Differentiating risk for mania and borderline personality disorder: The nature of goal regulation and impulsivity ☆

Daniel Fulford [a,b,*], Lori R. Eisner [c], Sheri L. Johnson [d]

[a] University of California, San Francisco, Department of Psychiatry, 401 Parnassus Ave., San Francisco, CA 94143, USA
[b] Palo Alto Medical Foundation Research Institute, 2350 West El Camino Real, Mountain View, CA 94040, USA
[c] Bipolar Clinic and Research Program, Massachusetts General Hospital, Department of Psychiatry, Harvard Medical School, 50 Staniford St., Ste 580, Boston, MA 02114, USA
[d] University of California, Berkeley, Department of Psychology, 3417 Tolman Hall, Berkeley, CA 94720, USA

ARTICLE INFO

ABSTRACT

Researchers and clinicians have long noted the overlap among features and high comorbidity of bipolar disorder and borderline personality disorder. The shared features of impulsivity and labile mood in both disorders make them challenging to distinguish. We tested the hypothesis that variables related to goal dysregulation would be uniquely related to risk for mania, while emotion-relevant impulsivity would be related to risk for both disorders. We administered a broad range of measures related to goal regulation traits and impulsivity to 214 undergraduates. Findings confirmed that risk for mania, but not for borderline personality disorder, was related to higher sensitivity to reward and intense pursuit of goals. In contrast, borderline personality disorder symptoms related more strongly than did mania risk with threat sensitivity and with impulsivity in the context of negative affect. Results highlight potential differences and commonalities in mania risk versus borderline personality disorder risk.

© 2015 Elsevier Ireland Ltd. All rights reserved.

1. Introduction

There has been ongoing debate as to whether borderline personality disorder and bipolar spectrum disorders—including bipolar I and II disorders and cyclothymia—are overlapping or distinct conditions (Stone, 2006; Bassett, 2012). Across studies, as many as 14.5–30% of those with bipolar I disorder (Kay et al., 1999; Brieger et al., 2003; Perugi et al., 2013), and as many of 46% of those with bipolar II disorder (Vieta and Colom, 1999; Benazzi, 2000; Henry et al., 2001) also meet criteria for borderline personality disorder. Among respondents with borderline personality disorder in the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) study, 23.9% also met criteria for bipolar I disorder (Grant et al., 2008). In the community, misdiagnosis between these two conditions is all too common (Ruggero et al., 2010). The high degree of overlap suggests the possibility of shared risk and, consistent with this idea, both disorders involve affective instability and impulsivity (Magill, 2004). Indeed, some propose that both bipolar spectrum disorders and borderline personality disorder share the same underlying cyclothymic diathesis (Perugi et al., 2011). On the other hand, more than half of those with bipolar disorder do not appear to meet criteria for borderline personality disorder, suggesting that identifying unique facets of the two conditions could improve diagnostic accuracy (Blacker and Tsuang, 1992). In this paper, we focus on personality traits that could help explain overlap in risk for bipolar disorder and borderline personality disorder, as well as traits that might help distinguish risk for the two conditions.

Before turning to a discussion of personality traits, it is worth reviewing how well the two conditions can be distinguished on the basis of symptoms, course, and treatment (Paris, 2004). Bipolar spectrum disorders are distinguished by propensities toward elation (Henry et al., 2001) and discrete episodes (Paris, 2004), and are more responsive to mood stabilizers (Paris, 2004). None of these characteristics, though, are fail proof. Many people with bipolar I disorder do not report elation during mania (Sato et al., 2002; Akiskal et al., 2003). It is increasingly well-recognized that people with bipolar spectrum disorders experience chronic unremitting depressive symptoms (Judd et al., 2002), as well as affective instability outside of episodes (Akiskal, 2004), and many experience only a partial response to mood stabilizers (Bauer, 2005). Indeed, the overlap among symptoms has led some to argue for considering borderline personality disorder an "ultra-rapid-cycling" variant of bipolar spectrum disorders (Deltito et al., 2001). Further adding to the difficulties in relying on symptoms and course for differential diagnosis, a growing body of research

suggests that borderline personality symptoms frequently remit, even though functional impairments can be more persistent (Zanarini et al., 2003a; Gunderson et al., 2011). Symptoms, course, and treatment response may not always provide diagnostic clarification, then, given the heterogeneity in the expression of these disorders.

Examining personality traits might help to bolster the ability to distinguish these two conditions. A growing literature has related bipolar spectrum disorders to goal dysregulation and emotion-relevant impulsivity. For example, multiple studies have found that sensitivity to reward is heightened among those at risk for mania—defined by elevated scores on the Hypomanic Personality Scale (HPS)—as well as among persons with remitted bipolar disorders (Alloy et al., 2009; see Johnson et al. (2012a) for review). Bipolar I disorder and risk for mania have been related to more intense pursuit of goals, including measures of goal striving (Spielberger et al., 1963; Scott et al., 2000; Lam et al., 2005; Wright et al., 2005; Alloy et al., 2008; Fulford et al., 2009) and extremely ambitious life goals (Johnson and Carver, 2006; Fulford et al., 2008; Carver and Johnson, 2009; Gruber and Johnson, 2009; Johnson and Jones, 2009), even after controlling for current mood symptoms. Risk for mania has also been related to greater cognitive reactivity to goal progress (i.e., "positive overgeneralization"; Eisner et al., 2008). Goal dysregulation has received less attention within borderline personality disorder. Here, we suggest that goal dysregulation may help distinguish those at risk for mania compared to those at risk for borderline personality disorder.

In contrast, borderline personality disorder and bipolar disorder have both been related to impulsivity. Bipolar I disorder and risk for mania have been related to heightened impulsivity, especially during positive mood states (Swann et al., 2001; Giovanelli et al., 2013; Johnson et al., 2013; Muhtadie et al., 2014; Newman and Meyer, 2014), and this aspect of impulsivity can be observed even during well periods. Borderline personality disorder has long been related to impulsivity (Lieb et al., 2004), and more recent research suggests that specific elevations in emotion-relevant impulsivity are present as well. Similarly, previous research has suggested that both bipolar disorders and borderline personality disorder are related to an increased propensity towards urgency, or impulsivity during negative emotion states (Whiteside et al., 2005; Johnson et al., 2013; Muhtadie et al., 2014). In one study, individuals diagnosed with borderline personality disorder (and comorbid major depressive disorder) reported significantly more impulsivity than did individuals diagnosed with bipolar II disorder (Wilson et al., 2007).

Beyond impulsivity, negative affectivity might be elevated in those at risk for borderline and bipolar disorders (Maples et al., 2014). Self-reported sensitivity to threat, as indexed by the Behavioral Inhibition Scale (BIS; Carver and White, 1994), is elevated among those with borderline personality traits (Pastor et al., 2007; Claes et al., 2009) and diagnoses (Taylor et al., 2006; Mortensen et al., 2010). Several studies have suggested that BIS is elevated only during periods of depression among those with bipolar spectrum disorders (see Johnson et al. (2012a) for review). In studies comparing levels of negative affectivity across diagnostic groups, individuals diagnosed with borderline personality disorder reported significantly more negative affectivity (hostility and depressed mood) than did individuals diagnosed with bipolar II disorder or cyclothymia (Wilson et al., 2007; Reich et al., 2012). Caution is warranted in that the Wilson study focused on individuals with borderline personality disorder comorbid with major depressive disorder.

In sum, although affective dysregulation is commonly noted in both bipolar spectrum disorders and borderline personality disorder, the relation of affect to goal regulation and impulsivity may provide insight into distinguishing risk for the two disorders.

The aim of the current study was to understand how goal regulation, emotion-relevant impulsivity, and threat sensitivity might help differentiate risk for mania and borderline personality disorder. Based on findings from the above literature, we hypothesized that risk for both mania and borderline personality disorder would be associated with emotion-relevant impulsivity, while risk for mania would be more strongly associated with goal dysregulation than would risk for borderline personality disorder. We included several measures of goal regulation traits that have been previously found to relate to mania risk and bipolar disorder (including reward sensitivity, over-responsivity to goal progress, and ambitious goal-setting).

In considering these issues, it is worth noting our methodological approach. Whereas studies of individuals with diagnosed bipolar disorders and borderline personality disorder undoubtedly have advantages, the repeated difficult experiences of these disorders can have significant implications for negative affect and goal regulation, and the treatments may influence negative affect as well as impulsivity (Newman and Meyer, 2014). As such, it is difficult to determine whether personality trait elevations observed within clinically diagnosed samples represent defining features of these disorders or byproducts of illness chronicity and treatment. In this study, then, we chose to study varying risk for bipolar and borderline personality disorders, rather than a clinical sample, by using scales that were designed to screen for risk of bipolar and borderline personality diagnoses.

2. Methods

2.1. Participants

Participants were 214 (65% female, median age=18 years, range 17–33) undergraduate students enrolled in introductory psychology courses at the University of Miami. The ethnic makeup of the current sample was 58% non-Hispanic Caucasian, 24% Hispanic, 5% African-American, 7% Asian-American, and 6% other ethnicities. Participants provided informed consent and completed measures in group settings as part of course credit. This study was approved by the University of Miami Institutional Review Board.

2.2. Measures

2.2.1. Measures of hypomania and borderline personality disorder risk

To assess risk, we used two scales designed as screeners of diagnostic status. Both scales cover central symptoms of the diagnosis, although the scale of mania risk also includes related personality traits, as we will discuss below. It is also worth noting that the borderline personality disorder screener was developed to detect concurrent diagnoses, whereas the mania screener was developed to assess both concurrent diagnoses and risk of future diagnoses.

2.2.1.1. McLean Screening Instrument for Borderline Personality Disorder (MSI-BPD; Zanarini et al., 2003b). The MSI-BPD was designed as a screening instrument to identify people who may have borderline personality disorder. This 10-item, true-false, self-report questionnaire was derived from the borderline personality disorder module of the Diagnostic Interview for DSM-IV Personality Disorders, a reliable semi-structured interview for Axis II disorders. Each diagnostic criterion is assessed by a single item with the exception of paranoia/dissociation, which is assessed using two items. The MSI-BPD has shown good test–retest reliability (Spearman's rho=0.72, $p < 0.01$) and adequate internal consistency ($\alpha = 0.74$). In this study, reliability was adequate ($\alpha = 0.79$). A cutoff score of 7 among outpatients without a history of psychosis or mania has resulted in good specificity and sensitivity, with 81% of those exceeding this threshold meeting diagnostic criteria for borderline personality disorder (Zanarini et al., 2003b). This cutoff also achieved optimal sensitivity/specificity in a community-based sample of women, with 75% of the sample correctly identified as having borderline personality disorder (Patel et al., 2011). Approximately 15% of our sample scored at or above the cutoff score of 7 (11% female; 24% male).

2.2.1.2. Hypomanic Personality Scale (HPS; Eckblad and Chapman, 1986). The HPS measures risk for manic symptoms. As background, it is important to note that bipolar spectrum disorders as a whole are defined by the presence of manic symptoms of varying degree and diagnosis, and the diagnosis of bipolar I disorder