Personality Disorders: Theory, Research, and Treatment
2017, Vol. 18, No. 4, 389–395

1949-2715/17/$12.00 http://dx.doi.org/10.1037/per0000202

BRIEF REPORT

Affective Instability as a Clinical Feature of Avoidant Personality Disorder

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The current study's main goal was to examine whether affective instability is elevated among individuals suffering from avoidant personality disorder (APD) by comparing it to the affective instability found among individuals suffering from borderline personality disorder (BPD) as well that found among healthy controls. Adults (N = 152, aged 18–65 years) with BPD, APD, or no psychopathology participated in a 3-week computerized diary study. We examined temporal instability in negative affect using experience-sampling methods. Both within and between days, individuals with APD showed greater affective instability compared to the healthy control individuals, although less affective instability compared to individuals with BPD. The findings are in line with affective instability (or emotional lability) as a key dimension relevant across personality disorders. Additionally, they emphasize the need for research and clinical attention to affective characteristics (alongside the more readily recognized interpersonal characteristics) of APD.

Keywords: APD, BPD, diary methods, affective instability

Supplemental materials: http://dx.doi.org/10.1037/per0000202.supp

Affective instability is considered a major symptom or contributing factor in many psychological disorders in general and in personality disorders in particular (Houben, Van Den Noortgate, & Kuppens, 2015). Although this construct has received considerable attention in borderline personality disorder (BPD; e.g.,Carpenter & Trull, 2013), it is considered a characteristic of personality disorders (PDs) in general (American Psychiatric Association, 2013); interestingly, research on affective instability in PDs other than in BPD remains sparse.

Affective Instability in Avoidant Personality Disorder

Avoidant personality disorder (APD) is one of the most prevalent both in clinical settings and in the general population (e.g., 2.36%; Grant et al., 2004) and is associated with a high degree of persistence, a risk of relapse after treatment, and psychosocial impairment that are comparable to those seen in BPD (e.g., Torgersen, Kringlen, & Cramer, 2001). To date, however, APD has been understudied (Mendlowicz, Braga, Cabizuca, Land, & Figueira, 2006).

Unlike BPD, affective instability and difficulties in regulating affect are not considered defining characteristics of APD, although individuals with APD often display negative emotionality and anxiousness (American Psychiatric Association, 2013). Such persistent negative emotionality might result from the use of ineffective emotion regulation strategies (e.g., suppression, avoidance) characteristic of APD. Although these strategies tend to reduce physiological arousal and outward expression of negative affect (NA) in the short term, this transient relief is often followed by increased instability and NA, a rebound effect of ineffective regulation (Gross & Thompson, 2007).

The literature on APD has highlighted the role of interpersonal and behavioral deficits (Sanislow, Bartolini, & Zoloth, 2012). Yet the distinction between intrapersonal and interpersonal difficulties has been questioned by recent work highlighting the mood regulatory role of interpersonal relationships (Sbarra & Hazan, 2008; Zaki & Williams, 2013). In fact, individuals often turn to others for support to regulate their affect (Uchino, Cacioppo, & Kiecolt-Glaser, 1996), and even the mere presence of others during difficult times helps in affect regulation (Schachter, 1959). For those suffering from APD, such interpersonal relationships are scarcer and less rewarding (Sanislow et

This article was published Online First August 8, 2016.

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Funding provided by National Institute of Mental Health, Award R01 MH081948. Avigal Snir and Eran Bar-Kalifa contributed equally to this article.

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al., 2012); indeed, interpersonal interactions are often experienced as anxiety provoking for individuals with APD (Gadassi, Snir, Berenson, Downey, & Rafaeli, 2014).

Affective Instability in APD Versus BPD

To our knowledge, few studies have directly compared individuals with APD and with BPD, either in general (cf. Gunderson et al., 2000; Skodol et al., 2005) or specifically with regards to affect. What seems to emerge from studies comparing affective characteristics of individuals with these disorders is that both carry a propensity toward negative emotionality but differ in particular aspects of the affective experience. In an early study, Herpertz and colleagues (2000) found no evidence for differences (in either self-reports or psychophysiological reactivity) between BPD and APD patients. In contrast, more recent studies found specific differences, suggesting that individuals with BPD encounter more affective difficulties than individuals with APD in some aspects but less in others. In a functional MRI study, Koenigsberg and colleagues (2014) found that, unlike healthy subjects, individuals with either BPD or APD failed to habituate to negative pictures at the behavioral level, but those with BPD differed from those with APD in their neural activity during habituation. Normann-Eide, Johansen, Normann-Eide, and Wilberg (2013) found lower levels of affect consciousness among individuals with APD compared to those with BPD. When examining multiple affective reactions simultaneously, Gadassi et al. (2014) found distinct affective reactions to social proximity among individuals with BPD versus those with APD (i.e., social proximity predicted increased anxiety among those with APD but increased anger among those with BPD).

There have been no studies examining affective instability per se in APD. One recent study (Farmer & Kashdan, 2014) did document considerable affective (and self-esteem) instability among individuals with social anxiety disorder, a disorder that is highly comorbid with APD. However, Farmer and Kashdan (2014) did not directly assess the personality features of their participants. Moreover, although the affective instability they found was higher than that of healthy controls, it would be important to gauge the lability of avoidant individuals in reference to that experienced by individuals with BPD, which is a disorder *defined* by emotion instability.

The Current Study

Early work in the area of affective instability relied on retrospective self-reports (e.g., Koenigsberg et al., 2002), but recent work (including that of Farmer & Kashdan, 2014) makes extensive use of real-time assessment, obtained using experience-sampling methods (ESMs; Ebner-Priemer & Trull, 2009). ESM studies monitor participants' thoughts, emotions, or behaviors at multiple times and have several strengths, including increased reliability due to repeated assessment, removal of retrospection, and enhanced ecological validity (Bolger, Davis, & Rafaeli, 2003).

In ESM studies, affective instability is operationalized as frequent and extreme fluctuations in affect over time. The relevance of this construct to PDs is quite clear, and indeed, ESM studies have often explored PDs, with frequent attention to emotion dysregulation in BPD (e.g., Nica & Links, 2009). However, no ESM studies have examined affective instability in APD.

To provide greater insight about affective instability in APD and to further test the specificity of this characteristic in BPD, the present study utilized ESM to examine affective instability in NA among individuals with either PD, as well as among a group of healthy controls (HCs). We predicted that both patient groups would have higher ESM affective instability than the HC group; we further explored the difference between the patient groups (although given the paucity of research on APD, we did so without a directional prediction). Our approach allowed us to examine these differences both within and between days.

Method

Participants and Recruitment

Adult individuals from the New York City area were recruited through newspaper ads, online forums, and flyers for a study on personality and mood in daily life. Ads particularly targeted at individuals with BPD or APD also described symptoms of the disorders (i.e., for the BPD group: mood swings, impulsive behavior, unstable relationships, and anger; for the APD group: extreme shyness, avoidance of social activities, and fear of being rejected or humiliated). Approximately 1,200 individuals were administered a brief telephone screening based on the Structured Clinical Interview for *DSM–IV* Personality disorders (SCID-II; First et al., 1995). Individuals likely to meet criteria for one of the study groups (approximately 46% of those screened) were invited to the lab for a thorough diagnostic interview. Written informed consent was obtained prior to the interview session, and all participants were paid $30 for the interview regardless of eligibility. Potential participants completed an extensive diagnostic interview to determine the presence of BPD and/or APD or to exclude psychopathology (for inclusion in the HC group). Interviewers were doctoral-level clinical psychologists who received extensive training and supervision in the administration of the Structured Interview for the Diagnosis of Personality Disorders (SIDP-IV; Pfohl, Blum, & Zimmerman, 1997) and the SCID-II (First et al., 1995). All interviews were videotaped to ensure reliability. Reliability was also assessed by having each interviewer code the same set of five randomly selected interview videos; reliability for the assessment at the symptom and diagnostic level for Axis II PDs was good (SIDP-IV average $\kappa = 0.83$), as was the reliability at the diagnostic level for Axis I disorders (SCID-I average $\kappa = 0.86$).

For all groups, exclusion criteria were evidence of a primary psychotic disorder, current substance intoxication or withdrawal, cognitive impairment, or illiteracy. In addition, the HC group met no more than two criteria required for diagnosis of any PD (and no more than 10 in total), had no Axis I diagnoses for at least 1 year prior to the date of the interview, were not currently taking any psychotropic medications, and had a Global Assessment of Functioning (GAF; American Psychiatric Association, 2000) score that was high (GAF > 79). Given the high comorbidity of BPD and APD with other disorders in actual patient populations (e.g., Skodol et al., 2002), relatively few exclusion criteria were used for the BPD or APD group.

The final study sample consisted of 153 individuals. Fifty-seven (46 female) had a current *DSM–IV–TR* diagnosis of BPD (15 of them meeting criteria for APD as well), 43 (23 female) had a current *DSM–IV–TR* diagnosis of APD (without BPD), and 53 (39 females) entered the HC group. Those meeting criteria for both BPD and APD were included in the BPD group given the evidence that in cases of comorbidity, BPD is usually the more robust and salient disorder of the two (McGlashan et al., 2000).[1] Axis I diagnoses for the two PD groups are presented in Table 1; demographic information for all three groups can be found in the online supplemental material (Table S1).

Procedure

Following the diagnostic interview, participants deemed eligible returned for a second session and were trained in using a personal digital assistant (PDA) on which they completed the experience-sampling diary. Participants practiced using the PDA in the laboratory and were provided a written manual and instructions to take home. In addition, participants received weekly reminders during the 21-day diary period. At the end of the period, participants returned to the lab, were debriefed, and paid up to $100 (depending on the number of entries completed). During both the second and third lab visits, participants also completed a battery of tasks that are beyond the scope of this article.

Experience-Sampling Diary

Daily variations in affect, interpersonal experiences, and behaviors were assessed using a computerized experience-sampling diary. The Intel adaptation of Barrett and Barrett's (2001) Sampling Program software was configured to run on handheld Zire21 PDAs. Audible prompts were emitted by the PDA five times daily at random intervals, for a period of 21 days. The software program divides the participant's waking hours into five equal intervals and schedules a prompt to occur at randomly selected points within each interval.

The prompt was set to beep every 15 s for up to 10 min or until the participant responded to the device. Each entry took approximately 5–10 min, and all responses were automatically dated and time-stamped. Participants could complete up to 105 diary entries over the 21-day period. The mean number of completed entries for the entire sample was 73.57 (SD = 19.55), and there were no significant group differences in the number of entries completed. Participants with fewer than 27 completed entries (2 standard deviations below the average) were removed from analyses (n = 8).

Measures

General NA. In each diary entry, participants were asked to rate on 5-point Likert scales (0 = *not at all,* 4 = *extremely*) the extent to which they were currently experiencing different moods or emotions. A general NA scale was computed using six items: disappointed, tense, afraid, sad, angry, and irritated. We then calculated the between- and within-subjects reliabilities using procedures outlined in Cranford et al. (2006). For a given measure, the between-subjects reliability coefficient is the expected between-subjects reliability estimate for a single typical day. The within-subjects reliability coefficient is the expected within-subjects reliability of change within individuals over the 3 weeks of diary entries. Between- and within-subject reliability coefficients were 0.90 and 0.82, respectively.

Results

Data Analysis

ESM affective instability was assessed according to the recommendations offered by Jahng, Wood, and Trull (2008). First, we used indices of mean square successive differences (MSSDs) and probability of acute change (PAC). Both these indices reflect variability and temporal dependency, two important aspects of affective instability. Second, we assessed short-term (within-day) as well as long-term (between-day) affective instability. Given the uneven intervals between the repeated measurements for each respondent, as well as the fact that successive differences tend to be influenced by the interval length (i.e., greater differences being more likely with longer time intervals), the within-day MSSD and PAC indices were adjusted according to time intervals. Third, we eschewed the common two-step approach (in which indices of affective instability are calculated for each individual in the first step and then their group-mean-differences are tested in the second step); instead, we used a single-step approach in which group differences are modeled within generalized multilevel models. This approach takes into account errors in parameter estimation for each individual and is capable of handling unbalanced data (i.e., different number of observations for each individual).

MSSD. MSSD is the mean of the squared differences between each measurement and the one following it. Squared differences are used so that larger changes are weighted more heavily. As squared difference scores follow a gamma distribution, generalized multilevel models were run to test group differences (Jahng et al., 2008). To allow comparisons between the three diagnostic groups, two dummy-coded variables were included in each model; these allowed us to treat one group (e.g., the HC group or the BPD group) as a reference and model the difference between it and the other two groups.

Because there is no Level 1 covariate, the general Level 1 model was as follows:

$$\eta_k = b_{0k}$$

where η_k is the log of the expected (i.e., mean) of SSD_{ik} (the square successive difference [SSD] score of the ith observation for the kth individual). The general Level 2 model was as follows:

$$b_{0k} = \gamma_{00} + \gamma_{01} * \text{Group 1} + \gamma_{02} * \text{Group 2} + u_{0k}$$

where γ_{00} is the mean of the log of MSSD for the reference group; γ_{01} and γ_{02} are the contrasts between the logs of MSSD for the reference group and Group 1/Group 2, respectively; and u_{0k} is the random effect for the kth individual.

As Table 2 shows, the BPD and APD groups had greater MSSD (i.e., showed more affective instability) than the HC group both

[1] As an alternative, we ran the analyses for the BPD group including or excluding those with comorbid APD and found the same pattern of results.

Table 1
Axis I Diagnoses

Diagnosis	BPD (n = 56), n (%)	APD (n = 43), n (%)	$\chi^2(2, N = 99)$
Major depressive disorder	24 (42.9)	13 (30.2)	1.65, *ns*
Bipolar disorder	7 (12.5)	2 (4.7)	1.81, *ns*
Dysthymic disorder	12 (21.4)	11 (25.6)	.23, *ns*
Social phobia	24 (42.9)	42 (97.7)	32.89***
Posttraumatic stress disorder	18 (32.1)	1 (2.3)	13.94***
Panic disorder	5 (8.9)	3 (7.0)	.12, *ns*
Agoraphobia without history of panic disorder	3 (5.4)	1 (2.3)	.57, *ns*
Obsessive–compulsive disorder	5 (8.9)	3 (7.0)	.12, *ns*
Generalized anxiety disorder	27 (48.2)	14 (32.6)	2.45, *ns*
Bulimia	1 (1.8)	0 (0)	.37, *ns*
Binge eating disorder	2 (3.6)	2 (4.7)	.07, *ns*
Substance dependence	11 (19.6)	2 (4.7)	4.79*

Note. BPD = borderline personality disorder; APD = avoidant personality disorder.
* $p < .05$. *** $p < .001$.

within and between days. In addition, the APD group had lower MSSD than the BPD group.

PAC. PAC is the probability of experiencing acute increases in NA from one observation to the next. Following Jahng et al. (2008), acute changes were defined as those that equaled or exceeded the 90th percentile of SSD scores across all participants in the study. As acute change is a binominal variable (1 = occurred, 0 = did not), logistic multilevel models were run to test group differences in PAC. To allow comparisons between the three diagnostic groups, two dummy-coded variables were again included in each model.

Because there is no Level 1 covariate, the general Level 1 model was as follows:

$$\eta_k = b_{0k}$$

where η_k is log odds of the expected (i.e., mean) of AC_{ik} (the acute change [AC] score of the ith observation for the kth individual).The general Level 2 model was the following:

$$b_{0k} = \gamma_{00} + \gamma_{01} * \text{Group 1} + \gamma_{02} * \text{Group 2} + u_{0k}$$

where γ_{00} is the mean of the log odds of PAC for the reference group; γ_{01} and γ_{02} are the contrasts between the log odds of PAC for the reference group and Group 1/Group 2, respectively; and u_{0k} is the random effect for the kth individual.

As Table 2 shows, the BPD and APD groups had greater PAC scores (i.e., showed more affective instability) than the HC group, both within and between days. A significant difference was found between the APD and BPD groups only with the between-day PAC index.[2]

Discussion

APD is one of the most prevalent disorders both in clinical settings and in the general population (Torgersen et al., 2001). Although some characteristics of APD, such as negative emotionality, anxiousness, and interpersonal difficulties (American Psychiatric Association, 2013), are expected to be linked with affective dysregulation (e.g., Gross & Thompson, 2007), affective instability has received little attention as a characteristic of individuals suffering from this disorder. The current study aimed to fill this gap by comparing individuals with APD to those suffering from BPD, a disorder in which emotion dysregulation and instability are well documented (Gunderson, 2009). Using a recently developed procedure for assessing affective instability (i.e., ESM; Jahng et al., 2008), we examined temporal instability in NA among individuals with either PD and compared it to the stability found among healthy individuals. Both within and between days, individuals with APD showed greater affective instability compared to the HC individuals, although less affective instability when compared to individuals with BPD.

These results replicate the well-established finding of emotion instability among individuals with BPD (e.g., Jahng et al., 2008). More important, this study is among the first (see also Snir, Rafaeli, Gadassi, Berenson, & Downey, 2015) to collect experience-sampling data from individuals with APD. Using such data allowed us to explore fluctuation patterns within a population that has not been considered particularly labile. Notably, we found affective instability among these individuals compared to HCs.

The affective instability found in the APD group may result from the nonadaptive strategies used by individuals with this disorder for regulating their NA, particularly the strategies of suppression and avoidance. Several studies have shown that otherwise healthy individuals who score high on experiential avoidance (defined as the tendency to avoid negatively evaluated feelings, physical sensations, and thoughts; Hayes, Wilson, Gifford, Follette, & Strosahl, 1996) respond with greater affective distress and more negative cognitions to emotion-provoking procedures (Feldner, Zvolensky, Eifert, & Spira, 2003; Karekla, Forsyth, & Kelly, 2004) and to affective film clips (Sloan, 2004). One study further documented that instruct-

[2] To address the concern that group differences were affected by the diagnosis of bipolar disorder (a disorder characterized by affect instability), we conducted the analysis excluding participants with this diagnosis (BPD: n = 7; APD: n = 2). The pattern of results remained unchanged except for one minor difference—the within-day PAC index actually became significantly higher in the BPD group compared to the APD group (estimate = –.36, SE = .17, $p < .05$); this is in line with the pattern found in the other indices when contrasting BPD and APD.

Table 2
Affective Instability Measures for the Three Study Groups

Variable	Within-day MSSD	Between-day MSSD	Within-day PAC	Between-day PAC
Observed means (*SD*)				
Control	.12 (.47)	.07 (.25)	.04 (.19)	.03 (.16)
BPD	.58 (1.25)	.45 (.96)	.15 (.35)	.16 (.37)
APD	.35 (.80)	.25 (.54)	.12 (.33)	.12 (.32)
Predicted contrasts				
BPD vs. Control	1.81 (.17)***	2.55 (.24)***	1.55 (.18)***	1.98 (.23)***
APD vs. Control	1.30 (.18)***	1.94 (.26)***	1.36 (.19)***	1.61 (.24)***
APD vs. BPD	−.50 (.18)**	−.62 (.26)*	−.19 (.16)	−.36 (.17)*

Note. MSSD = mean square successive difference; PAC = probability of acute change; BPD = borderline personality disorder; APD = avoidant personality disorder.
* $p < .05$. ** $p < .01$. *** $p < .001$.

ing participants to suppress their emotions led to increased distress in individuals high on experiential avoidance but not in individuals low on this trait (Feldner et al., 2003). If suppression is particularly counterproductive for individuals with a tendency for experiential avoidance, it would presumably also have pernicious effects for individuals with APD. Specifically, although suppression and avoidance may decrease negative emotions in the short run, these are likely to rebound later. These suppression-and-rebound processes may underlie the high affective instability found in APD.

The affective instability found among individuals with APD may also result from their avoidance of interpersonal interactions (Sanislow et al., 2012). This avoidance is somewhat understandable when we consider that individuals with APD experience greater anxiety when in social proximity to others (e.g., Gadassi et al., 2014). Still, it may also carry with it a lost opportunity for interpersonal regulation processes (for reviews, see Beckes & Coan, 2011; Zaki & Williams, 2013). For example, Beckes and Coan's (2011) social baseline theory argues that social support regulates emotion not by activating intraindividual regulatory processes but instead by signaling a return to a baseline state of calm social safety. If social interactions do not feel safe and are thus avoided, no such regulation takes place.

Recent years have brought with them a move toward dimensional approaches to PDs. For example, although the recent classification of PD in the *DSM–5* (American Psychiatric Association, 2013) retained the categorical taxonomy, it also advocated using a five-dimensional trait model of PD. One facet of the negative emotionality dimension is that of affective lability, yet the *DSM–5* does not consider this facet to be a characteristic of individuals with APD. The current study provides initial evidence that this should be reconsidered, as APD seems to have salient affective features, alongside the more easily recognized interpersonal ones. Notably, a dimension approach (unlike the categorical one) may offer a better fit to the data, as individuals with APD do indeed seem to have lower lability than those with BPD.

Limitations, Implications, and Future Directions

In the current study, we rely on self-reported affect and are, therefore, limited to experiences consciously available to the individual. Future research could apply indirect (e.g., observational and/or physiological) measures to assess affect. Our examination focused on a specific aspect of affective instability: temporal fluctuations in NA. Affective lability as described in the *DSM–5* (both generally and as a part of BPD diagnosis) includes frequent mood changes and refers to emotions that are aroused intensely and/or out of proportion to events and circumstances (American Psychiatric Association, 2013). Whereas as many as 82.5% of individuals with BPD in the current study were above threshold on the borderline affective instability criterion, only 9.3% of individuals with APD were above the threshold for this criterion. Future studies should address additional aspects of lability, including fluctuation in other facets of affect (such as anger or even positive affect) and of environmental and interpersonal triggers for emotional reactivity (cf. Gadassi et al., 2014).

Additionally, it is possible that the time intervals between our measures (three to five per day) are not sensitive enough to capture rapid fluctuations in affect. Future studies could use even higher time resolutions, which could be sensitive to even more rapid fluctuations in affect.

Our results highlight the salience of temporal affective instability as a characteristic of individuals with BPD but also found it to be quite present among individuals with APD. Affective instability has been shown to affect a dramatic influence on the lives and the well-being of individuals (Houben et al., 2015). Linehan (1993) has postulated that inability to regulate emotions might lead to maladaptive attempts to regulate intense affective states. Thus, affective instability may in fact be the driving force behind many additional behaviors, such as substance use, self-injury, and even suicidal behavior. Clinically, our results suggest that interventions for APD like those for BPD should devote considerable attention to affective regulation strategies.

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