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NUMBER OF BORDERLINE PERSONALITY DISORDER CRITERIA AND DEPRESSION PREDICT POOR FUNCTIONING AND QUALITY OF LIFE IN OUTPATIENT YOUTH

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This study aimed to investigate which factors contribute to poor functioning and poor quality of life in youth (aged 15–25 years) with borderline personality disorder (BPD), and whether the number of BPD criteria might be an independent predictor of these outcomes. A sample of 499 help-seeking outpatient youth, aged 15–25 years, was assessed. Stepwise multiple regression analyses showed that the number of BPD criteria was the best predictor of poor functioning, followed by number of mental health visits in the past month, female sex, and a current diagnosis of depression. Current depression was the best predictor of Assessment of Quality of Life utility score, followed by the number of BPD criteria. These findings underscore the clinical significance of *DSM-IV* BPD features (even when subthreshold for a categorical diagnosis) in youth and their effects upon social and occupational functioning and quality of life early in the course of BPD.

Keywords: functioning, borderline personality disorder, youth, quality of life, personality disorder

Adaptive functioning and quality of life are impaired in both adults and youth (aged 15–25 years) with borderline personality disorder (BPD). The BPD diagnosis in adults has been found to be a significant predictor of impaired social, emotional, and physical functioning and poor mental health (Tomko, Trull, Wood, & Sher, 2014), and adults with BPD have been consistently shown to have poor functioning that is evident at least two decades after their index presentation (Gunderson et al., 2011; Zanarini, Temes, Frankenburg, Reich, & Fitzmaurice, 2018). BPD has been associated with

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greater and continued use of mental health treatment over a similar period (Zanarini, Frankenburg, Reich, Conkey, & Fitzmaurice, 2015), and low income over the long term (Niesten, Karan, Frankenburg, Fitzmaurice, & Zanarini, 2016). Even the presence of subthreshold features of BPD (Zimmerman, Chelminski, Young, Dalrymple, & Martinez, 2012, 2013), or a single BPD criterion (Ellison, Rosenstein, Chelminski, Dalrymple, & Zimmerman, 2016; Zimmerman et al., 2012), have been associated with poorer global functioning, together with a greater number of co-occurring mental state disorders, suicidal ideation/attempts, more psychiatric hospital admissions, and time unemployed.

Similarly, quality of life has been shown to be more impaired in adults with BPD, compared with healthy peers, people diagnosed with depression, or people diagnosed with rheumatic diseases, lung cancer, or Parkinson's disease (Grambal et al., 2016; IsHak et al., 2013; Narud, Mykletun, & Dahl, 2005; Soeteman, Verheul, & Busschbach, 2008). This is particularly important because research has suggested that subjective quality of life and well-being determine treatment-seeking behavior and adherence to treatment (Soeteman et al., 2008).

The findings reported in adults with BPD have been replicated in adolescents. Increases in BPD criteria over the adolescent period (ages 12–18 years) have been associated with worsening academic, social, and mental health outcomes; early initiation of sexual activity; and poor social skills and self-perception, which have the capacity to compromise the development of peer friendships and identity formation (Thompson et al., 2018; Wright, Zalewski, Hallquist, Hipwell, & Stepp, 2016). In contrast, decreases in BPD criteria have been associated with improvements in functioning (Wright et al., 2016). The Children in Community study reported that adolescents with a greater number of BPD criteria at age 14 years had lower academic and occupational attainment, poorer relationships, and a greater general impairment and need for services 20 years later (Winograd, Cohen, & Chen, 2008). Other research shows that adolescents with BPD have poorer functioning (Chanen, Jovev, & Jackson, 2007; Kaess et al., 2013; Thompson et al., 2018) and a greater number of co-occurring mental disorders, compared with patients with other mental state disorders (Chanen et al., 2007; Kaess et al., 2013; Thompson et al., 2018), and a significantly greater prevalence of substance use (Chanen et al., 2007; Kaess et al., 2013), mood disorders, anxiety, and disruptive behavior disorders (Chanen et al., 2007; Thompson et al., 2018). A systematic review of the clinical and psychosocial outcomes of BPD diagnosed in childhood and adolescence found that these young people had less satisfying relationships with family and peers and fewer friendships or more tumultuous friendships; a high rate of depression, anxiety, and substance use; and higher use of clinical services (Winsper et al., 2015).

Adolescents with personality disorder have impaired quality of life on the EuroQol EQ-5D. Quality of life was poorest in adolescents with depressive personality disorder (0.34), followed by BPD (0.49) and avoidant (0.49) and then obsessive-compulsive personality disorder (0.50), and personality disorder not otherwise specified (0.70) (Feenstra et al., 2012). These findings are similar to those reported for adolescents with depression (0.45–0.55)

(Feenstra et al., 2012) and for adults with personality disorders (0.56), using the same EQ-5D measure (Soeteman et al., 2008). Adolescents with BPD have significantly poorer health-related quality of life than matched healthy controls in the domains of physical and psychological well-being, self-perception, autonomy, parent relations and home life, social environment, and social acceptance (Kaess, Fischer-Waldschmidt, Resch, & Koenig, 2017). Although not exactly the same construct, a BPD diagnosis in adolescence is associated with lower life satisfaction into adulthood (Winograd et al., 2008; Winsper et al., 2015). These findings are important because they show perceived health care need, and this tends to direct help-seeking behavior.

Although often used interchangeably, adaptive functioning and quality of life are distinct constructs. Functioning provides objective information about how well a person is able to perform tasks of daily living and sustain work or education, whereas quality of life imparts subjective information about perceived well-being. This study aimed to investigate factors that might contribute to both poor adaptive functioning and poor quality of life in youth with BPD and whether the number of BPD criteria might be an important predictor of these outcomes over and above these factors. The variables used in this study are as close to those used by Zimmerman et al. (2012, 2013) as possible, and are identical to those used by Thompson et al. (2018). It was hypothesized that a significant amount of variance in social and occupational functioning and quality of life would be explained by factors such as age, sex, depression, anxiety, trauma, number of mental health visits in the past month, referral due to disruptive behavior, suicide attempt, self-harm, and the number of BPD criteria. Second, it was also hypothesized that the number of BPD criteria would be the strongest predictor of poor functioning and reduced quality of life.

METHOD

PARTICIPANTS

The sample comprised 499 potential participants from Orygen Youth Health, the state government–funded specialist mental health service for youth in western and northwestern metropolitan Melbourne, Australia. Participants were help-seeking outpatient youth, aged 15–25 years, who had participated in previous research studies. The current study combined baseline diagnostic, demographic, treatment, and functioning data across four research studies (Chanen et al., 2004, 2007, 2008, 2015). All participants provided written informed consent to participate in each original study. Permission to combine these data for the current study was granted by the Melbourne Health Research and Ethics Committee (QA2015180).

PROCEDURE

Participants were assessed using the Structured Clinical Interview for *DSM-IV* Axis I Disorders (SCID-I/P; First, Gibbon, Spitzer, & Williams, 1996) and the Structured Clinical Interview for *DSM-IV* Axis II Personality Disorders

(SCID-II; First, Gibbon, Spitzer, & Benjamin, 1997). Demographic and psychosocial morbidity information was collected consistent with the aims of this study, and the Social and Occupational Functioning Assessment Scale (SOFAS; Goldman, Skodol, & Lave, 1992) and the Assessment of Quality of Life (AQoL; Richardson, Sinha, Iezzi, & Khan, 2014) were rated.

The assessments were conducted by the principal investigator (A.M.C.), or one of eight graduate researchers trained by the principal investigator and colleagues (e.g., J.B.). The research assistants were supervised by the principal investigator and/or a senior colleague (e.g., H.J.), and where queries arose regarding items, a consensus decision was reached in consultation with senior colleagues (e.g., A.M.C., H.J., L.M.). Testing of interrater reliability for individual SCID-II items revealed good to excellent results (intraclass correlations ranged from 0.64 to 0.94; Chanen et al., 2004).

MEASURES

Mental state and personality disorder diagnoses were derived from the SCID-I/P and SCID-II (First et al., 1996, 1997). The SOFAS was used to assess social and occupational functioning (Goldman et al., 1992). This is scored on a scale of 0–100, where 1 represents extremely poor functioning, through to 100, which is extremely high functioning. The AQoL 34-item measure (Richardson et al., 2014) was used to assess quality of life. It measures aspects of independent living, relationships, mental health, coping, pain, senses, self-worth, and happiness, and is commonly used for economic evaluation. Only global AQoL utility scores were used in analyses. Values ranged from 0 to 1.0.

Demographic information included sex, age, marital status, and education. Other variables included: (a) the presence of any current *DSM-IV* major depression, anxiety, or posttraumatic stress; (b) number of mental health visits in the previous month; (c) referral due to disruptive behaviour; (d) referral due to suicide attempt/ideation; (e) referral due to self-harm; and (f) number of *DSM-IV* SCID-II BPD criteria.

DATA ANALYSIS

Data were checked for issues of multicollinearity and normal distribution. Sex was coded 1 = male, 2 = female. Referral variables were coded 0 = false, 1= true. Because education and age were highly correlated ($r = .60$; $p < .0005$), only age was included in the regression model. Number of mental health visits in the past month had a skewness of 4.60 and was logarithmically transformed to achieve a skewness of 0.38. Likewise, age had a skewness of .87 and was square root transformed to achieve a skewness of 0.77, prior to analysis.

Stepwise multiple regression analysis using SPSS 22.0 was chosen to build a regression model from a set of independent predictor variables. All independent variables were entered simultaneously into the analysis, and SPSS actively omitted variables that did not significantly affect the dependent variables used in the models. It determined how well age, sex, current

depression, current anxiety, current posttraumatic stress disorder (PTSD), number of mental health visits in the past month, referral due to disruptive behavior, referral due to suicide attempt or ideation, referral due to deliberate self-harm, and number of BPD criteria on the *DSM-IV* SCID-II interview predicted SOFAS score. These variables were chosen to allow comparison with the work of Zimmerman and colleagues (2012, 2013) and were based on previous studies of functioning in adolescents and young adults with BPD (Chanen et al., 2007; Kaess et al., 2013; Thompson et al., 2018; Winograd et al., 2008; Winsper et al., 2015).

A second stepwise multiple regression analysis was conducted to investigate how well sex, current depression, number of mental health visits in the past month, and number of BPD criteria on the *DSM-IV* SCID-II interview predicted AQoL utility score. This second regression contained fewer participants (n = 98) because it was limited by the number of variables that were common across the four samples in relation to the AQoL utility score. In addition to this, the number of predictors was reduced according to the ratio of cases to independent variables suggested by Tabachnick and Fidell (2014) (i.e., $N > 50 + 8 \times$ number of independent variables, and in this case $N > 50 + 8 \times 4 = 82$), so as to be more appropriate for the reduced sample size. The choice of variables was guided by the results of the first regression, that is, the number of BPD criteria, number of mental health visits in the past month, sex, and current depression.

RESULTS

Table 1 shows means and standard deviations for demographic and diagnostic variables, along with the SOFAS and AQoL. The majority of the sample was female, and mean age was just under 18 years. Common co-occurring diagnoses were anxiety, depression, and substance use. The mean number of BPD criteria was 3.49, which is less than the five required for a *DSM-5* diagnosis of BPD. Mean SOFAS score was 61.77, which indicates moderate difficulty in social, occupational, or school functioning (e.g., few friends and conflict with peers or coworkers). The mean AQoL utility score of 0.32 is well below the Australian population norm for age 16–24 years of 0.83 (Hawthorne, Korn, & Richardson, 2013).

Correlations revealed only a moderate (i.e., r = 0.10–0.29) positive correlation between the SOFAS and AQoL utility score (r =.37, $p < .001$; Table 2). All other correlations between variables were small to moderate (i.e., r = 0.10–0.49). Of note were the weak (0.10–0.29) correlations between SOFAS score and all variables except the number of BPD criteria, and weak correlations between AQoL utility score and all variables except current depression and number of BPD criteria. There was a moderate (i.e., r = 0.30–0.49) positive correlation between depression and number of BPD criteria (r = .43; $p < .01$) and a moderate negative correlation between SOFAS and number of BPD criteria (r = –.43; $p < .01$).

A stepwise multiple regression was conducted to investigate how well age, sex, depression, anxiety, PTSD, number of mental health visits, refer-

TABLE 1. Variable Means and Standard Deviations and Frequencies

	n	Mean (*n*)	*SD* (%)
Sex, female	496	349	70.4
Age	496	17.98	2.67
Current diagnosis			
Depression	499	272	54.5
Anxiety	499	213	42.7
PTSD	499	83	16.6
Psychosis	499	57	11.4
Bipolar	499	17	3.4
OCD	499	24	4.8
Dissociative	499	2	0.4
Somatic	499	11	2.2
Eating	499	52	10.4
Substance	499	119	23.8
Conduct	499	60	12.0
ADHD	499	1	0.2
Other	499	5	1.0
Nil current Axis I disorder	499	58	11.6
Number of mental health visits	464	4.80	7.78
Referral disruptive behavior	472	68	14.4
Referral suicide attempt	472	113	23.9
Referral self-harm	472	52	11.0
Number of BPD criteria	494	3.49	2.58
SOFAS	490	61.77	12.14
AQoL utility score	138	0.32	0.13

Note. SOFAS: Social and Occupational Functioning Assessment Scale; AQoL: Assessment of Quality of Life.

ral due to disruptive behavior, suicide attempt/ideation, deliberate self-harm, and number of BPD criteria predicted social and occupational functioning. According to SPSS, only the number of BPD criteria, number of mental health visits in the past month, sex, and current depression had a significant effect on SOFAS score ($p < .0005$) (Table 3). Age, anxiety, PTSD, referral due to disruptive behavior, suicide attempt/ideation, and deliberate self-harm did not have a significant effect on SOFAS score and were omitted by SPSS from the models reported.

Model 4 was the best model to predict SOFAS score, explaining 26.5% (adjusted $R^2 = .27$) of the variance, $F(4, 346) = 32.47$, $p < .0005$. In this model, four variables uniquely contributed to the variance in SOFAS score. They included the number of BPD criteria 11.7% (part = –.312), the number of mental health visits in the past month 2.7% (part = –.164), sex (female) 3.0% (part = .174), and current depression 2.7% (part = –.164).

A second stepwise multiple regression was conducted to investigate how well sex, depression, number of mental health visits, and number of BPD criteria predicted AQoL utility score. According to SPSS, current depression and number of BPD criteria were the only variables that significantly affected

TABLE 2. Intercorrelations for SOFAS, AQoL Utility Score, and Predictor Variables

Variable	AQoL	1	2	3	4	5	6	7	8	9	10
SOFAS	.37**	−.15**	.02	−.27**	−.21**	−.14**	−.07	−.13*	−.07	−.13*	−.43**
AQoL Predictor variables		−.09	−.20*	−.12	−.16	−.20*	−.14	.18*	−.08	.08	−.23**
1. Age		—	−.11*	.03	.02	.06	−.13**	−.23**	.14**	.00	.05
2. Sex			—	.19**	.13**	.18**	−.03	−.23**	.12*	.12*	.24**
3. Current Depression				—	.20**	.24**	−.00	.00	.26**	.22**	.43**
4. Current Anxiety					—	.24**	−.01	−.03	−.04	.11*	.31**
5. Current Trauma						—	−.03	.01	.22**	.21**	.34**
6. Number of MH visits							—	.17**	−.03	.04	.13*
7. Referral Disruptive Behavior								—	−.15**	.04	.03*
8. Referral Suicide Attempt									—	.09	.26**
9. Referral Self-Harm										—	.30**
10. Number BPD Criteria											—

Note. $N = 499$. SOFAS: Social and Occupational Functioning Assessment Scale; AQoL: Assessment of Quality of Life. *$p < .05$. **$p < .01$.

TABLE 3. Stepwise Multiple Regression Analysis Summary Predicting Social and Occupational Functioning (SOFAS Score)

Variable	B	SEB	β	*p*	R^2	Semipartial	Δ R^2 change	95% Confidence Interval B
Model 1					.19		.19	
Number of BPD criteria	−2.13	.24	−.44	.000		−.44		[−2.59, −1.67]
Constant	70.38	.98						
Model 2					.22		.03	
Number of BPD criteria	−1.89	.24	−.39	.000		−.39		[]−2.40, −1.42
Number of MH visits past month	−6.09	1.57	−.19	.000		−.20		[−9.17, −3.01]
Constant	73.26							
Model 3					.25		.02	
Number of BPD criteria	−2.09	.24	−.43	.000		−.42		[−2.57, −1.61]
Number of MH visits past month	−5.88	1.55	−.18	.000		−.20		[−8.92, −2.83]
Sex (female)	4.16	1.29	.16	.001		.17		[1.61, 6.71]
Constant	66.62	2.31						
Model 4					.27		.03	
Number of BPD criteria	−1.75	.26	−.36	.000		−.34		[−2.26, −1.25]
Number of MH visits past month	−5.46	1.53	−.17	.000		−.19		[−8.47, −2.46]
Sex (female)	4.88	1.29	.18	.000		.20		[2.35, 7.41]
Current depression	−4.60	1.28	−.19	.000		−.19		[−7.11, −2.08]
Constant	66.62	2.31						

Note. Analysis excluded cases list wise; $N = 351$. SOFAS: Social and Occupational Functioning Assessment Scale; AQoL: Assessment of Quality of Life. Model 1, $F(1, 349) = 81.71$, $p < .0005$, adjusted $R^2 = .19$. Model 2, $F(2, 348) = 50.07$, $p < .0005$, adjusted $R^2 = .22$. Model 3, $F(3, 347) = 37.72$, $p < .0005$, adjusted $R^2 = .24$. Model 4, $F(4, 346) = 32.47$, $p < .0005$, adjusted $R^2 = .27$.

TABLE 4. Stepwise Multiple Regression Analysis Summary Predicting Quality of Life (AQoL Utility Score)

Variable	B	SEB	β	*p*	R^2	Semipartial	Δ R^2 change	95% Confidence Interval for B
Model 1					.06		.06	
Current depression	–.10	.04	–.23	.021		–.23		[–.18, –.02]
Constant	.40	.04						
Model 2					.12		.06	
Current depression	–.11	.04	–.25	.010		–.26		[–.19, –.03]
Number of BPD criteria	–.03	.01	–.25	.012		–.25		[–.05, –.01]
Constant	.58	.08						

Note. Analysis excluded cases list wise; N = 98. AQoL: Assessment of Quality of Life. Model 1, $F(1, 96) = 5.55$, $p = .021$, adjusted $R^2 = .05$. Model 2, $F(1, 95) = 6.18$, $p = .003$, adjusted $R^2 = .10$.

AQoL utility score ($p < .0005$) (Table 4). SPSS omitted sex and number of mental health visits from the models reported.

Model 2 was the best predictor of AQoL utility score, explaining 11.5% (adjusted $R^2 = .10$) of the variance, $F(2, 95) = 6.18$, $p = .003$. In this model, current depression explained 6.4% (part = –.252) and the number of BPD criteria explained 6.1% (part = –.246) of the unique variance in AQoL utility score.

DISCUSSION

This study extends knowledge about the effect of the number of BPD criteria on the social and occupational functioning and quality of life of outpatient youth aged 15–25 years. Two key findings arise from this study. First, as hypothesized, the number of BPD criteria was the strongest predictor of poor social and occupational functioning. Other variables that contributed to explaining the variance in functioning included being female, having a greater number of mental health visits over the past month, and a current diagnosis of depression. Second, the number of BPD criteria was one of the two main contributors to explaining the variance in quality of life. The other was a current diagnosis of depression, which explained slightly more of the variance in quality of life than BPD.

The current findings are consistent with studies demonstrating that BPD in young people is associated with not only poor social and occupational functioning, but also co-occurring mental disorders such as anxiety, depression, and substance use, and with more frequent mental health service use (Chanen et al., 2007; Kaess et al., 2013; Winograd et al., 2008; Winsper et al., 2015; Wright et al., 2016). The findings also build upon previously reported similar associations between subthreshold BPD features and psychosocial morbidity in outpatient youth (Thompson et al., 2018) and outpatient adults (Zimmerman et al., 2012, 2013).

Importantly, the current findings indicate that the presence of BPD features in young patients attending a clinical service uniquely contributes to poor social and occupational functioning by directly testing whether BPD criteria might independently predict poor social and occupational functioning. The findings suggest that the number of BPD criteria has the strongest association with poor functioning in these outpatient youth, followed by high mental health service use, being female, and a current diagnosis of depression.

The mean number of BPD criteria in this help-seeking sample of outpatients was 3.5 (i.e., subthreshold for diagnosis). While other factors, such as concurrent mental state disorders, might influence help-seeking and acceptance into care, the findings suggest that it might be possible not to meet diagnostic criteria for BPD and yet to have poor functioning requiring mental health care. It is widely acknowledged that the threshold for distinguishing patients with and without a personality disorder is arbitrary and that there is no strict demarcation between "cases" and "noncases" (Clark, 2007; Herpertz et al., 2017). The current findings reinforce this view and suggest that the *DSM-IV* (or *DSM-5*) might not provide a valid threshold for the "onset" (or "relapse") of BPD if onset is defined by functional impairment and/or need for mental health care. Furthermore, the findings support the importance of including "subthreshold" forms of BPD in prevention and early intervention strategies for personality disorder (Chanen & McCutcheon, 2013).

Studies of adults with BPD have shown that poor functioning is relatively stable and persistent, even when patients with BPD are assessed as no longer meeting the diagnostic threshold for BPD ("remission") (Gunderson et al., 2011; Skodol et al., 2005; Zanarini, Frankenburg, Hennen, Reich, & Silk, 2005; Zanarini, Frankenburg, Reich, & Fitzmaurice, 2012). This raises the possibility that the developmental course of functional impairment might be different from the psychopathological course, at least following clinical diagnosis. While the current findings indicate that BPD features during the early *clinical* stages of BPD independently predicted poor functioning, the developmental course of poor functioning in young people with features of BPD has received limited attention (Wright et al., 2016). In the Children in the Community study, the degree of BPD pathology at age 14 predicted poorer academic and occupational status, less partner involvement, and greater likelihood of needing services 20 years later (Winograd et al., 2008). Moreover, in the Pittsburgh Girls Study, increasing BPD features in a "high-risk" sample of young women, followed from age 14 through to 17 years, were coupled with worsening social and academic outcomes throughout this period (Wright et al., 2016). Even after adjusting for internalizing and externalizing pathology, the Pittsburgh study reported that increasing BPD features were linked with worsening social skills and self-perception. These two studies of nonclinical samples support the notion that functional impairment precedes diagnosis, but they do not clarify the threshold associated with entry into mental health care.

The current study also found that BPD features are an important independent predictor of quality of life in outpatient youth, second only to a current diagnosis of depression. This contrasts with a Dutch study of 131 treatment-seeking adolescent inpatients showing that no specific personality disorder diagnosis significantly predicted impaired quality of life (measured by the EuroQol EQ-5D) (Feenstra et al., 2012). However, this might be due in part to a small sample size compared to the number of predictors used in their analysis.

A low AQoL utility score is consistent with the above-mentioned Dutch study, which reported that quality of life is reduced for treatment-seeking adolescent inpatients with personality pathology (Feenstra et al., 2012). When compared with Australian population norms, the reported mean AQoL utility score of 0.32 in the current sample is extremely low, compared with 0.87 for healthy 16–19-year-olds, and 0.86 for healthy 20–29-year-olds (Hawthorne et al., 2013). This is supported by the observation that scores among these young people were lower than those reported by adults in this general population sample who had current depression (0.56), anxiety (0.57), PTSD (0.70), or a physical health condition (0.78 for one condition, 0.59 for three or more conditions). Indeed, AQoL scores more closely approximated those reported by people with three or more current mental health conditions (0.47) (Hawthorne et al., 2013).

This study has several strengths that include the large sample of help-seeking youth with a broad range of BPD criteria and mental health problems and the use of a rigorous diagnostic standard. Also, the SOFAS is an instrument that measures functioning separately from symptoms (unlike the Global Assessment of Functioning scale; Goldman et al., 1992), and the AQoL is a measure of quality of life with good psychometric properties and population norms. Conceptually, this study extends previous research in this area by using a stepwise regression that uses the full spectrum of BPD criteria as a continuous variable, and it controls for the influence of other variables in the regression models.

Limitations to the study include the reduced set of variables that were consistent across all four study samples. This included the range of SCID-I/P diagnoses, because not all studies used all SCID-I/P modules or measured quality of life. Some studies diagnosed disruptive behavior disorders or substance use with specific instruments (e.g., Opiate Treatment Index, Darke, Hall, Wodaki, Heather, & Ward, 1992) rather than the SCID-I/P, although demographic data and all remaining variables included in this study were either common across studies or recoded into comparable variables from available data. It should be noted that the SOFAS was a single-item measure of social and occupational functioning and does not contain detailed information relating to functioning. Likewise, the stepwise regression concerning AQoL utility scores needs to be interpreted with caution because of the smaller sample available for this analysis. In addition, the sample was composed mostly of females (70.4%), whereas the population prevalence of BPD features is estimated to be equal between the sexes (Lenzenweger, 2008), which begs the question of whether or where male youth present for

care. Future research could extend these findings by more closely examining the effects of BPD features on help-seeking behavior in youth.

Overall, this study demonstrates that the presence of BPD criteria, rather than solely a categorical diagnosis of BPD, is associated with poor social and occupational functioning over and above other factors such as age, sex, depression, anxiety, PTSD, substance use, number of mental health visits, and referral due to disruptive behavior, suicide attempt, or deliberate self-harm. Similarly, current BPD criteria and depression predicted reduced quality of life in a patient group with notably low quality of life scores. Poor adaptive functioning and quality of life in youth with BPD has the potential to change the developmental trajectory of youth and to hinder their educational attainment, social and life skills, identity formation, and financial and emotional independence. These findings support "indicated" (also known as "targeted") prevention (Mrazek & Haggerty, 1994) among youth (aged 15–25 years) with subthreshold BPD features. They highlight the need to intervene early to prevent problems that will further disrupt the complex developmental tasks associated with the achievement of adult role functioning (Chanen & Thompson, 2018).

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