for suicide. The findings in the two clinical populations have significant implications for the development of appropriate remediation strategies.

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