Borderline personality features and presence of meaning in life: Mediating role of interpersonal problems

Jeffrey Yiu¹*, David Kealy² and Daniel W. Cox²

Abstract: Individuals with features of borderline personality disorder (BPD) may have difficulty sustaining a sense of meaning in life. Although problematic interpersonal behaviours may account for the link between BPD features and meaning, few studies have examined this possibility. The present study examined the mediating role of interpersonal problems in the association between borderline personality features and presence of meaning in life. A sample of Canadian community members completed the Borderline Symptom List, a brief version of the Inventory of Interpersonal Problems, and the presence subscale of the Meaning in Life Questionnaire. Testing of indirect effects using bootstrap 95% confidence intervals found that interpersonal problems significantly mediated the relationship between borderline personality features and presence of meaning in life. This mediation effect remained significant after controlling for severity of general psychological distress. Thus, severity of interpersonal problems is a significant factor in explaining the link between BPD features and diminished meaning in life. The findings of this study suggest possibilities for further research regarding interpersonal dysfunction and meaning, and point to interpersonal problems as targets for helping to enhance meaning in life among individuals with features of BPD.

ABOUT THE AUTHOR
The authors belong to a group of researchers at the University of British Columbia who are interested in psychotherapy and the concerns that people bring to psychotherapy. Their broad program of study includes research on the process and outcome of different forms of psychotherapy, as well as individual differences that influence treatment or deserve consideration by clinicians. Particular areas of interest include personality disorders, traumatic developmental experiences, and emotional states and processes such as shame, guilt, and self-compassion. The research presently reported reflects the authors’ broader interest in better understanding individuals with features of personality disorder, so that interventions may be tailored to address their needs and concerns.

PUBLIC INTEREST STATEMENT
Having a sense that one’s life matters and has purpose—referred to as the presence of meaning in life—is an important aspect of psychological well-being. Research has shown that individuals with borderline personality disorder (BPD) have been found to have reduced feelings of meaning in life, even when compared to other mental health disorders. Furthermore, individuals with BPD features can experience frequent interpersonal problems, which may contribute to a decreased sense of meaning in life. The objective of this study is to examine whether interpersonal problems may be an underlying reason behind why individuals with BPD features are more prone to experiencing their lives as less meaningful. The present findings suggest possibilities for incorporating interpersonal relatedness as a target in clinical work, in promoting greater purpose and fulfillment among clients exhibiting BPD features.
1. Introduction
Living life with a sense of meaning—that one's life has value, significance, and purpose—is an important aspect of wellbeing (King et al., 2016; Steger et al., 2009). Moreover, Frankl defined meaning as a construct to be answered by the individual for his/her own life through responsibility (Frankl et al., 2006). Meaning may well have positive effects on individuals' health across the lifespan (Kim et al., 2013; Steger & Kashdan, 2009), and has even been linked with longer life (Hill & Turiano, 2014). Unfortunately, the benefits of a sense of meaning may be more elusive for individuals with features of borderline personality disorder (BPD), who often struggle with feelings of emptiness (Miller et al., 2020) and self-destructive behaviour—between 40% and 85% of individuals with BPD have multiple suicide attempts (Oumaya et al., 2008). Thus, helping individuals with features of BPD to build a “life worth living” (Linehan & Wilks, 2015, p. 98) is an intervention priority, and understanding how BPD features impede meaning remains an important objective to inform clinical efforts.

Recent research has shown that individuals with BPD have been found to have low levels of meaning in life compared to those with other psychopathologies but without BPD (Marco, Pérez, et al., 2017; Weibel et al., 2017). Meaning in life may in part be explained by narrative identity theory, which suggests that one integrates their life experiences to craft an evolving self-narrative (McAdams, 2001). Individuals with BPD may struggle to integrate a coherent story of the self, and view themselves as having less control over the events of their lives (Bradley & Westen, 2005), which may be reflected in a reduced sense of meaning. As well, meaning in life has been conceptualized as having cognitive (life makes sense and can be understood), motivational (having a goal/purpose in life), and affective (feeling satisfied and fulfilled in life) components (Bartrés-Foz et al., 2018; Heintzelman & King, 2014). Research on meaning in life has shown that the presence of meaning—the affective sense that one's life is meaningful—is robustly associated with subjective wellbeing outcomes (Li et al., 2021). Indeed, in addition to being negatively correlated with BPD symptoms (Marco et al., 2015), the presence of meaning has been negatively associated with several mental health outcomes that are salient for BPD, including depressive symptoms (Garcia-Alandete et al., 2014), substance abuse (Patrick & Schulenberg, 2014), and suicide (Edwards & Holden, 2003; Kleiman & Beaver, 2013). Additionally, meaning in life is negatively associated with non-suicidal self-injuries, suicidal ideation, and suicide attempts in BPD (Marco, Guillén, et al., 2017; Marco et al., 2015). Furthermore, meaning in life has been found to buffer the relationship between risk factors of suicide and hopelessness (Marco et al., 2016), and a separate but related construct, purpose in life, has been found to be a moderator in the relationship between depression and suicidal ideation (Heisel & Flett, 2004). Moreover, meaning in life has been shown to account for unique variance in suicidal ideation beyond reasons for living (Heisel et al., 2016).

The deleterious effects of interpersonal problems frequently occurring in the context of BPD features may contribute to reduced meaning in life. Theoretical models have attributed interpersonal problems in BPD to difficulties with boundaries in interpersonal relationships, characterized by black-or-white perceptions of the self and others (De Meulemeester et al., 2017). Early maladaptive schemas can negatively influence expectations for future relationships and interpretations of interpersonal experiences (Lazarus et al., 2014; Fonagy et al., 2003), and maladaptive attachment styles can contribute to polarized interpersonal relationships and emotional dysregulation (Lazarus et al., 2018). Empirically, individuals with BPD features have been shown to manifest interpersonal dysfunction across spectrums of various agentic and communal problems (Wright et al., 2013). Sensitivity to rejection has been found
to moderate the association between BPD features and decreased satisfaction in one's social network, and may be a potential risk factor for increased conflict and criticism within social networks (Lazarus et al., 2016). Additionally, sensitivity to rejection has been found to mediate the relationship between BPD features and reduced social supports (Zielinski & Veilleux, 2014). Furthermore, BPD has been associated with increased aggression and impulsivity (Dougherty et al., 1999), as well as the erosion of close relationships through hostile interpersonal interactions (Cheavens et al., 2016), and elevated levels of physical and psychological violence in intimate relationships (Schmahl et al., 2014).

The corrosive effect of interpersonal problems on close relationships may contribute to reduced meaning among individuals with high levels of BPD symptoms. As noted in a review by Stillman and Lambert (2013), a sense of relational belonging may be a vital source of meaning. In their review, one study indicated that 68% of participants reported family relationships to be their primary source of meaning in life, while friendships, the second most cited source of meaning, was endorsed by 14% of participants (Lambert et al., 2010). However, these relational sources of meaning are more likely to be fraught in the context of BPD features. Compared to individuals with no personality disorders, individuals with BPD have increased social dysfunction at work, in romantic relationships, and in friendships (Hill et al., 2008), and are more likely to feel misunderstood by close friends and family members (Carlson & Oltmanns, 2015). Thus, given the unstable nature of their interpersonal relationships, which may be reinforced by maladaptive interpersonal behaviours, people with BPD features may be especially vulnerable to having a decreased sense of meaning in life. In other words, interpersonal problems may be a critical mechanism in the relation between BPD features and meaning in life, though there has been little research to date that has directly examined this possibility.

The present study consisted of an exploratory analysis to investigate whether interpersonal problems confer vulnerability—from features of BPD—to diminished meaning in life. As a potential mechanism in the BPD-meaning relationship, interpersonal problems may be an important focus for clinical attention in helping clients with BPD work toward a greater sense of purpose and meaning. Given the potential relevance of the presence of meaning for mental health outcomes among individuals with borderline features, the present study sought to examine whether interpersonal problems would mediate the association between BPD symptoms and the presence of meaning in life. Since each of the variables in this model may overlap with general psychological distress (i.e., anxiety and depressive symptoms), we also tested an adjusted model, adopting a conservative approach by controlling for general psychological distress in each path of the mediation model. This would partial out variance attributable to general distress in explaining the link between BPD features and meaning in life.

2. Methods

2.1. Participants and procedures
Participants were 250 community members recruited from a campus community in Western Canada. Participants were recruited through posted and online advertisements for a study about emotional wellbeing. Eligibility was determined through telephone screening interviews prior to admission to the study; criteria consisted of being over the age of 18 years, having English language proficiency, and not experiencing an acute mental health crisis. Table 1 displays demographic characteristics of the sample. Participants provided informed consent and completed pen-and-paper self-report assessments, and were awarded a modest honorarium for taking part in the study. Ethics approval for the study was provided by the Behavioural Research Ethics Board of the University of British Columbia.

2.2. Measures
Borderline personality features. BPD features were assessed using the Borderline Symptom List (BSL-23; Bohus et al., 2009). The BSL-23 has demonstrated good psychometric properties in clinical
patients and nonclinical student samples (Bohus et al., 2009; Glenn et al., 2009). Furthermore, the BSL-23 has also been shown to be valid for assessing DSM-IV BPD symptoms, with a strong correlation to the Structured Interview for DSM-IV Personality (SIDP-IV; Glenn et al., 2009). The questionnaire consists of 23 self-report items indicating how much the participant has suffered from BPD symptoms, rated using a 5-point Likert item, from 0 (not at all) to 4 (very strong). Examples of items include: “It was hard for me to concentrate”, “I wanted to punish myself”, “I felt disgusted by myself”. The internal consistency of the BSL-23 in the present sample was excellent, with a Cronbach’s α of .93.

**Interpersonal Problems.** A shortened, 28-item version of the Inventory of Interpersonal Problems was used to assess overall interpersonal dysfunction (Pilkonis et al., 1996; Stern et al., 2000). This measure assesses commonly-reported interpersonal difficulties, based on the contents of qualitative intake interviews of psychiatric outpatients. The items consist of phrases about interpersonal

### Table 1. Socio-demographic characteristics of participants (N = 250)

| Variable                        | Category                               | n   | %    | Mean (SD) |
|--------------------------------|----------------------------------------|-----|------|-----------|
| Age                            |                                        | 25.93 (10.64) |
| Gender                         | Female                                 | 183 | 73.2 |           |
|                                | Male                                   | 65  | 26.0 |           |
|                                | Other                                  | 2   | 0.8  |           |
| Ethnicity                      | White                                  | 114 | 45.6 |           |
|                                | Asian                                  | 96  | 38.4 |           |
|                                | Other                                  | 40  | 16.0 |           |
| Highest level of education     | Less than high school                  | 3   | 1.2  |           |
| completed                      | High school or equivalent               | 70  | 28.0 |           |
|                                | Some college but no degree              | 70  | 28.0 |           |
|                                | Technical diploma or trade qualification| 11  | 4.4  |           |
|                                | Undergraduate degree                   | 73  | 29.2 |           |
|                                | Graduate degree                        | 23  | 9.2  |           |
| Employment status              | Full time employment                   | 34  | 13.6 |           |
|                                | Part time employment                   | 98  | 39.2 |           |
|                                | Disabled, not able to work             | 5   | 2.0  |           |
|                                | Not employed, looking for work         | 52  | 20.8 |           |
|                                | Not employed, not looking for work     | 60  | 24.0 |           |
| Sexual orientation             | Heterosexual                            | 215 | 86.0 |           |
|                                | Gay or lesbian, bisexual, other        | 35  | 14.0 |           |
behaviours, beginning with “It is hard for me to” or “These are things I do too much” (Horowitz et al., 1988), that reflect ambivalence toward others, hypersensitivity to criticism, and aggressive reactivity. Items are rated on a 5-point scale, from 0 (not at all) to 4 (extremely distressing). The total score, representing overall maladaptive interpersonal problems, was used in the present study. Internal consistency in the present sample was excellent, with Cronbach’s α = .91.

Presence of Meaning in Life. Presence of meaning in life was assessed with the Presence subscale of the Meaning in Life Questionnaire (MLQ-P), consisting of five items measuring the perceived sense that one’s life has meaning (MLQ-P; Steger et al., 2006). This construct reflects a subjective feeling that there is meaning in one’s life, and is conceptually distinct from the motivation to search for meaning in one’s life. Convergent validity with other measures of meaning has been assessed in three studies by Steger et al. (2006), with significant correlations between the MLQ-P and the Life Regard Index (LRI; Battista & Almond, 1973) and the Purpose in Life Questionnaire (PIL; Crumbaugh & Maholick, 1969) ranging from .58 to .74. Furthermore, discriminant validity analyses showed an average correlation between the MLQ-P and other measures of meaning as .65 (Steger et al., 2006). Each item is scored on a 7-point Likert scale ranging from 1 (Absolutely Untrue) to 7 (Absolutely True). Internal consistency of the MLQ-P was high in our sample, with Cronbach’s α = .90.

General Psychological Distress. Mood and anxiety symptoms, reflecting general psychological distress, were assessed using the Patient Health Questionnaire-4 (PHQ-4; Kroenke et al., 2009), a widely used, brief self-report measure of depressive and anxiety symptom distress. Internal consistency was satisfactory (α = .86) for the PHQ-4 in the present sample.

2.3. Data analysis
Preliminary analyses consisted of Pearson correlations and t-tests, calculated to assess associations between BPD features, interpersonal problems, and meaning in life, age, and sex. Mediation analyses were subsequently performed using the PROCESS v3 macro for SPSS (Hayes, 2018). Data were analyzed using IBM SPSS version 20. A simple mediation model was computed with borderline personality features as the independent variable, presence of meaning in life as the dependent variable, and interpersonal problems as the mediator variable. Bootstrap 95% confidence intervals for indirect effects based on 5000 bootstrap samples were calculated using the PROCESS macro and assessed for statistical significance, as per the Preacher and Hayes bootstrap method (Preacher & Hayes, 2004). Confidence intervals entirely absent zero indicate statistical significance at the .05 level.

3. Results
No significant associations were observed between presence of meaning and participants’ age (continuous), gender (dichotomous: 1 = female, 0 = male), ethnicity (three levels: 1 = white, 2 = Asian, 3 = other), highest level of education (dichotomous: 1 = undergraduate degree or graduate degree, 0 = other levels), employment status (dichotomous: 1 = full time employment or part time employment, 0 = other levels), or sexual orientation (dichotomous: 1 = heterosexual, 0 = gay or lesbian, bisexual, other). Therefore, no demographic features were included as covariates. Pearson correlations between BSL total scores, presence of meaning in life, and interpersonal problems are shown in Table 2. All correlations were significant at the .001 level (2-tailed).

As shown in Figure 1, interpersonal problems mediated the association between borderline features and presence of meaning in life. There were significant associations between BPD features and interpersonal problems, β = .020, p < .001, and interpersonal problems and presence of meaning in life, β = −2.026, p = .010. The indirect effect was significant, β = −.041, 95% CI [−.082, −.008], showing that interpersonal problems were a mediator between BPD features and diminished presence of meaning in life. Secondary analyses were conducted to determine whether mediation would hold while adjusting for general psychological distress. Similar results were
Table 2. Means and zero-order correlations between BPD features, interpersonal problems, meaning in life, and general psychological distress

|                              | Mean (SD) | Borderline Symptom List | Inventory of Interpersonal Problems | Meaning in Life Questionnaire—Presence of Meaning |
|------------------------------|-----------|-------------------------|-------------------------------------|--------------------------------------------------|
| Borderline Symptom List      | 17.29 (14.89) | 1                       |                                     |                                                  |
| Inventory of Interpersonal Problems | 1.15 (.58) | .515                    | 1                                   |                                                  |
| Meaning in Life Questionnaire—Presence of Meaning | 22.66 (6.77) | -.388                   | -.328                               | 1                                                |
| Personal Health Questionnaire-4 | 3.16 (2.96) | .792                    | .496                                | -.391                                           |

Note: All correlations were significant at the .001 level (2-tailed).

obtained, with significant associations between BPD features and interpersonal problems (β = .014, p < .001), and interpersonal problems and presence of meaning (β = −1.864, p = .023), as well as a significant indirect effect, β = −.026, 95% CI [−.064, −.002]. Thus, the mediating role of interpersonal problems remained significant after adjusting for general psychological distress. ¹

Completely standardized indirect effects were significant for both the unadjusted (abcs = −.090, 95% CI [−.177, −.018]) and adjusted models (abcs = −.057, 95% CI [−.136, −.004]).

4. Discussion
The objective of this study was to explore the mediating effect of interpersonal problems in the relationship between BPD features and presence of meaning in life. An indirect effect was found for BPD features—through severity of interpersonal problems—in reducing a sense of meaning. To our knowledge, this is the first study to show that interpersonal problems mediate the association between BPD features and presence of meaning in life. It is important to note that the mediation effect observed in this study was significant even after controlling for the effects of general psychological distress in all paths of the model. In other words, the persistence of interpersonal problems as a significant mediator provides indicates their unique role in contributing to diminished meaning, beyond the severity of emotional distress accompanying BPD features.

The mediating effect of interpersonal problems may be considered from the perspective of interpersonal rejection. The impact of social rejection on individuals with BPD has been explored by Gratz et al. (2013), where patients with BPD who have experienced rejection report feeling threatened in

Figure 1. Simple mediation model in which interpersonal problems mediate the association between BPD features and presence of meaning in life.
regard to four fundamental social needs, with one of the four needs being a meaningful existence. Their study suggests that negative emotional arousal from interpersonal stressors can lead to a decreased sense of self-esteem and belonging, and an increased sense of meaninglessness in life. Diminished meaning in life may be exacerbated by the social exclusion that may ensue from misattributions regarding others’ intentions, and from maladaptive interpersonal behaviours. Stillman et al. (2009) explored the relationship between social exclusion and a low sense of meaning, where rejection and loneliness have both been shown to be associated with reduced meaning. In their study, exclusion negatively affected sense of purpose and self-worth, contributing to decreased sense of meaning in life and in one’s existence. Unfortunately, these effects may be amplified in those with borderline symptoms. Individuals with BPD features are less able to accurately perceive how others view them or feel understood by others (Carlson & Oltmanns, 2015). Furthermore, they have been shown to be less happy after positive feedback than healthy controls (Jeung et al., 2018), to have negative or threatening interpretations of cues that others perceive as neutral (Nicol et al., 2013), and to experience lower levels of connectedness than age-matched healthy controls, even in conditions that healthy controls perceive as socially inclusive (De Panfilis et al., 2015). In other words, individuals with BPD features may have a lower threshold for feeling socially excluded, which may take the form of subjectively greater social expectations that must be fulfilled to yield a sense of meaning in life.

One way in which the interpersonal problems associated with BPD features might be understood is with the concept of identity diffusion. Identity diffusion involves the lack of a cohesive self-narrative, and a relatively superficial and often shifting sense of identity characterized by an inability to integrate positive and negative aspects of one’s self-representation (Kernberg, 1993). Identity diffusion may predispose one to perceptions of interpersonal ruptures, prompting maladaptive behaviours—including interpersonal withdrawal or hostility—aimed at protecting a vulnerable self. This may be compounded by difficulties in mentalizing—inferring mental states as intentional and complex—that reduce empathic relatedness with others (Fonagy & Bateman, 2008). Some research supports the notion of a link between identity diffusion and interpersonal problems: in a study of patients with BPD, interpersonal problems were found to be related to identity diffusion, with the latter acting as a mediator between mentalizing difficulties and interpersonal problems (De Meulemeester et al., 2017). Thus, interpersonal problems among individuals with BPD features may involve difficulties in interpreting social interactions and their meanings (Domsalla et al., 2014), including deficits in detailed processing of interpersonal stimuli perceived as dangerous, or the avoidance of such processing (Bertsch et al., 2017). Similarly, individuals with BPD features may be hypervigilant to cues suggestive of social rejection, and may misinterpret others’ emotional cues (Lazarus et al., 2014; Staebler et al., 2011). This may also be explained in part by narrative identity theory. Past research has found BPD features to be negatively associated with communion fulfillment, which is described as the degree to which one feels that they have met their needs for connectedness with others (Adler et al., 2012). Compounding such difficulties may be limited recognition of positive elements in interpersonal interactions, involving defensive splitting processes that complicate the evaluation of the interaction (Staebler et al., 2011). Future studies can explore how identity diffusion and mentalization may be related to meaning in life in the context of BPD.

Our findings on the mediating effects of interpersonal problems suggest the possibility that, in clinical work with clients exhibiting symptoms of BPD, attention to interpersonal relatedness may be an appropriate target in helping to promote greater purpose and fulfillment. As such, some clinical implications may be tentatively proposed. Mindfulness practices have been shown to improve interpersonal functioning in BPD, with results showing improved recovery after the effects of social rejection (Keng & Tan, 2018), decreased need for approval and attachment in relationships (Fossati et al., 2011), and decreased interpersonal problems in the college setting (Byrne et al., 2013). As a mindfulness-oriented therapy, Acceptance and Commitment Therapy (ACT) may be a promising option for improving interpersonal functioning in the context of BPD features. In
addition to promoting mindfulness practices, ACT may help patients with BPD to clarify their values in interpersonal relationships and behave in accordance with such values (McKay et al., 2012), rather than acting on patterns influenced by unhelpful schema developed from early adverse experiences (Cousineau & Ngô, 2013). Also, interpersonal effectiveness training in Dialectical Behavioral Therapy (DBT) may help patients improve interpersonal functioning, and reduce behaviours interfering with quality of life (Linehan, 2015).

Several limitations in the present study should be noted. The cross-sectional design limits temporal and causal inferences, including directionality of effects. As well, perhaps due to the use of a non-clinical sample that primarily consisted of young Caucasian or Asian female undergraduate students, with overall low rates of psychopathology and borderline symptomatology among research participants, relatively weak effects of the independent and mediator variables on the dependent variable were observed in the findings. Another limitation involves our use of the BSL-23, which was not designed as a diagnostic instrument of BPD, but rather to detect BPD symptom change in treatment. Moreover, the exclusive use of self-report measures in the present study introduces potential bias, particularly given the non-clinical nature of our sample. Future research aimed at replicating and extending our findings should consider using additional measures of BPD along with clinical interviews. A further limitation concerns the potential overlap between the BSL-23 and IIP with regard to interpersonal problems as a core aspect of personality dysfunction. Although interpersonal problems represent just one facet of borderline pathology, it would be important for future research to employ more comprehensive assessment of interpersonal functioning, including over time and in different contexts.

Despite these limitations, the present findings provide a preliminary indication of the importance of interpersonal problems in contributing to diminished meaning in life in the context of BPD features. Future work can aim to establish causality and directionality of the measures by using longitudinal designs and more comprehensive assessment methods. Future studies can also explore the role of specific interpersonal problems, and their interactions with social experiences, in contributing to life meaning among individuals with features of BPD. Furthermore, other characteristics of BPD such as affective instability and emotional dysregulation and their influence on meaning in life ought to be explored in future work, particularly in prospective studies that examine the relative contributions of different aspects of borderline personality dysfunction in impeding the presence of meaning. Moreover, an important area for future research is the discovery of how individuals with BPD features manage to restore and enhance their sense of meaning in life, as such work may inspire optimism and creativity among patients and helping professionals alike.

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Note
1. To address potential overlap between interpersonal dysfunction captured by the BSL-23 and the IIP, we re-ran analyses with interpersonal items (“I didn’t trust other people”; “Criticism had a devastating effect on me”) removed from the BSL-23. The indirect effect remained significant in both unadjusted (β = −.043, 95% CI [−.088, −.009]) and adjusted (β = −.024, 95% CI [−.062, −.001]) models.
Data availability statement
The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to containing information that could compromise the privacy of research participants.

Disclosure statement
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