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Borderline personality disorder features and drinking, cannabis, and prescription opioid motives: Differential associations across substance and sex

Noel A. Vest*, Kyle T. Murphy, Sarah L. Tragesser

Washington State University, USA

HIGHLIGHTS

- Coping motives showed the strongest association with BPD features across substances
- Conformity motives were important for alcohol and cannabis use for both sexes
- Prescription opioid motives for coping, social, enhancement, and pain appear to be specific to females

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ABSTRACT

Introduction: Drinking motives have shown meaningful associations with borderline personality disorder (BPD) features. However, it is unknown whether other common substances of abuse (namely cannabis and prescription opioids) have the same associations with BPD features. In the present study, we tested associations between BPD features and motives across three substances: alcohol, cannabis, and prescription opioids. The purpose of the study was to determine whether BPD showed similar patterns of associations across drugs, or whether some substances serve particular functions for individuals with BPD features, and whether this also varies by sex in a college student sample.

Method: Five-hundred ninety-four college students completed online questionnaires measuring demographics, borderline personality disorder features, substance use, and substance specific motives for alcohol, cannabis, and prescription opioid use.

Results: BPD was most strongly associated with coping motives across all substances. For both alcohol and cannabis, this was true for both males and females, along with conformity motives. For prescription opioids, coping, social, enhancement, and pain motives were only significantly related to BPD features for females. When compared statistically, it was found that the associations with coping drinking motives and opioid pain motives were higher among females.

Conclusions: This pattern of results suggests that negatively reinforcing motives (coping and conformity) play a similar functional role in borderline personality and substance use disorder pathology for alcohol and cannabis, but for prescription opioids the negative reinforcement motives (coping and pain) were only evident in females.

1. Introduction

There is a documented relationship between borderline personality disorder (BPD) and substance use disorder (SUD) over the past 30 years (Trull, 2001). The comorbidity between BPD and SUD has been found in a variety of populations (Sansone & Sansone, 2011; Stepp, Trull, & Sher, 2005; Trull, Jahng, Tomko, Wood, & Sher, 2010) and across different substances (Carpenter, Wood, & Trull, 2015; Sher & Trull, 2002; Trull, Sher, Minks-Brown, & Durbin, 2000). However, more research is needed to examine the nuances of the BPD association for specific substances. For instance, does each substance serve the same purpose for individuals with increased BPD features? Is this consistent across sexes? Are the mechanisms driving this association consistent across substances?

BPD is characterized by problems in interpersonal relationships, identity disturbances, problems regulating emotions, and impairments controlling impulsive behaviors (American Psychiatric Association, 2013). It has been estimated that 3–6% of the general population meet

* Corresponding author at: Washington State University, PO Box 644820, 218 Johnson Tower Pullman, WA 99164, USA.
E-mail address: noel.vest@wsu.edu (N.A. Vest).

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criteria for BPD in their lifetime (Grant et al., 2008; Trull et al., 2010) but that number swells to over 20% in SUD populations. Dimensional theories of personality disorders (PD), including borderline, suggest classifying personality pathology as a continuum of personality traits or dimensions (Trull & Durrett, 2005). Many investigators assert that personality disorder assessment is better quantified as extreme variants of normal personality trait dimensions (Trull, Widiger, Lynam, & Costa Jr, 2003; Widiger & Costa, 2002). Furthermore, employing the dimensional perspective, it has been established that non-clinical college student samples can have meaningful implications for clinical BPD pathology (Trull, 1995). This is important for our current study, because if significant relationships are evident in our current college sample, it could point to patterns that are important among clinical populations as well.

2. Substance use among college students

Alcohol, cannabis, and prescription drug use is connected to a variety of negative outcomes among college students. Monitoring the Future (MTF) trend data suggests that, despite an overall decrease in alcohol use, relative to other substances and populations (e.g., middle schoolers, higher schoolers, non-college young adults), the rate of heavy episodic drinking has consistently been the highest in the college student population over the course of several decades (Johnston, O'Malley, Bachman, Schulenberg, & Miech, 2016). Excessive alcohol consumption in college has been linked to multiple negative consequences, including reduced academic performance, injury, sexual misconduct, and mortality (White & Hingson, 2013). In regard to cannabis use among college students, MTF trend data suggests that the use of cannabis has increased overall from 2007 to 2015 (Johnston et al., 2016). Research suggests that increased cannabis use in college students is predictive of lower GPA and longer time to graduate (Arria, Caldeira, Bugbee, Vincent, & O'Grady, 2015). Lastly, longitudinal research suggests that early onset of non-medical use of prescription drugs is predictive of continued use and other substance use problems in adulthood (McCabe, Schulenberg, O'Malley, Patrick, & Kloska, 2014; McCabe, West, Morales, Cranford, & Boyd, 2007). These findings are important because patterns of drug use among college students and young adults can help to inform clinical populations, as well as prevention and treatment interventions.

3. Alcohol, Cannabis, and prescription opioid use motives

Drug and alcohol use motives have been found to be important in identifying potential pathways that contribute to substance use disorders (Cooper, 1994; Jones, Spradlin, Robinson, & Tragesser, 2014; Simons, Correia, Carey, & Borsari, 1998). Motives for drug and alcohol use are based on the idea that individuals drink or use drugs to serve a specific purpose, or achieve a valued outcome (Cox & Klinger, 1988). Based upon the learning principle of reinforcement, motives sustain a drug- or alcohol-using behavior by offering the presentation of a pleasurable experience (positive) or the removal of an undesirable experience (negative), and the experiences can have either an internal or external source (Cooper, 1994). Early work by Cooper (1994), using the motivational model, identified four distinct drinking motive categories: enhancement (internal positive), coping (internal negative), conformity (external negative), and social (external positive). More recently, researchers have identified an expansion (of the mind) motive for cannabis use (Simons et al., 1998), and a physical pain motive (internal negative) for prescription opioids (Jones et al., 2014). Given the strong need to identify mechanisms in the BPD pathology, the goal of this study was to examine whether BPD features are associated with motives similarly across substances. Similarities would indicate comparable functional relationships across substances, while differences would point to substance specific effects. Empirical work examining substance-specific motives and their relationship with BPD is warranted, given the current evidence suggesting differences in the comparison of motives across substances generally (Hartwell, Back, McRae-Clark, Shaftman, & Brady, 2012; Simons, Correia, & Carey, 2000). This is especially potentially relevant to BPD, given the complexity of the disorder.

Although there is no previous research examining the relationship between BPD and alcohol motives specifically, a large amount of evidence suggests a link may be present. For example, in a sample of college students, Stewart and Devine (2000) found that personality traits known to correspond with BPD were related to alcohol motives. The researchers found that enhancement motives were predicted by high extraversion and low conscientiousness, and coping motives were predicted by high neuroticism. Additionally, coping and enhancement motives were found to mediate the relationship between cluster B personality disorder symptoms and alcohol use disorder/consequences in a cross-sectional analysis, but only enhancement motives influenced the relationship prospectively in a sample of young adults (Tragesser, Sher, Trull, & Park, 2007). Thus, taken together, previous research suggests that enhancement and coping motives may be related to personality traits related to cluster B personality disorders, including BPD. What is needed is research that can parse out these relationships and examine the unique contribution of BPD on the motives to drink.

Cannabis motives have been important in the study of cannabis use and related problems (Simons et al., 1998), including cannabis use disorder (Bonn-Miller & Zvolensky, 2009). Motives for cannabis use have been implicated in adolescent and young adult samples (Chabrol, Ducongé, Casas, Roura, & Carey, 2005; Lee, Neighbors, & Woods, 2007) as well as college samples (Buckner, Bonn-Miller, Zvolensky, & Schmidt, 2007; Simons et al., 2000). Coping motives were found to be a significant predictor of frequency of cannabis use among high school students (Chabrol, Beck, & Laconi, 2017). Coping motives have also been implicated in other samples of individuals misusing cannabis (Buckner et al., 2007; Johnson, Bonn-Miller, Leyro, & Zvolensky, 2009; Mitchell, Zvolensky, Marshall, Bonn-Miller, & Vujanovic, 2007). A study by Chabrol et al. (2005) gives us the only investigation into substance use motives and the influence of BPD. When cannabis motives were regressed on symptomatology measures for BPD, anxiety, and depression; BPD symptomatology was found to be a significant predictor compared to anxiety and depression (non-significant predictors across all cannabis motives), but the findings were mixed across sexes. This is important because it suggests that there is something specific to the BPD pathology for cannabis use that is not evident in other mental health conditions. Surprisingly, the most consistent relationship with BPD in this study was not for coping motives, but rather was found for expansion motives (Chabrol et al., 2005). This single study examining the influence of BPD on substance use motives points to the need for further research which can provide a theoretical framework for the role of cannabis motives in BPD pathology.

Motives for prescription opioid use remains a severely understudied area of inquiry (Drazdowski, 2016; Messina et al., 2016). The existing evidence has been limited to mainly middle and high school student samples (McCabe et al., 2014; McCabe, West, & Boyd, 2013). In a study validating the Opioid Prescription Medication Motives Questionnaire (OPMMQ), Jones et al. (2014) found that social, enhancement, and coping motives predicted dependence features, and that all motives were important in predicting frequency of use in the past 3 months. Pain motives are also believed to be playing a role in BPD pathology based on research showing an association between BPD and everyday pain complaints in a clinical sample (Tragesser, Bruns, & Disorbio, 2010). Despite the relative dearth of knowledge regarding prescription opioid use motives generally, uncovering their influence as it relates to BPD pathology will be vital given the significant relationship between BPD and prescription opioid misuse among college students (Tragesser, Jones, Robinson, Stutler, & Stewart, 2013), and the heightened risk for non-medical use of prescription opioids among young adults (Drazdowski, 2016).