Severity of Personality Dysfunction Predicts Affect and Self-Efficacy in Daily Life

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Abstract

According to the DSM-5 alterative model of personality disorders (AMPD), severity of personality dysfunction theoretically involves deficits in identity, self-direction, empathy, and intimacy. We predicted that people with greater personality dysfunction would experience more problems in daily life, particularly problems associated with self-efficacy for engaging with affect and self-control (i.e., subjective willpower and distress intolerance), along with greater intensity of life stressors and higher perceived invalidation from others. Using ecological momentary assessment, participants ($N = 99$) were randomly prompted seven times a day for one week, where they were asked questions about momentary affect, their perceived level of momentary distress tolerance, and their momentary willpower. Each night they were also asked about stressors experienced that day and intensity of their subjective response to those stressors, and their daily experience of being invalidated. Results found that higher personality dysfunction, assessed at baseline, predicted greater daily negative affect, less daily positive affect, more intensely experienced stressors, and more perceived invalidation. We also found that personality dysfunction interacted with positive affect in predicting momentary self-efficacy and daily invalidation; people with greater personality dysfunction experienced lower momentary willpower, higher distress intolerance and stronger perceived invalidation alongside lower positive affect. These findings provide evidence that personality functioning influences daily life, as well as support the use of the AMPD in conceptualizing personality pathology.

Keywords: personality dysfunction; personality pathology; self-efficacy; affect; ecological momentary assessment

The Alternative Model for Personality Disorders (AMPD), now in Section III of the Diagnostic and Statistical Manual for Mental Disorders, 5th Edition (DSM-5; American Psychiatric Association, 2013), attempts to redefine personality pathology from a traditionally categorical approach into a hybrid dimensional model (e.g. Krueger & Markon, 2014; Oldham, 2015; Hopwood, 2018). This redefinition makes personality pathology more consistent with the substantial research base on dimensional conceptualizations of personality (Krueger & Markon, 2014; Skodol, 2014), and a growing body of research has confirmed the utility of the AMPD model and its applications for classification and treatment of personality pathology (e.g. Skodol, 2014; Morey et al., 2015; Zimmerman et al., 2015; Waugh et al., 2017; Busch, Morey, & Hopwood, 2017; Fowler et al., 2018).

Implementing the AMPD first involves assessing severity of personality dysfunction on dimensions of identity, self-direction, empathy, and intimacy (Criterion A) and essentially is thought to encapsulate difficulties underlying all personality pathology, with specific types of pathology identified via Criterion B (maladaptive traits). Considering personality dysfunction from an overall severity perspective is consistent with the World Health Organization's International Classification of Diseases (ICD-11) system, which conceptualizes personality pathology as a singular category (e.g. Herpertz et al., 2017), and is sometimes referred to as the g-PD factor (Sharp et al, 2015). Recognizing and assessing severity of personality dysfunction is relatively easy (Waugh et al., 2017; Zimmerman et al., 2014), with both clinician assessment tools (Bender et al., 2011) and self-report measures available (Huprich et al., 2018; Morey, 2017).

Efforts have been undertaken to understand the overlap between the general personality dysfunction of Criterion A and the maladaptive traits of Criteron B (Widiger et al., 2018), as well

as traditional personality traits (Morey, Good, & Hopwood, 2020). Moreover, if measuring the

general personality dysfunction of Criterion A is useful, then scores on personality dysfunction

measures should be associated with impairment in daily life (Christensen et al., 2020; Hopwood

et al., 2011; Roche, 2018). Essentially, this is an issue of both construct validity and real-world

generalizability. The current study attempts to contribute to burgeoning research in this area to

examine how general personality dysfunction predicts affect and stress intensity, self-regulation

self-efficacy, and perceived interpersonal invalidation.

Personality Dysfunction in Daily Life

People with severe personality dysfunction tend to have longstanding deficits in the

realms of self (identity, self-direction) and interpersonal skills (empathy, and intimacy; Bender,

Morey, & Skodol, 2011; Morey, 2017). Considering these domains, it makes sense why higher

personality dysfunction as assessed by the self-reported Levels of Personality Functioning Scale

(Morey, 2017) predicts problems with the self (self-esteem, self-worth) and relationships with

others when reported in studies using ecological momentary assessment (EMA; Ringwald,

Hopwood, Pilkonis, & Wright, 2019; Roche, 2018). EMA studies use brief repeated daily

surveys administered via mobile devices and thus are relatively ecological valid as they assess

functioning during daily life (Stone & Shiffman, 1994).

In addition, personality dysfunction likely predicts and perhaps interacts with emotions in

daily life. First, although difficulties with emotion are not clearly identified as a dimension of

personality dysfunction (Bender, Morey, & Skodol, 2011; Morey et al., 2011), emotion is an

undercurrent throughout (Christensen et al., 2020). For example, "normal" functioning under the

Identity dimension articulates "Is capable of experiencing, tolerating, and regulating a full range

of emotions" (p. 775) whereas extreme impairment includes "Emotions not congruent with

context or internal experience" (American Psychiatric Association, 2013, p. 778). Second, Criterion A of the AMPD overlaps substantially with the features of Borderline Personality Disorder (Hopwood, 2018), which is associated with heightened emotional sensitivity, emotional lability, and difficulties with distress tolerance and impulsivity (e.g. Gratz et al., 2006). Indeed, indices of borderline personality pathology load fairly exclusively onto the Criterion A factor (Sharp et al., 2015).

Evidence accumulated thusfar confirms that higher personality dysfunction predicts more negative affect and less positive affect in daily life (Ringwald et al., 2019; Roche, 2018). These findings indicate that personality dysfunction is in fact associated with affective functioning, coinciding with work suggesting that people with heightened borderline symptoms likewise show increased emotionality, interpersonal strife and emotional volatility (e.g. Carpenter & Trull, 2013; Glenn & Klonsky, 2009; Stepp et al., 2009). This also reflects prior work which shows that while personality disorder expression is relatively stable over time, there is variability in expression during daily life (Wright & Simms, 2016).

Beyond momentary affect, it is also likely that personality dysfunction is related to other affective-related elements of daily life, such as perceptions of stress. Prior research has asserted that differences in personality functioning can be implicated in differing reactivity to and recovery from stressors (see White, Conway, & Oltmanns, 2019 for review). While those with greater personality dysfunction may not necessarily experience a greater number of stressors, it is likely that greater personality dysfunction predicts more intense reactions to stressors that do occur in daily life. This idea is supported by research showing that people with heightened borderline symptomatology tend to cognitively focus on negative attributes about themselves and the world (Baer et al, 2012), and also tend to ruminate about stressors (Richman, Unoka, Dudas,

& Demetrovics, 2018; Selby, Fehling, Panza, & Kranzler, 2016). Thus, problems with personality functioning is are likely related to peoples' perceptions and interpretations of stressful events in daily life.

Finally, personality functioning may also predict perceived invalidation from others. Perceived invalidation occurs when someone feels their emotions are not being adequately responded to or acknowledged by others (Leong, Cano, & Johansen, 2011; Linton et al., 2012). Repeated childhood invalidation is theorized to contribute to the development of Borderline Personality Disorder (e.g. Linehan, 1993), and people with greater borderline symptoms tend to report feeling more invalidated by people in their lives (Zielinski & Veilleux, 2018). Given the relationship between BPD and Criterion A of the AMPD, it is likely that personality dysfunction would predict an increased sense invalidation, consistent with the notion that people with increased borderline features tend to be more sensitive to rejection (Dixon-Gordon, Yiu, & Chapman, 2013; Zielinski & Veilleux, 2014), and in general are more sensitive to interpersonal conflicts than healthy controls (Lazarus et al., 2014).

Personality Functioning and Self-Regulatory Self-Efficacy

Personality dysfunction often involves difficulty setting and accomplishing goals, as well as an impaired sense of self-worth (Clarkin, 2012; Morey, 2017; Vall et al., 2015). Thus, people with personality dysfunction may exhibit low self-efficacy for self-control in daily life, such as in reports of diminished willpower and heightened distress intolerance. Willpower is a term often used synonymously with self-control, and distress intolerance refers to the inability to tolerate or withstand negative physical or psychological states (Leyro et al., 2010; Veilleux et al., 2018). Both self-control (Tangney, Baumeister, & Boone, 2004) and distress intolerance (McHugh & Otto, 2012; Simons & Gaher, 2005) are often described in either trait terms ("He has low

willpower!" or "She can't handle feeling sad!") or assessed objectively by behaviorally-indexed performance tasks (Hagger, Wood, Stiff, & Chatzisarantis, 2010). However, when construed from a momentary capacity lens, indices of willpower and distress intolerance index self-efficacy. For example, if asked in a given moment if someone feels capable of exerting self-control or capable of tolerating distress, a report of low willpower would reflect low self-efficacy for engaging self-control processes (Veilleux et al., 2020). A report of high distress intolerance would reflect low-self efficacy for staying engaged with emotional processes (Veilleux et al., 2018). Prior work at the trait level suggests that people with borderline symptoms tend to report heightened distress intolerance (Gratz et al., 2006) and increased impulsivity (Chapman, Leung, & Lynch, 2008), and a recent study confirmed that greater personality dysfunction was associated with lower thinking (i.e., problem-solving) and awareness during daily life (Roche, 2018). Thus, it should follow that greater personality dysfunction would predict lower willpower and higher distress tolerance in daily life.

In addition, people with personality dysfunction may be particularly susceptible to decreased self-efficacy for self-control (i.e., lower willpower and higher distress intolerance) when experiencing emotion. Emotion-related impulsivity (sometimes called "urgency"; Cyders & Smith, 2008) involves engaging in impulsive actions when emotional, including the more typical disinhibited behaviors consistent with externalizing psychopathology (e.g., binge drinking), and also impulsive "inactions," or avoidance/withdrawal behaviors consistent with internalizing psychopathology (e.g., not getting out of bed; Carver & Johnson, 2018). People who respond reflexively to their emotions tend to feel as though their emotions must be adhered to (Carver et al., 2011). It seems likely that people with greater personality dysfunction, who tend not to be aware of the links between emotions and action (Hopwood, 2018), are more likely

to act on their emotions, and feel less capable of acting against emotions. From a self-efficacy perspective, we would expect that people with greater personality dysfunction might experience lower self-efficacy in higher emotional states, reflective of greater emotion-related impulsivity urges. A finding such as this would reinforce the value of emotion-related impulsivity as central to personality pathology (Carver et al., 2017) and also highlight the role of self-efficacy in personality disorder treatment.

The Current Study

The present research attempts to address the usefulness of personality dysfunction for understanding struggles in daily functioning in the context of an EMA study. There were several aims of the current analysis, which used secondary data from an EMA study which had the primary goal of examining fluctuations in emotion beliefs in daily life [citation removed for blind review]. For the first aim of this analysis, we aimed to replicate the findings outlined in prior research showing that overall personality dysfunction predicts greater momentary negative affect and lower momentary positive affect measured via EMA (Ringwald et al., 2019). Second, we extended prior work by predicting that greater personality dysfunction would predict greater intensity of daily stress and increased reports of interpersonal invalidation. Third, we expected that greater personality dysfunction would directly predict lower momentary self-efficacy (i.e., lower willpower and higher momentary distress intolerance), even when controlling for affect. Finally, we predicted that people with greater personality dysfunction would show stronger relationships between emotion and momentary self-efficacy compared with people who report lower personality dysfunction.

Methods

Participants

Participants were recruited from the University of Arkansas General Psychology subject pool, where they were awarded research credit for their contributions. Participants were screened with the Personality Assessment Inventory – Borderline Features Scale (PAI-BOR; Morey, 1991), assesses symptoms of borderline personality disorder. Participants with T-scores at or above 70 on this measure were categorized into a borderline features group, with participants scoring with a T-score below 60 being placed into a non-borderline comparison group. There were 2178 individuals screened in total, with 16.6% scoring above 70 and 58.8% scoring below 60. The decision to use people with scores of 60 or below for the non-borderline group was to ensure that the comparison group included a wide range of people in the mid-range of scores, which is recommended when using extreme groups recruitment (Fisher, Guha, Heller, & Miller, 2020). Following the initial screening, eligible participants were invited to sign up for the study where we opened an equal number of slots for borderline features and non-borderline groups. We also attended to participant gender of study signups to with the goal of approximately equal gender composition of both groups. We ended up with 105 participants in total; one participant was excluded for not having a smartphone and another two did not actually meet PAI-BOR criteria and were mistakenly invited. Prior to analyses, to we examined response rates for participants and excluded those with total response rates under 30% ($n = 3$).

Thus, the final sample used for analyses consisted of 99 participants, with half in the BPD ($n = 50$) and non-BPD ($n = 49$) groups. The BPD group had a mean age of 18.92 and was majority white (78%) and female (74%), while the non-BPD group had a mean age of 19.72 and was majority white (75%) and female (68.8%). The full sample had a mean age of 19.32 and was majority white (76.5%) and female (71.4%). There were a total of 3975 sessions logged across

the participants, the majority of which came from the random prompts (97.1%). Participants had

an average response rate of 75.34% (*SD* = 16.17).

Measures

Note: only measures relevant to these analyses are reported in this document; however,

the full list of measures can be viewed here:

[https://osf.io/g25az/?view_only=8f507396ccf549f2a0bf951248817dc0].

Levels of Personality Functioning Scale (LPFS; Morey, 2017). The LPFS is an 80-item

scale that assesses levels of personality dysfunction on four domains: identity ("I have a strong

need for others to approve of me"), self-direction ("I have some difficulty setting goals"),

empathy ("All I can really understand about other people are their weaknesses"), and intimacy

("Almost no close relationship turns out well in the end"). Items are given on a 1 (*Totally false,*

not at all true) to 4 *(Very true)* scale. The measure is scored in a weighted fashion where criteria

that are more indicative of personality dysfunction are given higher weight than items which are

less central to personality dysfunction; total scores are calculated to demonstrate overall severity

of personality dysfunction. In the present research, only total scores were calculated because

total scores are thought to be as or more useful than the scores for each of the dimensions, as

those the subscales tend to be strongly correlated (e.g. Morey, 2017; Hopwood, Good, & Morey,

2018). Note that there is no alpha given for reliability because items central to the core of

personality dysfunction are weighted more heavily in the score. In the current study, the LFPS

was given at the initial lab study prior to introducing the EMA component.

EMA Measures

Random Prompts. At each prompt, participants were asked to report how they were

feeling for 12 emotions, 6 negative (sad, angry, anxious, ashamed, jealous, guilty) and 6 positive

(joyful, calm, relaxed, excited, proud, happy). Each emotion was rated on a visual analogue scale ranging from 0 (*Not at all)* to 100 (*Extremely*). Participants were also asked three questions regarding their momentary distress tolerance (Veilleux et al., 2018) such as, "Right now, my emotions are getting in my way," which were given on a 7-point Likert scale from 1 (*Strongly disagree*) to 7 *(Strongly agree).* Finally, participants were asked two questions about their levels of momentary willpower, including, "How much willpower do you have right now?," given on a scale ranging from 0 (*Zero)* to 6 (*Extremely)*.

> **Nightly Prompts.** Each evening, participants were asked to reflect on their day and report the number of stressful events that occurred (out of 58 possible) and the intensity of those stressors (Brantley, Waggoner, Jones, & Rappaport, 1987). Items included situations like, "Criticized or verbally attacked," "Interrupted while talking," or "Money problems." (see full list with measures on OSF). For each item, participants indicated a 0 if they had not experienced the stressor that day, and if they had experienced the stressor, they rated the intensity of the stressor from 1 (*Occurred but was not very stressful*) to 5 (*Caused me to panic).*

> Participants were also asked the degree to which they felt invalidated by others ("Thinking back on your day, to what degree have you felt upset because others misunderstood you, criticized you, ignored you, judged you, or implied that you were feeling something that wasn't okay to feel?"), which was given on a 0 (*Not at all upset*) to 4 (*Extremely upset*) Likert-type scale.

Procedure

> Participants who met criteria for inclusion were first brought to the lab for an orientation session. First, participants were given baseline measures to complete via Qualtrics (including the LPFS). Participants then were taught how to chart the time course of several emotional events

and articulated their typical levels of distress and happiness; this activity will not be described in this paper. Then, participants completed an orientation to LifeData, the EMA smartphone application used to administer and collect data during daily life. The orientation session allowed participants to familiarize themselves with the types of questions they would encounter during the EMA week and ask any questions about the study to the experimenter.

After the initial session, participants left the lab and began receiving prompts. For one week, participants were notified randomly seven times a day between 9:30 AM and 9:30 PM, which were times we felt we could reasonably expect people to be awake and able to respond; availability was important because credit for participation was yoked to compliance, per suggestions by EMA experts (Shiffman et al., 2008). Participants were also able initiate a prompt to log if they were experiencing an emotion. Each evening, participants completed a nightly entry where they were asked questions about their use of the app over the past day, reported on daily stressors (Brantley, Waggoner, Jones, & Rappaport, 1987), and their perception of feeling invalidated by others during the day. We selected one week as this is a fairly typical duration for an EMA study focused on emotion and minor daily stressors (Chaudhury et al., 2017; Khazanov et al., 2018).

At the conclusion of the 7 days, participants were brought back into the lab for a concluding session where they were asked questions about their experience with the study and were debriefed on the experiment. All participants were awarded research credit for their contributions, with full credit being given for completing 80% of the prompts and smaller amounts of credit for lower rates on a prorated scale.

Data Analytic Strategy

Data Cleaning. Prior to data analysis, we excluded any individual responses to random prompts that were missing a majority of the data from that session, where a "session" involves all of the items given in response to one notification. We also excluded sessions that were not completed within 10 minutes of the notification. Data and R-code for this project are available at: https://osf.io/g25az/?view_only=8f507396ccf549f2a0bf951248817dc0.

Session-level scores for positive affect, negative affect, momentary distress intolerance, and momentary willpower were calculated by averaging scores over their respective questions. For example, an average positive affect score was calculated by averaging the ratings for joyful, calm, relaxed, excited, proud, and happy. Because the affect scores ranged from 0 to 100, and the scaling differences between the affect variables and other momentary variables were associated with large parameter estimates, we divided the average affect scores by 10 to reduce the range to 0 to 10. We also examined how often participants chose to log their emotions; because this frequency was quite low (only 90 emotions logged across all participants that were reported as "strong"), we chose to combine the initiated emotion log sessions with the random prompt sessions.

Person-level analyses. Due to the recruitment strategy, we anticipated that the group recruited as the BPD-features group would have higher LPFS scores than the non-BPD group, which we confirmed with an independent samples t-test. We also examined the distribution of LPFS scores to ensure that the distribution was approximately normal. This analysis allowed us to focus on the LPFS as a dimensional predictor with sufficient variability afforded by the recruitment strategy.

Multilevel models for momentary outcomes. To examine how level of personality dysfunction predicted both positive and negative affect along with momentary self-efficacy, we

used multilevel models with the "nmle" package in R. Multilevel models are important to use for

EMA studies due to the nested data structure, where session responses are nested within people.

Of note, to aid in parameter interpretation, prior to conducting the multilevel models, affect and

LPFS scores were transformed. Affect scores, which originally ranged from 0 to 100, were

divided by 10 resulting in a range from 0 to 10. LPFS scores, which ranged from 22 to 463,

were divided by 100, resulting in a range from approximately 0 to 5.

In all models described below, Level 2 predictors assessing individual differences were

grand mean-centered, and Level 1 momentary predictors were person-mean centered. Slopes

and intercepts were allowed to vary randomly across participants. We first used the LPFS scores

to predict levels of negative affect (Level 1) experienced during daily life, while controlling for

momentary positive affect and the linear effect of time (e.g. the session number). We then

conducted a similar model predicting positive affect from LPFS, controlling for time and

momentary negative affect. Of note, because the affect predictors were person-mean centered,

the momentary variables thus describe a person's variation around their own mean, and these

models do not include between-person variability in affect. Thus, we re-ran the same models but

added the person's average affect at Level 2 (also grand mean-centered) to ensure that any

effects of personality dysfunction were not merely due to affective tendencies.

To assess whether personality dysfunction predicted momentary self-efficacy above and

beyond affect, and whether heightened affect might have a stronger relationship with self-

efficacy for those with greater personality dysfunction, we conducted several more multilevel

models. These models followed a similar pattern as above, where we ran initial models without

individual differences in affect (i.e., average positive and negative affect) and then re-ran them

with individual differences in affect included (both are presented in Table 1). These models

predicted the momentary self-efficacy variables of distress intolerance and willpower. Time was included as a covariate, with grand mean-centered LPFS as a focal predictor, along with person mean-centered momentary positive and negative affect. Cross-level interactions between LPFS and both momentary affect variables assessed whether affect predicts momentary self-efficacy differently based on personality dysfunction.

Nightly outcomes. We then constructed additional multilevel models to assess nightly outcomes which were assessed at the single nightly session at 9:30pm each night. The outcome variables for these analyses were the count of daily stressors, intensity of experienced daily stressors, and daily perceived invalidation. Prior to analysis, we calculated daily negative affect by aggregating across all momentary prompts from the calendar day of the nightly prompt. This daily affect was then person-mean centered to represent the deviation in negative affect compared to a person's own daily mean. Each model included the day of the study as a covariate to control for time, LPFS scores (grand mean-centered), daily negative affect (person mean-centered, as described), and the cross-level interaction between LPFS and daily negative affect. Of note, we only used negative affect in these models due to known relationships between negative affect and stress (e.g. Almeida & Kessler, 1998), as well as negative affect and invalidation (e.g. Shenk & Fruzzetti, 2011). Finally, we re-ran these models with the addition of between-person negative affect (which was grand mean-centered) to account for individual differences in negative affect.

Results

Levels of Personality Functioning

We conducted an independent samples *t*-test to compare levels of personality functioning for the two recruitment groups. We found that, as expected, the BPD features group ($M = 277.8$,

SD = 85.14) had higher levels of personality dysfunction than those in the non-BPD features

group (*M* = 203.52, *SD* = 55.42), *t*(92) = 5.03, *p* < .001. Overall, the total sample had a mean

LPFS score of 239.87 (*SD* = 80.33), with a skew of -.012 (*SE* = .25) and kurtosis of .51 (*SE* =

.49). This is relatively comparable to the overall mean reported for the original scale paper (*M* =

232.38; *SD* = 76.45; Morey, 2017), and skew and kurtosis values found ensure a reasonably

normal distribution of the variable considering the recruitment groups.

Personality Functioning Predicting Daily Affect

We first examined how daily negative affect was predicted by personality functioning

(while controlling for positive affect). We found that people with greater personality dysfunction

experienced more negative affect during the day (see Table 1). We also found that greater

personality dysfunction predicted lower daily positive affect, even when controlling for negative

affect. Adding individual differences in affect did not alter the results (see Table 1).

Personality Functioning Predicting Momentary Self-Efficacy

We were also interested in how personality dysfunction would predict momentary

distress intolerance and willpower. Initial models found that greater personality dysfunction

directly predicted higher momentary distress intolerance and lower momentary willpower, even

when controlling for momentary affect (Table 1). However, the direct effect of personality

dysfunction on both self-efficacy outcomes was no longer significant when controlling for

individual differences in affect. Essentially, people who tended to experience more negative

affect and less positive affect at the between-subjects level tended to experience higher distress

intolerance and lower willpower; these affective tendencies were a stronger influence on self-

efficacy than overall personality dysfunction.

We also found significant interactions between momentary positive affect and personality dysfunction on both distress intolerance and willpower. People with greater personality dysfunction were more likely to report greater distress intolerance and lower willpower when they experienced lower positive affect (see Figure 1).

Personality Dysfunction Predicting Nightly Outcomes

Daily stressors. We also examined how personality functioning impacts the amount and intensity of daily stressors experienced by participants. We found no direct effect of personality functioning on the number of stressors participants reported experiencing in a given day (see Table 2), however we did find that higher personality dysfunction predicted reporting higher *intensity* of stressors experienced; this relationship remained significant after controlling for individual differences in average negative affect. We also found that when people experienced a higher degree of negative affect during the day, they reported both higher intensity of stressors and a greater *number* of stressors.

Personality Dysfunction Predicting Perceived Invalidation. Finally, we were interested in how personality dysfunction predicted the degree to which participants felt invalidated throughout the day. We found that greater personality dysfunction directly predicted higher reported invalidation, and this remained significant after controlling for individual differences in average negative affect (see Table 2). Higher daily negative affect also predicted more invalidation. Finally, there was a significant interaction between daily negative affect and personality functioning to predict invalidation. Those higher in personality dysfunction tended to experience more invalidation alongside increased daily negative affect (see Figure 2).

Discussion

The goal of the present research was to provide evidence that general personality functioning influences daily affect and self-efficacy. We were largely successful in this endeavor as we found that personality functioning predicted subsequent issues with day to day life. Specifically, greater personality dysfunction was found to predict greater daily negative affect, lower positive affect, greater intensity of experienced stress, greater perceived invalidation, and lower self-efficacy for exerting willpower and tolerating distress when experiencing lower positive affect.

This study replicated previous research which found that personality dysfunction predicted daily affect (Ringwald et al., 2019; Roche, 2018). Here we found that personality functioning predicted both lower positive affect (controlling for negative affect) and greater negative affect (controlling for positive affect), confirming prior work suggesting personality dysfunction is associated with emotionality (e.g. Carpenter & Trull, 2013; Glenn & Klonsky, 2009; Gratz et al., 2006; Roche, 2018). We then expanded upon the relationship between personality functioning and daily affect to examine how personality functioning impacts stress and invalidation, finding that greater dysfunction predicted intensity of stressors (though not the *number* of stressors) and greater perceived invalidation. In other words, personality functioning did not predict how often people experienced stressors, but it did predict how stressful those events were.

Prior research has shown that personality differences may contribute to the types of environments people select (e.g. Roberts & Pomerantz, 2004), and that psychopathology can result in more frequent exposure to stressful environments (Hammen, 1991). Yet, we did not find that personality functioning was related to the number of stressors experienced. This could be because personality dysfunction does not inherently lead to the "creation" of stress, or because

participants were asked to select stressors from a list, a method that required no subjectivity other than memory. We did, again, find a relationship between personality dysfunction and greater reported intensity of stressors. This could be due to the tendency of people with personality dysfunction to adopt a more negative view towards experiences and events (see Baer et al., 2012 for review). This is also consistent with the association between personality dysfunction and emotional volatility (e.g. Carpenter & Trull, 2013; Glenn & Klonsky, 2009; Gratz et al., 2006). Because those with personality dysfunction may view the world through a more negative lens and experience emotions in general more intensely, it makes sense that they would find their stressful experiences subjectively *more* stressful than those with less personality dysfunction.

Our finding that personality dysfunction predicts perceived invalidation is consistent with Linehan's conceptualization of BPD (1993), research suggesting that borderline features are associated with more experiences of invalidation (Zielinski & Veilleux, 2018; Selby et al., 2008), and the general idea that personality dysfunction is associated with more interpersonal dysfunction (Hopwood et al., 2013; Stepp et al., 2009). Therefore, it makes sense that those with heightened personality dysfunction would perceive more invalidation in daily life. However, it is unclear whether or not this invalidation objectively occurs more often for those with personality dysfunction, or if those with dysfunction are viewing the world in a more negative way (Baer et al., 2012), resulting in skewed perceptions of interpersonal encounters. The objectivity of invalidation may not matter, since perceiving the world as invalidating conveys a sense of dissatisfaction with interpersonal interactions (Zielinski & Veilleux, 2018). Regardless, clinicians could focus on assisting clients in building their tolerance to the negative feelings associated with invalidation, as well as building interpersonal skills for effectively managing invalidating relationships (Linehan, 2014).

We also found that people with more personality dysfunction reported lower self-efficacy for exerting willpower and withstanding distress when experiencing less positive affect. However, we did not find significant direct effects of personality dysfunction on self-efficacy after controlling for individual differences in affect, suggesting that affective tendencies are stronger predictors of self-efficacy than overall personality dysfunction. However, considering that higher negative affect and affective instability are associated with personality dysfunction at the between-person level (Hopwood et al., 2018; Morey, 2017), a more likely explanation is that affective tendencies are embedded into personality dysfunction, and the elements that are *not*

Our moderation results extend past findings to confirm that people with higher personality dysfunction do report lower willpower and higher distress intolerance in daily life, specifically when experiencing fewer positive emotions. This finding that self-efficacy and positive affect were more strongly related for people with personality dysfunction likely reflects the idea of emotion-related impulsivity (Carver & Johnson, 2018), or a reduced sense of agency in responding to emotions. The focus here on low *positive* emotions highlights the importance of positive affect in exerting effort for self-control and emotion for people with heightened personality dysfunction. Perhaps interventions to increase positive affect (e.g., savoring) or interventions to decouple self-efficacy from affect could be useful for people with personality pathology, essentially trying to teach people to tell themselves, "Even if I feel low, I can try and be successful anyway."

The present research has several limitations, and several strengths. One limitation of this work is that we specifically recruited a sample that included participants with symptoms of borderline personality pathology, therefore the measure of personality dysfunction (LPFS; Morey, 2017) is likely picking up on the presenting features related to borderline personality

disorder and suggests that we cannot generalize these findings to other types of personality

pathology. It is worth noting, however, that the Criterion A of the AMPD are assessing

symptoms that are related to borderline personality pathology in nature (Hopwood, 2018),

therefore this may be a less prevalent issue with our sample. Another limitation is the lack of

diversity in our sample, given that participants were college students and largely white. A third

limitation is the lack of measurement of actual behavior; though self-efficacy is thought to

important in predicting the choices people make (e.g. Hepler & Feltz, 2012), there was no

measurement of that in this research.

A fourth limitation is in the timeframe and duration of the study and the potential limits

to generalizability therein. For example, emotionally evocative events could happen late at night

which we would have missed with our sampling frame of 9:30am to 9:30pm, though participants

could have logged these events themselves. Moreover, one week is a relatively short period of

time; some studies assessing fluctuations in personality pathology have used month-long (Trull

et al., 2008) or even 100-day long (Wright & Simms, 2016) time frames. However, as our study

was more about examining personality dysfunction as a predictor of typical daily fluctuations,

the one-week duration is less of a concern, though examining LPFS as a predictor of affect and

stressors over longer periods of time would certainly be a viable target for future research.

Finally, considering the recent controversies around the necessity of Criterion A in

assessing personality pathology (Hopwood, 2018; Widiger et al., 2018), one limitation of this

research is that we do not have any indicators of specific pathological personality traits (e.g..

Criterion B) to determine if maladaptive traits (e.g., traits of disinhibition and/or negative

affectivity) would better predict the daily variables assessed here. Recent EMA work using

indicators of both Criterion A and Criterion B suggest that both are incrementally useful in capturing difficulties in daily life (Roche, 2018).

One strength of this research is that it validates the influence of personality functioning on daily functioning using EMA. An additional strength is that our sample was recruited to include both people with personality pathology symptoms and those without; this allowed for a reasonable distribution on the LPFS. Another strength is the large number of daily sessions that was collected; because of the nature of EMA research, we were able to capture affective processes and perceptions of self-efficacy across multiple timepoints and settings, which provides additional confidence in our findings.

In sum, this work provides additional evidence that personality dysfunction as measured by the LPFS is associated with daily affect (Ringwald et al., 2019), and extends prior work to demonstrate that people with greater personality dysfunction experience more invalidation and feel less self-efficacious in their daily lives, particularly when experiencing less positive affect. This research also suggests that relationships between personality dysfunction and emotion-related impulsivity are likely salient, and highlights that treatment for personality dysfunction should continue to target emotion dysregulation, whether focused on dysregulation of undercontrol (Clarkin, 2012; Linehan, 1993) or emotional issues associated with overcontrol (Lynch et al., 2013). Considering that difficulties with self and interpersonal functioning are core to the concept of personality dysfunction (Hopwood, 2018), this work validates the utility of the LPFS in assessing difficulties with self-efficacy and agency.

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Table 1. *LPFS predicting affect, momentary distress intolerance and willpower, run with and without individual differences (between subjects) average affect*

Outcome	Predictor	Models without Individual Differences in Affect (Level 2)			Models Controlling for Individual Differences in Affect (Level 2)		
		B (SE)	t	p	B (SE)	t	p
Negative Affect	Time	.04 (.01)	2.72	.006**	.04 (.01)	2.73	.006**
	LPFS	6.31 (1.50)	4.21	< .001***	6.27 (1.60)	3.91	< .001***
	Momentary Positive Affect	-2.50 (.28)	-8.82	<.001***	-2.50 (.28)	-8.82	<.001***
	Avg. Positive Affect	--	--	--	-.07 (.83)	-.08	.92
Positive Affect	Time	-.08 (.02)	4.36	<.001***	-.08 (.02)	-4.36	< .00***
	LPFS	-5.72 (1.81)	-3.16	.002**	-6.32 (1.97)	-3.20	.002**
	Momentary Negative Affect	-5.45 (.57)	-9.60	< .001***	-5.46 (.57)	-9.62	< .001***
	Avg. Negative Affect	--	--	--	1.03 (1.24)	.84	.40
Distress Intolerance	Time	.002 (.001)	1.58	.11	.002 (.001)	1.62	.11
	LPFS	.38 (.10)	3.78	< .001***	.09 (.09)	.95	.35
	Momentary Positive Affect	-.17 (.02)	-9.04	< .001***	-.17 (.02)	-9.04	< .001***
	Momentary Negative Affect	.29 (.02)	13.92	<.001***	.29 (.02)	13.80	<.001***
	LPFS*Positive Affect	-.05 (.03)	-2.04	.04*	-.05 (.02)	-2.03	.04*
	LPFS*Negative Affect	.04 (.02)	1.52	.13	.04 (.02)	1.54	.13
	Avg. Positive Affect	--	--	--	-.11 (.05)	-2.25	.03*
	Avg. Negative Affect	**--**	**--**	**--**	.35 (.06)	6.06	<.001***
Willpower	Time	-.01 (.001)	-6.61	<.001***	-01 (.001)	-6.64	<.001***
	LPFS	-.49 (.13)	-3.73	<.001***	-.25 (.14)	-1.79	.08
	Momentary Positive Affect	.13 (.02)	7.09	<.001***	.13 (.02)	7.14	<.001***
	Momentary Negative Affect	-.14 (.03)	-5.20	< .001***	-.14 (.03)	-5.11	< .001***
	LPFS*Positive Affect	.05 (.02)	2.11	.03*	.05 (02)	2.09	.03*
	LPFS*Negative Affect	-.03 (.03)	-.92	.35	-.03 (.03)	.93	.35
	Avg. Positive Affect	--	--	--	.18 (.06)	2.76	.007**
	Avg. Negative Affect	--	--	--	-.19 (.08)	-2.38	.02*

Table 2. *LPFS and daily negative affect predicting stress and degree of invalidation*

Outcome	Predictor	Models without Individual Differences in Affect			Models Controlling for Individual Differences in Affect		
		B (*SE*)	*t*	*p*	*B* (*SE*)	*t*	*p*
Nightly Stressor Count	Time	-1.05 (.11)	-9.24	<.001***	-1.05 (.11)	-9.24	<.001***
	LPFS	1.44 (.90)	1.60	.11	.86 (.98)	.88	.38
	Daily Negative Affect	.84 (.40)	2.08	.04*	.86 (.40)	2.12	.03*
	Daily Negative Affect*LPFS	-.52 (.54)	-.98	.33	-.55 (.53)	-1.02	.30
	Avg. Negative Affect	--	--	--	.91 (.60)	1.54	.13
Stress Intensity	Time	-.04 (.01)	-3.21	.001**	-.04 (.01)	-3.20	.001**
	LPFS	.22 (.08)	2.77	.007**	.18 (.09)	2.13	.03*
	Daily Negative Affect	.14 (.04)	3.21	.001**	.13 (.04)	3.20	.001**
	Daily Negative Affect*LPFS	.05 (.06)	.91	.36	.05 (.06)	.91	.36
	Avg. Negative Affect	--	--	--	.06 (.05)	1.03	.30
Daily Invalidation	Time	.03 (.02)	2.05	.04*	.03 (.02)	2.21	.03*
	LPFS	.32 (.02)	3.96	< .001***	.16 (.08)	2.11	.04*
	Daily Negative Affect	.31 (.05)	5.76	< .001***	.32 (.05)	5.77	< .001***
	Daily Negative Affect*LPFS	.17 (.07)	2.40	.02*	.17 (.07)	2.37	.02*
	Avg. Negative Affect	--	--	--	.23 (.05)	4.97	<.001***

Figure 1a. Positive affect and LPFS Predicting Distress Intolerance *Figure 1b.* Positive affect and LPFS Predicting Willpower

Positive Affect and LPFS Predicting Momentary Distress Intolerance

LPFS
— Low LPFS
- High LPFS

Positive Affect and LPFS Predicting Momentary Willpower

LPFS
— Low LPFS
- High LPFS

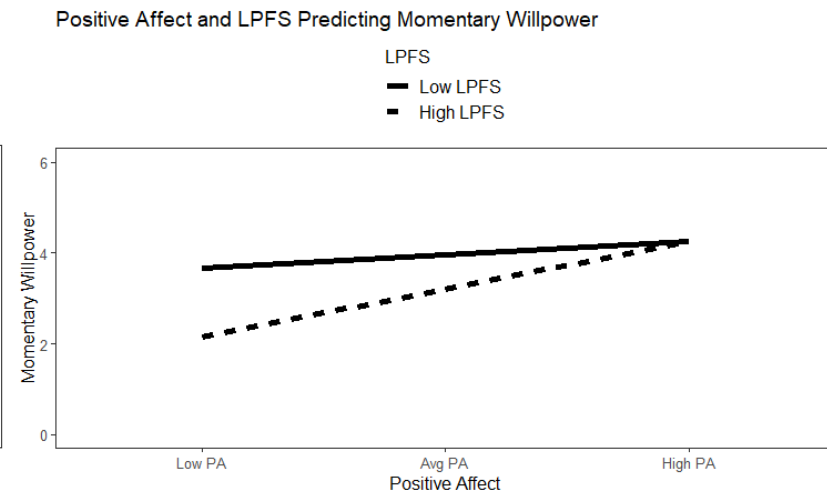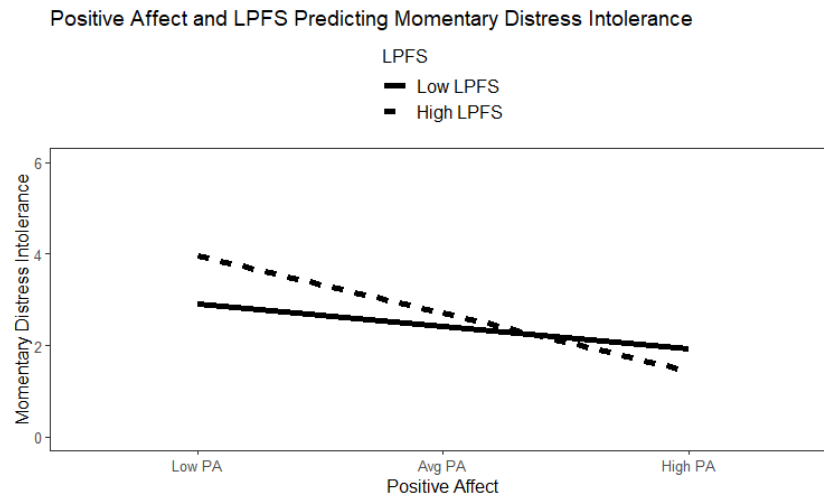*Figure 2.* Interaction of negative affect and personality dysfunction predicting perceived invalidation.