

BRIEF REPORT

The Role of Experiential Avoidance in the Association Between Borderline Features and Emotion Regulation in Adolescents

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Difficulties in emotion regulation are one of the core features of borderline personality disorder (BPD). Individuals with BPD also report higher levels of experiential avoidance (EA) compared to controls. These constructs have never been studied concomitantly in adolescents. First, given the conceptual similarity of difficulties in emotion regulation and EA, the authors sought to determine whether EA provides incremental validity, above emotion dysregulation, in its association with borderline features. Second, EA was explored as a mediator in the relation between difficulties in emotion regulation and borderline features. The sample included 208 adolescents recruited from an inpatient psychiatric unit ($M_{age} = 15.96$, $SD = 1.39$; females = 60.1%). Borderline personality features were assessed using the self-report Borderline Personality Features Scale for Children (Crick, Murray-Close, & Woods, 2005). EA was assessed using the Avoidance and Fusion Questionnaire for Youth (Greco, Lambert, & Baer, 2008), and difficulties in emotion regulation were assessed using the Difficulties in Emotion Regulation Scale (Gratz & Roemer, 2004). Greater borderline personality features were associated with significantly higher levels of EA and difficulties in emotion regulation. Hierarchical regression analyses showed that EA made a small, but significant, incremental and independent contribution to borderline features when added to a model already including difficulties in emotion regulation. In addition, EA partially mediated the relation between difficulties in emotion regulation and borderline features. EA and emotion regulation are both important targets of treatments aimed at decreasing borderline personality features in adolescents.

Keywords: adolescents, BPD, emotion regulation, experiential avoidance

Borderline personality disorder (BPD) is a serious mental illness characterized by enduring patterns of maladaptive instability in interpersonal relationships, identity, impulse control, and regulation of emotion (American Psychiatric Association, 2000). The estimated lifetime prevalence of BPD is 5.9% (Grant et al., 2008). BPD is associated with high comorbidity; greater physical and mental disability (Grant et al., 2008); greater functional impairment at work, in social relationships, and in leisure activities (Skodol et al., 2002); suicidal behaviors (Oldham, 2006; Sharp, Green, Yaroslavsky, Venta, Zanarini, & Pettit, 2012); increased use of mental health services (Bender et al., 2001); and absences from work, all of which contribute

to a disproportionate economic burden and societal cost (Soeteman, Roijen, Verhuel, & Busschbach, 2008).

Given this context, it is clear that increasing preventative efforts by improving our understanding of effective treatment and early markers of emerging BPD in adolescence is crucial. Although diagnosing BPD in adolescents was previously associated with controversy (Bleiberg, 1994), recent research has firmly established its construct validity in adolescents (Miller, Muehlenkamp, & Jacobson, 2008; Sharp & Romero, 2007), suggesting that BPD can be reliably studied across developmental stages. Indeed, several influential theories of BPD are developmental in nature (e.g., Crowell, Beauchaine, & Linehan, 2009; Linehan, 1993), stressing the importance of research that examines emerging BPD in youth. Linehan's biosocial developmental model of BPD (1993), for instance, has placed difficulties in emotion regulation at the center of the development of the disorder (Putnam & Silk, 2005). Indeed, affective instability and emotional reactivity are a diagnostic criterion for the disorder (American Psychiatric Association, 2000) and have been identified as having a unique relation to BPD symptomatology in adults (Glenn & Klonsky, 2009) and in adolescents (Gratz et al., 2009; Sharp, Pane, et al., 2011). Sharp et al. (2011), for instance, reported that BPD traits are significantly associated with difficulties in emotion regulation, which partially

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mediate the relation between hypermentalizing and BPD traits. Similarly, Gratz et al. (2009) reported a significant association between BPD traits and difficulties with emotion regulation in their sample of 9- to 13-year-old youth. These studies both made use of Gratz and Romer's (2004) model and measure of emotion dysregulation, which has recently been shown to be valid for use in adolescents (Weinberg & Klonsky, 2009; Perez, Venta, Garnaat, & Sharp, 2012). This model describes six dimensions involved in emotion dysregulation: (a) lack of awareness, understanding, and acceptance of emotions; (b) lack of clarity of emotional responses; (c) nonacceptance of emotional responses; (d) limited access to emotion regulation strategies perceived as effective; (e) difficulties controlling impulses when experiencing negative emotions; and (f) difficulties engaging in goal-directed behavior when experiencing negative emotions.

Although the relation between emotion dysregulation and BPD features is well-established for both adults and adolescents, the role of experiential avoidance (EA) has not yet been investigated in adolescent samples with BPD features. EA refers to "an unwillingness to remain in contact with uncomfortable private events (e.g., thoughts, emotions, sensations, memories, urges) by escaping or avoiding these experiences" (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996, p. 1154). Elevated levels of EA are thought to be associated with a lower quality of life, higher rates of psychopathology (Hayes et al., 2004), and a number of problem behaviors (e.g., substance abuse, self-injury, eating disorders; Kingston, Clarke, & Remington, 2010). Several studies in adults have reported elevated levels of EA in individuals with BPD (see Chapman, Dixon-Gordon, & Walters, 2011).

Taken together, evidence suggests that both difficulties in emotion regulation and EA are significant factors in BPD. However, there is a notable lack of clarity surrounding "where emotion regulation ends and EA begins" (Chapman et al., 2011, p. 47), and no study has explored the conceptual overlap in these two emotion-related constructs in adolescents. Therefore, it is unknown whether EA provides incremental validity in its association with borderline features, beyond difficulties in emotion regulation. Given the overlap between these constructs, if both difficulties in emotion regulation and EA independently contribute to borderline symptoms, the exact relation between these emotional constructs in their association with borderline features needs to be investigated. Against this background, the current study sought first to determine whether EA provided incremental validity in its association with borderline features beyond difficulties in emotion regulation among adolescent inpatients. Positive findings in this regard would imply that both difficulties in emotion regulation and EA should be a part of conceptualizing BPD pathology and, thus, may be targets of treatment in adolescents with BPD features. Second, this study sought to explore the role of EA as a mediator in the relation between difficulties in emotion regulation and borderline features to better understand the relation between these three interrelated variables.

Method

Participants

Adolescents were recruited from a 16-bed inpatient psychiatric unit that usually serves individuals with severe behavior, psychiatric, and

substance disorders who have not responded to previous interventions. Inclusion criteria were sufficient proficiency in English to consent to research and complete the necessary assessments, and exclusion criteria were a diagnosis of schizophrenia or another psychotic disorder, an autism spectrum diagnosis, or an IQ less than 70. Of 271 adolescents who were approached for consent, 18 declined participation, 11 revoked consent, three discharged prior to being assessed, and 11 were excluded on the basis of the aforementioned criteria. In addition, 20 participants were excluded due to missing data. Therefore, the final sample consisted of 208 adolescents (ages 12–17; M_{age} 15.96; $SD = 1.39$), including 125 (60.1%) females and 83 (39.9%) males, and had the following ethnic breakdown: 90.39% White ($n = 188$), 2.89% Hispanic ($n = 6$), 1.92% Asian ($n = 4$), 0.96% Black ($n = 2$), 1.92% Mixed ($n = 4$), 0.48% Native Hawaiian or Pacific Islander ($n = 1$), and 1.44% Other ($n = 3$).

Measures

Borderline Personality Features. The Borderline Personality Features Scale for Children (BPFSC; Crick, Murray-Close, & Woods, 2005) is a 24-item self-report measure that assesses borderline personality features in children ages 9 and older, including adolescents. The measure was adapted from the borderline subscale of the Personality Assessment Inventory (PAI; Morey, 1997). The BPFSC has the same four subscales as the PAI (Affective Instability, Identity Problems, Negative Relationships, and Self-Harm), with six items per subscale. Responses are scored on a 5-point Likert scale, ranging from 1 (*not at all true*) to 5 (*always true*) with higher total scores indicating greater levels of borderline personality features. This measure does not specify a time frame for responses but items (e.g., "I'm a pretty happy person") suggest that the measure is meant to capture patterns of behavior rather than symptoms present during a circumscribed time. The BPFSC has been identified as a useful tool in assessing borderline pathology in adolescents (Chang, Sharp, & Ha, 2011). In addition, past research indicates that the BPFSC is a psychometrically sound measure with high internal consistency (Crick et al., 2005) and adequate construct, concurrent, and criterion validity (Chang et al., 2011; Sharp, Mosko, Chang, & Ha, 2010). In the present sample, internal consistency of this measure was good with a Cronbach's alpha of .88.

Experiential Avoidance. The Avoidance and Fusion Questionnaire for Youth (AFQ-Y; Greco et al., 2008) is a 17-item self-report measure assessing psychological inflexibility, including cognitive fusion and EA, in youth. It was adapted from the Acceptance and Action Questionnaire, used to assess the same constructs in adults (Hayes et al., 2004). Sample items include "I try hard to erase hurtful memories from my mind" and "My thoughts and feelings mess up my life." No time frame is specified for these items; they appear to probe for patterns of behavior rather than behavior during a specified time. Responses are scored on a 5-point Likert scale from 0 (*not at all true*) to 4 (*very true*). A higher total score indicates higher EA. Previous research on the psychometric properties of the AFQ-Y provide support for its internal consistency and construct, convergent, and concurrent validity (Fergus et al., 2011; Greco et al., 2008; Venta, Sharp, & Hart, 2012). In the present sample, internal consistency of this measure was good with a Cronbach's alpha of .88.

Difficulties in Emotion Regulation. The Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) is a self-

report measure with 36 items that are scored on a 5-point Likert scale from 1 (*almost never [0–10%]*) to 5 (*almost always [91–100%]*); a higher total score indicates greater difficulties in emotion regulation. The measure does not specify a time frame for responses; item wording (e.g., “I am clear about my feelings”) suggests the measure captures general patterns of behavior rather than behavior during a specific time frame. The measure is based on a model of emotion regulation (Gratz & Roemer, 2004) which assumes that emotion regulation is a multifaceted phenomenon. The DERS therefore assesses six aspects of emotion regulation including nonacceptance of emotional responses (nonacceptance), difficulties engaging in goal-directed behavior (goals), impulse control difficulties (impulse), lack of emotional awareness (awareness), limited access to emotion regulation strategies (strategies), and lack of emotional clarity (clarity). Although only one of many models of emotion regulation, the DERS was used in the present study because it has previously been shown to have good psychometric properties in adolescent samples and is strongly associated with measures of behavior that are conceptually related to difficulties in emotion regulation (Weinberg & Klonsky, 2009). In the present sample, internal consistency was high, with an overall Cronbach’s alpha of .95 and on subscales as follows: nonacceptance = .90, goals = .87, impulse = .92, awareness = .85, strategies = .92, and clarity = .82.

Internalizing and Externalizing Symptoms. The Youth Self-Report (YSR; Achenbach, 1995) is a self-report questionnaire for use with youth between the ages of 11 and 18. The measure contains 112 problem items, each scored on a 3-point scale from 0 (*not true*) to 2 (*very or often true*). This measure targets symptoms that have been present over the past 6 months. In this study, the Internalizing and Externalizing Symptom *t* scores were used to identify relations between borderline features and other psychopathology. Specifically, this relation was explored to examine symptom severity as a possible confound given evidence suggesting greater levels of psychopathology among individuals with BPD (Grant et al., 2008). The Internalizing scale includes items from the Anxious/Depressed, Withdrawn/Depressed, and Somatic Complaints subscales and the Externalizing scale includes items from the Aggressive Behavior and Rule-Breaking Behavior subscales.

Full Scale IQ. Either the Wechsler Adult Intelligence Scale III or IV (WAIS; Wechsler, 1997; Wechsler, 2008), or Wechsler Intelligence Scale for Children IV (WISC; Wechsler, 2003) was administered by a licensed clinical psychologist according to the adolescent’s age. In this study, only the Full Scale IQ of each

participant was used. IQ was included to ensure that each participant met the aforementioned eligibility criteria and to determine whether there was a significant relation between IQ and borderline features, in light of evidence suggesting that individuals with BPD have some neuropsychological impairment that is reflected in lower IQ scores (Ruocco, 2005).

Procedures

This study was approved by the appropriate institutional review board. Trained research assistants approached all adolescents admitted to an inpatient psychiatric unit for consent on the day of admission. First, informed consent was collected from the parents and, second, informed assent was collected from the adolescent. All adolescents were informed that, though their parents had provided consent, they were free to decline participation. Adolescents for whom assent and consent were collected were then assessed by doctoral-level clinical psychology students, licensed clinicians, and/or trained clinical research assistants. Because this study was conducted in a naturalistic setting, the order of assessments was random and all questionnaire measures were administered within the first 3 days of admission. The average length of stay in this program is 5 to 7 weeks.

Results

Preliminary Analyses

The results of an independent samples *t*-test for gender and borderline features were significant, $t = 3.43, p = .001$, with the mean BPFSC total score among females equal to 72.17 and among males equal to 64.65. Therefore, gender was controlled for in regression analyses. We also conducted Pearson correlation analyses to determine the association between borderline features, age, IQ, and both internalizing and externalizing symptoms. Borderline features were not significantly associated with age at admission ($r = -.05, p = .45$) nor IQ ($r = -.12, p = .16$) but were associated with internalizing symptoms ($r = .52, p < .001$) and externalizing symptoms ($r = .55, p < .001$). Therefore, both internalizing and externalizing symptoms were controlled for in regression analyses. In the whole sample, the mean level of internalizing symptoms was 63.03 ($SD = 12.66$; 31 items) and the mean level of externalizing symptoms was 61.17 ($SD = 11.18$; 32 items). Correlations between all key study variables are presented in Table 1.

Table 1
Pearson Correlations Between Key Study Variables

Variable	1	2	3	4	5	6	7
1. BPFSC	1						
2. DERS	.69***	1					
3. AFQ-Y	.57***	.67***	1				
4. Internalizing	.52***	.62***	.68***	1			
5. Externalizing	.55***	.39***	.29***	.37***	1		
6. IQ	-.12	-.02	-.03	.04	-.11	1	
7. Age	-.06	-.002	.02	.08	.07	.17*	1

Note. BPFSC = Borderline Personality Features Scale for Children; DERS = Difficulties in Emotion Regulation Scale; AFQ-Y = Avoidance and Fusion Questionnaire for Youth; Internalizing and Externalizing taken from the Youth Self-Report; IQ = Full Scale IQ.

** $p < .01$. *** $p < .001$.

The Incremental Validity of EA in Its Association With Borderline Features Beyond Difficulties in Emotion Regulation

The first aim of the present study was to determine the association between difficulties in emotion regulation, EA, and borderline features among adolescents by exploring the incremental contribution that EA makes, above and beyond emotion regulation, in a model with borderline features as the dependent variable. The results of Pearson correlations showed that greater borderline features were associated with significantly higher scores on the AFQ-Y ($r = .57, p < .001$) and on the DERS (total score; $r = .69, p < .001$), indicating a link between greater borderline features and higher EA and difficulties in emotional regulation. Furthermore, all DERS subscales revealed significant associations with borderline features. Table 2 contains the means and standard deviations of all main study variables in addition to their correlation with borderline features.

Hierarchical linear regression was conducted to determine whether EA makes an incremental and independent contribution in a model with borderline features as dependent variable above emotion regulation. This was accomplished by entering covariates (gender, internalizing symptoms, and externalizing symptoms) in Step 1, adding DERS total score in Step 2, and adding AFQ-Y in Step 3. Results are presented in Table 3 and reveal that EA does make a small but significant incremental and independent contribution to the model specified in Step 2 ($\Delta R^2 = .02, \Delta F = 7.83, p = .006$). The DERS remained a significant predictor of borderline features in Step 3 and sr^2 changed very little (from .14 in Step 2 to .08 in Step 3). Prior to running the regression analyses, diagnostic statistics were computed to ensure that the assumptions for regression were met as follows: linearity with the lack-of-fit test, $F = .75, p = .74$; independence with the Durbin-Watson statistic (2.23); and normality of errors by evaluating the studentized residuals (Shapiro-Wilk = .99, $p = .06$). Homoscedasticity was assessed visually using a scatterplot of the regression standardized residuals and the regression standardized predicted values and did not reveal notable heteroscedasticity.

Table 2
Means (SDs) of Main Study Variables and Correlations With Borderline Features

Variable	Total sample	BPFSC	
	<i>M</i> (<i>SD</i>)	<i>r</i>	<i>p</i>
BPFSC total score	69.19 (15.84)		
AFQ-Y total score	27.36 (13.54)	.57	<.001***
DERS total score	102.56 (28.47)	.69	<.001***
Nonacceptance	14.12 (6.73)	.47	<.001***
Goals	18.28 (5.29)	.51	<.001***
Impulse	15.91 (6.81)	.68	<.001***
Awareness	17.33 (5.81)	.22	.001**
Strategies	23.10 (8.89)	.67	<.001***
Clarity	13.82 (5.03)	.39	<.001***

Note. BPFSC = Borderline Personality Features Scale for Children; AFQ-Y = Avoidance and Fusion Questionnaire for Youth; DERS = Difficulties in Emotion Regulation Scale.

** $p < .01$. *** $p < .001$.

EA as a Mediator in the Relation Between Difficulties in Emotion Regulation and Borderline Features

The second aim of this study was to determine the relations between difficulties in emotion regulation, EA, and borderline features through mediational analyses. This was accomplished by first conducting mediational analyses with difficulties in emotion regulation as the independent variable, EA as the mediator and borderline features as the dependent variable and then switching the mediator and the dependent variable such that difficulties in emotion regulation served as the independent variable, borderline features as the mediator and EA as the dependent variable. Both sets of analyses were conducted to address the interrelation between these variables in light of the cross-sectional nature of this study. Regression analyses were performed to test for mediation according to the three-step procedure outlined by Baron and Kenny (1986). In this procedure, mediation is present when the following conditions must be met in a series of three regressions: (a) the independent variable should be significantly associated with the mediator, (b) the independent variable should be significantly associated with the dependent variable, and (c) the mediator should be significantly associated with the dependent variable and decrease the effect of the independent variable when both the mediator and independent variable are included. Total mediation occurs only when the effect of the independent variable is absent once the mediator is included in the model. Partial mediation occurs when the effect of the independent variable is reduced but not completely eliminated. Before testing for mediation, formal detection-tolerance and the variance inflation factor were used to assess multicollinearity. Because multicollinearity was not a problem, with tolerance greater than .2 and a variance inflation factor less than 4, centering the independent variables was not necessary (Aiken & West, 1991; Holmbeck, 2002).

In the first mediational model, the independent variable was difficulties in emotion regulation (DERS), the proposed mediator was EA (AFQ-Y), and the dependent variable was borderline features (BPFSC). The results of the three conditions required in Baron and Kenny (1986)'s mediational model were met as follows: difficulties in emotion regulation significantly was significantly associated with EA; difficulties in emotion regulation was significantly associated with borderline features; and, when the mediator (EA) and difficulties in emotion regulation were entered jointly as predictors of borderline features, the effect of difficulties in emotion regulation decreased. These findings are summarized in Table 4. Post hoc probing of the significant mediational model was conducted with the Preacher and Hayes (2008) test of the indirect effect because it, unlike a traditional Sobel test, adjusts for covariates such as the diagnostic (internalizing and externalizing symptoms) and demographic (gender) variables previously identified as confounds. This macro provides a bootstrap test of the indirect effects of difficulties in emotion regulation on borderline features, through the proposed mediator (EA), while taking into account the aforementioned covariates. In our first model, this test confirmed the role of EA as a mediator with the mean of the indirect effect across all bootstrap samples estimated at 0.04 and a resulting confidence interval that did not include 0 (confidence interval = .01-.09; Preacher & Hayes, 2008).

In the second mediational model, the independent variable was difficulties in emotion regulation (DERS), the proposed mediator

Table 3

Regression Analyses Evaluating the Independent Contribution of EA Beyond Difficulties in Emotion Regulation in Its Association With Borderline Features

Independent variable	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	<i>sr</i> ²	<i>R</i> ²	Adjusted <i>R</i> ²		
Step 1										
YSR Internalizing	.43	.07	.35	6.20	<.001***	.10	.46	.45		
YSR Externalizing	.60	.08	.42	7.54	<.001***	.15				
Gender	-6.31	1.69	-.20	-3.73	<.001***	.04				
Step 2										
DERS Total	.27	.03	.49	8.19	<.001***	.14	.60	.59		
YSR Internalizing	.10	.07	.08	1.34	.18	.004				
YSR Externalizing	.47	.07	.33	6.63	<.001***	.09				
Gender	-4.46	1.48	-.14	-3.01	.003**	.02	.61	.60		
Step 3										
AFQ-Y	.22	.08	.19	2.80	.006**	.02			.61	.60
DERS Total	.23	.04	.42	6.35	<.001***	.08				
YSR Internalizing	-.004	.08	-.003	-.05	.959	.00				
YSR Externalizing	.48	.07	.34	6.89	<.001***	.09	.61	.60		
Gender	-3.95	1.47	-.12	-2.69	.008**	.01				

Note. BPFSC = Borderline Personality Features Scale for Children; AFQ-Y = Avoidance and Fusion Questionnaire for Youth; DERS = Difficulties in Emotion Regulation Scale; YSR = Youth Self-Report.

ΔR^2 in Step 2 = 0.14 (Δ, F) = 67.02, $p < .001$, ΔR^2 in Step 3 = 0.02 (Δ, F) = 7.83, $p = .006$.

** $p < .01$. *** $p < .001$.

was borderline features (BPFSC), and the dependent variable was EA (AFQ-Y). The same procedure was replicated and these findings are summarized in Table 4. Again, post hoc probing confirmed the role of borderline features as a mediator in the relation between difficulties in emotion regulation and EA with the mean of the indirect effect across all bootstrap samples estimated at 0.05 and a resulting confidence interval that did not include 0 (confidence interval = .01-.09; Preacher & Hayes, 2008).

Discussion

Past research provides evidence that EA and difficulties in emotion regulation are both positively associated with borderline features. Chapman et al. (2011) suggested that clarifying the blurry distinction between EA and difficulties in emotion regulation may contribute to more accurate treatment targets. Given the conceptual

similarity (Chapman et al., 2011) of the two constructs, the first aim of the present study was to determine whether EA provides incremental validity in its association with borderline personality features, beyond difficulties with emotion regulation. Results revealed a significant, positive correlation between borderline features and EA and difficulties with emotion regulation. Furthermore, EA made an incremental and independent contribution in its association with borderline personality features beyond that of difficulties in emotion regulation, even when controlling for gender and internalizing and externalizing symptoms.

This study is the first to identify in adolescents the relation between EA and borderline features that has been demonstrated in adults (Chapman, Specht, & Cellucci, 2005; Iverson, Follette, Pistorello, & Fruzzetti, 2011). It therefore adds to a growing body of literature highlighting EA as a potential target

Table 4

Regression Analyses Evaluating the Mediating Role of Experiential Avoidance With Borderline Features as the Dependent Variable and the Mediating Role of Borderline Features With Experiential Avoidance as the Dependent Variable

	Independent variable	Outcome	β	<i>t</i>	<i>P</i>	<i>R</i> ²
Experiential avoidance with borderline features as the dependent variable						
R1	DERS total	AFQ-Y total	.40	6.49	<.001***	.57
R2	DERS total	BPFSC total	.49	8.19	<.001***	.60
R3	DERS total	BPFSC total	.42	6.35	<.001***	.611
	AFQ-Y total		.19	2.80	.006**	
Borderline features with experiential avoidance as the dependent variable						
R1	DERS total	BPFSC total	.49	8.19	<.001***	.60
R2	DERS total	AFQ-Y total	.40	6.50	<.001***	.57
R3	DERS total	AFQ-Y total	.31	4.39	<.001***	.59
	BPFSC total		.20	2.80	.006**	

Note. DERS = Difficulties in Emotion Regulation Scale; AFQ-Y = Avoidance and Fusion Questionnaire for Youth; BPFSC = Borderline Personality Features Scale for Children. All of the above regression analyses were conducted including the following covariates: Youth Self-Report (YSR) Internalizing Symptoms, YSR Externalizing Symptoms, and gender because they demonstrated a significant relation to borderline features at the bivariate level.

** $p < .01$. *** $p < .001$.

of treatment. Furthermore, it provides a theoretical explanation of why treatment models emphasizing the concepts of EA and emotion regulation (e.g., Dialectical Behavior Therapy [Linehan, 1993], Mentalization-Based Treatment [Bateman & Fonagy, 1999]) are useful for individuals with borderline features. Although this is an empirical question that is beyond the scope of this study, our findings suggest that reducing EA may be valuable in the prevention and treatment of BPD. This is an important area for future research. Finally, our findings in this regard suggest that EA is independent from difficulties in emotion regulation to some degree, the same conclusion drawn by Iverson et al. (2011) who suggested that “experiential avoidance is not simply an emotion regulation strategy per se in that it accounts for unique variance in predicting BPD symptom severity after controlling for emotion dysregulation” (p. 6).

Our second aim was to further shed light on the relations between difficulties in emotion regulation, EA, and borderline features in adolescents. Because this has not been done before, we did not formulate a priori hypotheses. Although our results clearly pointed to a meditational role for EA, the “precedence” of EA is questioned by the fact a mediational test where the mediator was switched with the dependent variable (BPD features) was also significant. This suggests a reciprocal relation between EA and borderline features that can only be untangled in a longitudinal design and that difficulties in emotion regulation are associated with both EA and borderline features.

Several limitations should be taken into account when interpreting the results reported here. Although not strictly a limitation, we highlight the fact that the descriptive statistics reported here include elevated means for the DERS in comparison to a community sample of adolescents (Weinberg & Klonsky, 2009) and a sample of undergraduate students (Gratz & Roemer, 2004). Similarly, means of the BPFSC and AFQ-Y were elevated in comparison to school and community-based samples (Crick et al., 2005; Greco et al., 2008; Sharp, Mosko, et al., 2011). These elevated figures likely reflect the study setting—an inpatient psychiatric unit. Furthermore, the present study is cross-sectional in nature and, therefore, one cannot draw conclusions about causation based on these data. Third, our sample is not racially representative (90% Caucasian), and thus our ability to apply the findings to the general population (79% Caucasian; Central Intelligence Agency, 2011) may be limited. Given the setting of the study, an inpatient psychiatric unit for adolescents, participants presented with increased levels of psychopathology, which limits the generalizability of our findings as well. In addition, although questionnaire assessments are typically administered within 3 days of admission, exact information to this effect was not available and it is possible that medication, environmental, and psychological changes may have influenced study findings. Finally, our reliance on self-report measures of borderline personality features, difficulties in emotion regulation, and EA is a limitation. Though the validity of the self-report measures used here should not be discounted, exploring the same issues using interview- or laboratory-based measures would further strengthen our findings.

Notwithstanding these limitations, the present study also has several notable strengths. First, a self-report measure of borderline features specifically developed for youth, and by now well-validated, was used. Additional strengths include a large sample size of 208 adolescent psychiatric inpatients, an age group and

clinical population that is critical for studying BPD at this developmental stage, and psychometrically strong self-report measures. While the present study makes an important first step toward understanding the relation between EA and emotion regulation in adolescents who report BPD features, an important pursuit in light of clear evidence that BPD is a serious public health problem (Grant et al., 2008; Skodol et al., 2002), future research should examine EA in a longitudinal design to determine whether it is causally related to BPD and potentially an early marker of emerging borderline personality disorder.

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