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Differentiating borderline and antisocial personality disorders in forensic settings*

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ABSTRACT

The current study examined the differentiation of borderline (BPD) and antisocial personality disorders (ASPD) in forensic settings, with particular emphasis on the utility of the MMPI-2-RF in differential diagnosis. This study examined these constructs across correctional and forensic psychiatric samples from the U.S. and the Netherlands using varying assessment/diagnosis modalities, including self-report, structured interview, and clinician-derived personality disorder (PD) diagnosis from both DSM-5 Section II and Section III perspectives. Our findings showed that internalizing psychopathology – and to a lesser extent interpersonal and thought dysfunction – differentiated BPD from ASPD; however, inconsistencies existed across samples. Higher levels of externalizing psychopathology were not found to differentiate ASPD across any of the samples or PD conceptualizations used in the current study. This suggests that diagnostic clarity may be particularly difficult in forensic settings and supports previous work that has shown problematic diagnostic overlap and a lack of differentiation between PD constructs. Nonetheless, as our current diagnostic system continues to rely on categorical determination of PDs, the current study suggests the MMPI-2-RF may enhance diagnostic differentiation.

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MMPI-2-RF; personality psychopathology; borderline personality disorder; antisocial personality disorder; forensic

There are currently two methods to diagnose personality disorders (PDs) in the *Diagnostic and Statistical Manual for Mental Disorders-5th Edition* (DSM-5; American Psychiatric Association [APA], 2013). The primary method remains the traditional categorical system, located in Section II of the DSM-5 and consisting of ten discrete categorical diagnoses measured via symptom checklists. This model has been heavily criticized since its inception (e.g. Clark, 2007; Oldham et al., 1992; among others), leading to the

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development of an alternative hybrid dimensional/categorical system for DSM-5. The alternative model for personality disorder (AMPD), located in Section III of the DSM-5, conceptualizes personality psychopathology by the presence of functional impairment (Criterion A) and maladaptive personality traits (Criterion B) and includes six discrete diagnostic categories, as well as a trait-specified designation for those not meeting a particular category. This system aimed to address criticisms of personality disorder diagnosis by developing a system that separates personality severity (i.e. level of functional impairment) and style (i.e. presence of pathological traits), while also including categorical diagnoses based upon levels of impairment and constellations of pathological traits, rather than the symptom counts. The AMPD has garnered support in the literature since its publication (see Krueger & Markon, 2014 and Al-Dajani et al., 2015 for reviews); however, since it was relegated to Section III of the DSM-5, the majority of clinical settings continue to use the Section II categorical approach.

The debate surrounding optimal methods for personality disorder diagnosis has long been discussed and is detailed elsewhere (e.g. Clark, 2007; Livesley, 2001; Widiger & Mullins-Sweatt, 2010). However, most relevant to the current study, one of the numerous problems in diagnosing PDs is highly prevalent diagnostic comorbidity (e.g. Dolan-Sewell et al., 2001; Zimmerman et al., 2005). Indeed, previous research has reported rates of comorbidity ranging from approximately 23% (Moldin et al., 1994) to as high as 87% (Oldham et al., 1992), with higher rates of comorbidity found in clinical/psychiatric samples. Of particular interest is the diagnostic overlap between borderline (BPD) and antisocial (ASPD) personality disorders, which are prevalent in forensic and correctional settings (e.g. Black et al., 2007; de Ruiter & Trestman, 2006; Fazel & Danesh, 2002; Sansone & Sansone, 2009; Warren & South, 2009; Widiger & Corbitt, 1995). BPD is characterized by a pattern of emotional instability and includes symptoms such as interpersonal difficulties, unstable self-image, and impulsive behavior (APA, 2013). ASPD is a characterized by a disregard for others and includes symptoms such as impulsivity, irresponsibility, and deceitfulness (APA, 2013). Despite having differing symptom profiles, these PDs present with similar behaviors and have particularly high rates of comorbidity, ranging from approximately 5% to 27% in community samples and up to 57% in clinical and forensic samples (e.g. Black et al., 2007; Black et al., 2010; Blackburn et al., 2003; Grant et al., 2008).

Despite its aims to address previous diagnostic problems, substantial diagnostic overlap in the AMPD seems inevitable as well given the trait profiles used for diagnosis. Although BPD and ASPD have some differing traits (i.e. Emotional Lability, Anxiousness, Separation Insecurity, and Depressivity for BPD; Manipulativeness, Deceitfulness, and Irresponsibility for ASPD), the dimensional conceptualizations of these two diagnoses include overlapping traits (i.e. both include Risk Taking, Impulsivity, and Hostility). In other words, although a trait-model has a stronger empirical basis, the inclusion of overlapping trait profiles remains problematic in this model. Therefore, differentiation between ASPD and BPD across both models is important.

Given the substantial overlap between these two diagnoses (irrespective of the diagnostic model used), it is important both conceptually and practically to understand ways in which to differentiate these disorders. Previous work has made attempts to differentiate ASPD from other types of psychopathology (e.g. Blackburn et al., 2003), and has suggested that the presence of antisocial behavior alone does not constitute a specific

PD diagnosis (e.g. Blackburn, 1988). In addition, some work has delineated subtypes of ASPD and psychopathy (Poythress et al., 2010), suggesting varying manifestations of ASPD may exist, though an examination of BPD was not included in this work. Although there are both conceptual and empirical arguments to move away from categorical labels entirely (Hopwood et al., 2018), present practice continues to rely upon diagnoses in making treatment and placement determinations (e.g. behavioral treatment for ASPD vs. dialectical behavior theory for BPD). Indeed, particularly in forensic settings, diagnosis may have implications in the legal system, where ASPD is frequently used to suggest future violence risk (e.g. DeMatteo et al., 2011; Edens & Cox, 2012). Furthermore, research has shown that clinical decisions regarding ASPD diagnoses lack sufficient reliability (e.g. Freedman et al., 2013) and may be based on specific incidents rather than long-standing personality patterns (Cunningham & Reidy, 1998). Therefore, clarity in assessing the conceptual and practical differences between these disorders is necessary to improve clinical practice and assist in accurate diagnosis.

Despite being highly comorbid disorders, diagnoses of antisocial and borderline personality disorder do have conceptual differences. Externalizing/impulsive behavior is common across both disorders (although some have suggested facets of impulsivity may differentiate the two; DeShong & Kurtz, 2013); however, ASPD is associated with a callous/antagonistic interpersonal style and a lack of regard for others whereas BPD is associated with high levels of internalizing psychopathology, including negative affect, emotional lability, and depression, as well as problematic and erratic interpersonal relationships. However, these conceptual differences may be less apparent in settings where individuals are simply identified by problematic behavior and difficult interpersonal interactions (which individuals with both diagnoses are likely to display). Indeed, complicating differentiation is that both BPD and ASPD are common in forensic settings (e.g. Black et al., 2007; de Ruiter & Trestman, 2006; Fazel & Danesh, 2002; Sansone & Sansone, 2009; Warren & South, 2009; Widiger & Corbitt, 1995), where externalizing behavior across the population may make differential diagnosis particularly difficult. Therefore, it is important that research identify differentiating features for these two diagnoses in forensic settings, including an examination of assessment tools that may be helpful in parsing apart these constructs.

MMPI-2-RF assessment of personality disorders

The Minnesota Multiphasic Personality Inventory-2-Restructured Form (MMPI-2-RF; Ben-Porath & Tellegen, 2008/2011) may be uniquely situated to aid in the differential diagnosis of BPD and ASPD. The MMPI-2-RF is a 338-item broad inventory of personality and psychopathology and includes scales related to externalizing psychopathology (e.g. antisocial behavior, antagonism, substance abuse), internalizing psychopathology (e.g. negative emotionality, distress, depressive symptoms), thought dysfunction (e.g. psychosis, persecutory ideation), somatic symptoms (e.g. malaise, neurocognitive problems, head pain), and interpersonal functioning (e.g. social avoidance, family difficulties). In addition to the MMPI-2-RF covering a wide range of symptoms relevant to personality psychopathology, it may be unique in its ability to differentiate ASPD and BPD given its correspondence with contemporary models of psychopathology (see Sellbom, 2019 for a review), its widespread use in forensic settings (Neal & Grisso, 2014), and its support in the assessment of personality disorder (e.g. Anderson et al., 2013; Anderson, Sellbom, Bagby, et al., 2015;

Anderson, Sellbom, Kamphius, et al., 2015; Sellbom et al., 2013; Sellbom et al., 2014; Sellbom & Smith, 2017; Zahn et al., 2017). Although other measures are available for personality disorder diagnosis (e.g. SCID structured interviews, self-report personality disorder measures), these types of measures do not have widespread clinical use. The MMPI-2-RF on the other hand, is already well-integrated into clinical practice. Further, several studies have supported the use of the MMPI-2-RF in the assessment of personality psychopathology from both a categorical/symptom checklist (Anderson et al., 2017; Anderson, Sellbom, Kamphius, et al., 2015; Sellbom et al., 2014; Sellbom & Smith, 2017; Zahn et al., 2017) and dimensional/trait conceptualization (Anderson et al., 2013; Anderson, Sellbom, Bagby, et al., 2015; Finn et al., 2014; Sellbom et al., 2013). Specifically, these studies have demonstrated the validity of the MMPI-2-RF in assessing symptoms and trait conceptualizations of ASPD and BPD. However, complicating the clinical utility is that externalizing scales are generally associated with both disorders, demonstrating the overlapping symptom presentations. Therefore, more specific information related to differential diagnosis is needed in applied forensic settings.

Importantly, several of the studies referenced examined BPD and ASPD in forensic settings, with varying amounts of overlap in what symptoms best predicted these highly comorbid disorders. For instance, Anderson, Sellbom, Kamphius, et al. (2015) found that self-reported BPD and ASPD symptoms were best predicted by externalizing scales on the MMPI-2-RF, whereas Sellbom et al. (2014) using only the Personality Psychopathology Five (PSY-5) scales (developed for the purpose of assessing personality disorder; Harkness et al., 1995) found that externalizing scales best predicted ASPD symptoms (via self-report), but both externalizing and internalizing predicted BPD symptoms. Similarly, Anderson et al. (2017) observed that clinician-derived ASPD diagnosis was associated with externalizing PSY-5 scales, but clinician-derived BPD diagnosis was only associated with internalizing psychopathology. In other words, research on the measurement of these diagnoses with the MMPI-2-RF has generally shown overlap in the symptoms that best define them (i.e. externalizing). However, given the potential impact on treatment determinations, research is not only needed in regards to the conceptual differentiation between these highly comorbid disorders, but is also needed to better understand clinically applicable methods of differential diagnosis using well-validated instruments.

Current study

Although several studies have supported the utility of the MMPI-2-RF in assessing personality psychopathology in forensic settings (e.g. Anderson et al., 2017; Anderson, Sellbom, Kamphius, et al., 2015; Sellbom et al., 2014), no studies to date have addressed the differentiation of these overlapping PDs. In particular, this differentiation is likely to be especially difficult in forensic settings (e.g. correctional and/or forensic psychiatric facilities) where an elevated level of externalizing dysfunction may be present in the majority of the population. In other words, although differential diagnosis may have implications for treatment or placement, the severity of externalizing dysfunction may not be a differentiating feature of these disorders in forensic populations. Nonetheless, despite genuine construct overlap between the disorders, there are conceptual differences between these diagnoses and additional research is needed to determine additional discriminating factors in making these determinations.

Therefore, the current study aimed to examine the differentiation between BPD and ASPD in forensic settings, with particular focus on the utility of the MMPI-2-RF in differential diagnosis. Importantly, although diagnostic comorbidity has been problematic in the Section II categorical model, minimal work has addressed diagnostic differentiation from a DSM-5 Section III perspective. Moreover, this study examined this differentiation across multiple forensic settings using several PD assessment/diagnosis modalities. For instance, we utilized correctional and forensic psychiatric samples from the United States and the Netherlands and examined the differentiation between BPD and ASPD using self-report, structured interview, and clinician-derived PD measurement from both Section II and Section III PD perspectives. Furthermore, the U.S. psychiatric sample used categorical diagnoses, the Netherlands forensic sample used symptom counts from structured clinical interviews, and the U.S. correctional sample used dimensional conceptualizations from self-report data. Therefore, the use of multiple methodologies across samples allowed for the examination of the pattern of results across populations in order to improve robustness on how to differentiate these disorders.

We hypothesized that internalizing dysfunction, particularly MMPI-2-RF scales measuring negative affect would differentiate BPD from ASPD across all samples. In addition, we hypothesized that MMPI-2-RF externalizing scales related to the construct of antagonism would differentiate ASPD from BPD. Given the overlapping presence of impulsivity across both BPD and ASPD along with the forensic nature of the current samples, we did not expect scales measuring antisocial behavior and disinhibition to differentiate between these disorders.

Method

As previously noted, the current study included three different samples. Descriptive statistics for all measures are included in Table 1. Data can be made available for replication purposes pending appropriate data use agreement approvals between institutions. Due to privacy restrictions within the institutions from which these data were extracted, data are not publicly available and their use requires approval from each institution.

U.S. Correctional sample

Participants and procedures

This sample was comprised of 237 male prison inmates.[1]

Standard MMPI-2-RF Validity Scale exclusionary criteria (i.e. Cannot Say [CNS] $\geq$ 18, Variable Response Inconsistency [VRIN-r] $\geq$ 80, True Response Inconsistency [TRIN-r] $\geq$ 80, Infrequency [F-r] $\geq$ 120, Infrequent Psychopathology [Fp-r] $\geq$ 100) were used to identify invalid protocols, resulting in a final sample of 202 individuals. The remaining participants had a mean age of 34.08 ($SD = 9.68$), an average of 11.77 ($SD = 1.52$) years of education, and were predominantly Caucasian (50.5%) or African American (44.6%). Participants were recruited from their prison dormitory or by volunteering from recruitment flyers. All measures were administered as part of a larger data collection endeavor, in which individuals participated in two to three individual test sessions with graduate research assistants. Measures used in the current study were self-report and participants took both measures in these individual testing sessions. Per state regulations, no

Table 1. Descriptive statistics and MMPI-2-RF substantive scale scores across settings.

	U.S. Correctional Sample				Dutch Psychiatric Sample				U.S. Psychiatric Sample			
	Mean	SD	Min	Max	Mean	SD	Min	Max	Mean	SD	Min	Max
BPD	8.45	2.86	2.50	15.11	3.17	2.23	0.00	9.00	–	–	–	–
ASPD	7.33	3.09	1.39	16.53	4.04	2.10	0.00	7.00	–	–	–	–
EID	51.39	10.66	30.00	89.00	53.56	10.86	36.00	86.00	52.33	13.12	30.00	86.00
THD	59.83	12.12	39.00	100.00	55.51	11.37	39.00	100.00	58.27	15.39	39.00	100.00
BXD	69.11	11.40	36.00	92.00	59.80	11.33	32.00	86.00	59.25	12.04	36.00	92.00
RCd	54.32	10.44	37.00	83.00	53.97	11.35	37.00	83.00	55.14	12.48	37.00	85.00
RC1	55.91	10.01	36.00	86.00	55.33	12.18	36.00	95.00	55.50	11.20	36.00	86.00
RC2	48.79	9.51	34.00	92.00	57.23	10.94	38.00	84.00	51.88	13.69	34.00	92.00
RC3	60.27	10.64	34.00	83.00	51.75	11.25	34.00	83.00	52.07	11.16	34.00	83.00
RC4	69.09	10.57	43.00	93.00	63.16	10.96	39.00	87.00	63.64	12.86	39.00	93.00
RC6	65.92	12.89	43.00	100.00	62.25	12.65	43.00	100.00	63.26	16.38	43.00	100.00
RC7	52.28	10.55	34.00	88.00	47.75	9.53	34.00	83.00	50.84	12.50	34.00	86.00
RC8	56.66	10.88	39.00	96.00	52.46	10.62	39.00	93.00	54.92	12.94	39.00	90.00
RC9	58.38	11.89	33.00	88.00	48.44	10.02	25.00	80.00	47.99	11.71	31.00	88.00
MLS	61.76	8.28	38.00	81.00	57.63	12.32	38.00	87.00	53.90	12.38	38.00	87.00
GIC	50.53	10.11	46.00	96.00	54.10	13.97	46.00	96.00	53.13	11.57	46.00	88.00
HPC	53.22	10.00	42.00	78.00	52.79	10.96	42.00	85.00	52.70	10.72	42.00	85.00
NUC	57.78	11.93	41.00	96.00	56.14	13.08	41.00	100.00	58.76	13.13	41.00	96.00
COG	54.27	12.41	40.00	96.00	52.54	12.45	40.00	86.00	54.28	13.16	40.00	91.00
SUI	49.63	10.22	45.00	100.00	55.91	15.55	45.00	100.00	53.70	14.79	45.00	100.00
HLP	52.30	11.30	40.00	88.00	55.56	14.38	40.00	88.00	51.11	12.63	40.00	88.00
SFD	50.80	10.56	42.00	76.00	50.98	10.45	42.00	76.00	52.10	11.88	42.00	76.00
NFC	51.60	8.69	36.00	75.00	50.07	10.23	36.00	80.00	52.52	11.57	36.00	80.00
STW	52.90	11.13	36.00	81.00	48.37	10.52	36.00	81.00	50.26	11.14	36.00	81.00
AXY	53.10	12.58	44.00	91.00	50.02	11.50	44.00	100.00	54.73	13.90	44.00	100.00
ANP	54.37	11.35	39.00	80.00	47.28	9.76	39.00	80.00	51.06	10.98	39.00	80.00
BRF	51.18	9.70	43.00	94.00	50.83	10.19	43.00	94.00	55.33	13.35	43.00	100.00
MSF	46.68	7.74	36.00	78.00	43.28	7.09	36.00	71.00	51.70	10.00	36.00	78.00
JCP	68.47	10.78	40.00	84.00	64.63	14.06	40.00	84.00	63.54	13.22	40.00	84.00
SUB	60.49	12.62	41.00	93.00	50.88	8.77	41.00	77.00	55.98	11.03	41.00	85.00
AGG	60.26	11.97	37.00	86.00	54.88	11.50	37.00	92.00	52.53	13.04	37.00	92.00
ACT	52.25	10.71	33.00	83.00	48.20	9.98	33.00	83.00	47.65	12.39	33.00	83.00
FML	53.39	10.85	37.00	90.00	50.62	12.03	37.00	79.00	51.31	12.62	37.00	84.00
IPP	43.61	7.01	34.00	81.00	46.88	9.18	34.00	81.00	48.46	10.56	34.00	81.00
SAV	50.44	11.57	36.00	80.00	52.75	9.28	36.00	80.00	51.10	10.38	36.00	80.00

(*Continued*)

Table 1. Continued.

	U.S. Correctional Sample				Dutch Psychiatric Sample				U.S. Psychiatric Sample			
	Mean	SD	Min	Max	Mean	SD	Min	Max	Mean	SD	Min	Max
SHY	48.10	9.04	37.00	75.00	48.57	10.38	37.00	75.00	48.78	9.46	37.00	75.00
DSF	53.91	12.89	44.00	98.00	52.42	12.77	44.00	98.00	55.14	12.44	44.00	88.00
AGGR-r	62.38	11.65	35.00	88.00	53.15	10.22	35.00	83.00	52.15	11.01	28.00	83.00
PSYC-r	56.27	12.26	38.00	93.00	53.25	11.71	38.00	100.00	56.51	14.99	38.00	100.00
DISC-r	67.90	11.11	41.00	92.00	58.19	10.04	35.00	82.00	56.93	10.55	35.00	88.00
NEGE-r	52.88	9.96	32.00	80.00	50.37	10.53	32.00	88.00	51.62	11.83	32.00	84.00
INTR-r	48.01	10.82	32.00	90.00	55.82	10.69	36.00	83.00	51.72	11.34	32.00	90.00

Note. BPD and ASPD scores based on Personality Inventory for DSM-5 scores (i.e. the sum of PID-5 traits) in the U.S. Correction sample; BPD and ASPD scores based on Structured Interview for DSM-IV Personality count scores (i.e. the number of symptoms present) in the Dutch Forensic Psychiatric Sample; SD = standard deviation; BPD = borderline personality disorder; ASPD = antisocial personality disorder; EID = Emotional/Internalizing Dysfunction; THD = Thought Dysfunction; BXD = Behavioral/Externalizing Dysfunction; RCd = Demoralization; RC1 = Somatic Complaints; RC2 = Low Positive Emotions; RC3 = Cynicism; RC4 = Antisocial Behaviors; RC6 = Ideas of Persecution; RC7 = Dysfunctional Negative Emotions; RC8 = Aberrant Experiences; RC9 = Hypomanic Activation; MLS = Malaise; GIC = Gastrointestinal Complaints; HPC = Head Pain Complaints; NUC = Neurological Complaints; COG = Cognitive Complaints; SUI = Suicidal/Death Ideation; HLP = Helplessness/Hopelessness; SFD = Self-Doubt; NFC = Inefficacy; STW = Stress/Worry; AXY = Anxiety; ANP = Anger Proneness; BRF = Behavior Restricting Fears; MSF = Multiple Specific Fears; JCP = Juvenile Conduct Problems; SUB = Substance Abuse; AGG = Aggression; ACT = Activation; FML = Family Problems; IPP = Interpersonal Passivity; SAV = Social Avoidance; SHY = Shyness; DSF = Disaffiliativeness; AGGR-r = Aggressiveness-Revised; PSYC-r = Psychoticism-Revised; DISC-r = Disconstraint-Revised; NEGE = Negative Emotionality/Neuroticism-Revised; INTR-r = Introversion/Low Positive Emotionality-Revised.

compensation was provided for participating in the study. Rates for PD diagnosis were not available for this sample given the methodology used. As described in more detail below, PD symptom levels (rather than diagnostic categories) were scored using the PID-5.

Measures

The following measures were administered:

Minnesota Multiphasic Personality Inventory-2-Restructured Form. The MMPI-2-RF (Ben-Porath & Tellegen, 2008/2011) is a restructured version of the MMPI-2 consisting of 338 *True*/*False* items. The MMPI-2-RF includes nine Validity Scales, three Higher-Order (H-O) Scales, nine Restructured Clinical (RC) Scales, 23 Specific Problems (SP) Scales, two Interest Scales, and five Personality Psychopathology Five (PSY-5) Scales. Cronbach's alpha values in this sample were adequate for most scales, ranging from .70 (AGG, SHY, and AGGR-r) to .83 (EID). However, likely due to scale brevity, many scales fell below traditional thresholds for internal consistency, with values ranging from .27 (MLS) to .69 (RC8). Of note, several of the scales with low internal consistency are SP scales, which have a smaller number of items than H-O or RC scales, which likely impacted internal consistency values.

Personality Inventory for the DSM-5. The PID-5 (Krueger et al., 2012) is a 220-item self-report inventory used to index the five personality trait domains and 25 personality trait facets found in the DSM-5 Section III trait model. Items are scored on a Likert scale ranging from 0 (*Very False or Often False*) to 3 (*Very True or Often True*). In order to assess BPD and ASPD from the trait-dimension DSM-5 AMPD perspective, variables were calculated by summing the trait facets included for each PD in the AMPD model. BPD traits include Emotional Lability, Separation Insecurity, Impulsivity, Hostility, Depressivity, Risk Taking, and Anxiousness. ASPD traits include Deceitfulness, Manipulativeness, Callousness, Irresponsibility, Risk Taking, Hostility, and Impulsivity. In other words, BPD and ASPD variables are dimensional scores reflective of the severity of psychopathology reported for each trait. Internal consistency (Cronbach's alpha) was .93 for the BPD aggregate and .96 for the ASPD aggregate in this sample.

Dutch forensic psychiatric sample

Participants and procedures

This sample was comprised of 194 male forensic psychiatric patients from the Netherlands assessed upon admission by licensed mental health practitioners.[2] Standard MMPI-2-RF exclusionary criteria (see above) resulted in the removal of 16 participants. The remaining 178 participants had a mean age of 33.77 ($SD = 9.51$). Most participants identified being of Dutch ethnicity (74.7%), with the remaining identifying as Surinamese (11.7%), Moroccan (5.6%), Turkish (3.7%), or other/mixed ethnicities (4.3%). Based on structured interview data (described below), the majority of patients (88.9%) met criteria for a PD diagnosis, with ASPD (51.6%) and BPD (24.7%) being particularly prevalent. At this facility, extensive psychological assessment is conducted following admission as part of a standard intake procedure for all patients.

Measures

The following measures were administered:

Minnesota Multiphasic Personality Inventory-2 Restructured Form. The MMPI-2-RF is described above. In the current sample, participants were administered the Dutch translation of the MMPI-2 (Derksen et al., 1993) from which MMPI-2-RF scales can be scored because the MMPI-2-RF item pool includes a subset of MMPI-2 items. Previous research indicates that MMPI-2-RF scales scored from Dutch language MMPI-2 administrations are similar to those administered using the MMPI-2-RF item booklet (Van der Heijden et al., 2010). Internal consistencies in the current sample were largely satisfactory, with most Cronbach's alpha coefficients ranging from .70 (SFD & NUC) to .91 (RCd). However, several scales showed inadequate internal consistency, ranging from .39 (FML) to .69 (HPC).

Structured Interview for DSM-IV Personality. The SIDP-IV (Pfohl et al., 1997) is a structured interview covering several topics (e.g. work, interpersonal relations, impulse control) and yields symptom scores from 0 (*Absent*) to 3 (*Strong Presence*) to measure the 10 DSM-IV PDs. All SIDP-IV ratings were assessed via licensed mental health professionals upon intake. PD scores are based on a dimensional symptom count. In other words, participants were not grouped by diagnostic cut-offs and data were analyzed using symptom count scores for all participants. The psychometric properties of the SIDP-IV have been well-established (Damen et al., 2004) and the Dutch version of this measure has been used in previous research on PDs (e.g. Anderson, Sellbom, Kamphuis et al., 2015; Sellbom et al., 2014). Cronbach's alphas were .71 for BPD and .73 for ASPD.

U.S. Forensic psychiatric sample

Participants and procedures

The forensic inpatient sample was comprised of archival data from 1,110 patients in a large forensic psychiatric hospital in the western United States.[3] The use of standard MMPI-2-RF exclusionary criteria resulted in the removed of 372 participants, leaving a total of 738 remaining participants with valid MMPI-2-RF data. Most individuals in this sample had primary diagnoses of a major mood or psychotic spectrum disorder. However, given the purpose of this study, only individuals with a BPD or ASPD diagnosis on the date of testing were included in analyses, resulting in a total sample of 141 participants. The resulting sample was predominantly male (75.2%) with a mean age of 39.53 years ($SD = 9.93$). Approximately half of the sample was identified in the hospital's record system as Caucasian (53.9%), one-third as African American (32.6%), with the remaining identified as Hispanic/Latinx (13.5%). All patients were administered testing during the course of standard hospital treatment.

Measures

The following measures were administered:

Minnesota Multiphasic Personality Inventory-2 Restructured Form. The MMPI-2-RF was described previously. The majority of participants (81.7%) were administered the MMPI-2, from which the MMPI-2-RF was scored. Research has supported comparable psychometric properties of MMPI-2-RF scale scores derived from MMPI-2 administration in a United States forensic sample (Tarescavage et al., 2015). In general, internal consistencies in the current sample were acceptable, with most Cronbach's alpha coefficients ranging from .70 (IPP) to .91 (EID). However, several scales had inadequate internal consistency in this sample, ranging from .48 (DSF) to .69 (AGG).

Personality disorder diagnoses. *Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition-Text Revision* (DSM-IV-TR; APA, 2000) diagnoses were available for all patients. Because these diagnoses were extracted on the day of the MMPI-2/MMPI-2-RF administration, they were not influenced by the test results, thereby reducing the possibility of criterion contamination. All diagnoses were rendered by an interdisciplinary treatment team consisting of a psychologist, psychiatrist, social worker, rehabilitation therapist, and nursing staff. Staff had access to 24-hour observations of patients. Twenty-three patients (3.9%) were diagnosed with BPD, 112 patients (16%) were diagnosed with ASPD, and six patients were diagnosed with both BPD and ASPD (0.8%). Individuals diagnosed with both BPD and ASPD were removed from analyses in order to maintain independence between groups.

Results

U.S. correctional sample

In order to examine differential associations between MMPI-2-RF scale scores and BPD/ASPD trait scores, we ran a series of Pearson correlations between substantive scales (i.e. non-validity indicators) on the MMPI-2-RF and BPD and ASPD trait variables (as measured by the PID-5). For MMPI-2-RF scales with which BPD and/or ASPD were significantly associated at the zero-order level, we conducted Steiger's *t*-tests to determine if correlation magnitudes with BPD and ASPD differed significantly. Of note, to address the existing overlap between BPD and ASPD symptom ratings, Steiger's *t*-test controls for the correlation between variables (i.e. controls for the correlation between BPD and ASPD scores). To control for Type I error, we used a Bonferroni corrected alpha of $p < .0014$. These results are shown in Table 2. A clear pattern emerged, in which BPD ($rs = .23$ [Suicidal/Death Ideation (SUI)] to .29 [Dysfunctional Negative Emotions (RC7)]) was differentiated from ASPD ($rs = .00$ [SUI] to .60 [Negative Emotionality/Neuroticism (NEGE)]) using MMPI-2-RF scales from the internalizing domain (i.e. Emotional/Internalizing Dysfunction [EID], Demoralization [RCd], RC7, SUI, Self-Doubt [SFD], Inefficacy [NFC], Stress/Worry [STW], Anxiety [AXY], NEGE-r). In addition, Activation [ACT], Family Problems [FML], and Shyness [SHY] scale scores were also significantly more strongly correlated with BPD ($rs = .30$ [SHY] to .46 [FML]) than ASPD ($rs = .03$ [SHY] to .28 [FML]). Somewhat unexpectedly, from the somatic/cognitive domain, RC1 and HPC also showed significantly higher associations with BPD ($rs = .28$ [Somatic Complaints (RC1)] to .29 [Head Pain Complaints (HPC)]) than ASPD ($rs = .09$ [HPC] to .11 [RC1]). Contrary

Table 2. Correlation, Steiger's t-test, and independent samples t-test analyses.

	U.S. Correctional Sample			Dutch Psychiatric Sample			U.S. Psychiatric Sample			
	BPD *r*	ASPD *r*	Steiger's t-test	BPD *r*	ASPD *r*	Steiger's t-test	BPD *M/SD*	ASPD *M/SD*	t-test	Cohen's *d*
EID	**.52**	**.13**	**9.68**	.19	−.06	3.02	**60.55 (16.49)**	**50.55 (11.74)**	**3.45**	**0.70**
THD	.34	.25	1.84	.21	−.02	2.77	62.49 (20.30)	57.42 (14.73)	1.40	0.29
BXD	.57	.67	−2.60	.35	.53	−2.48	58.01 (12.79)	59.54 (12.01)	−0.55	0.12
RCd	**.59**	**.25**	**8.53**	.22	−.04	3.15	**64.57 (13.85)**	**53.19 (11.40)**	**4.20**	**0.90**
RC1	**.28**	**.11**	**3.43**	.11	−.08	2.25	60.66 (14.34)	54.28 (10.15)	2.54	0.51
RC2	.15	−.01	3.16	.01	−.09	1.17	56.84 (15.46)	50.99 (13.10)	1.89	0.41
RC3	.46	.39	1.52	.15	.02	1.54	54.06 (11.90)	51.61 (11.06)	0.96	0.21
RC4	.52	.51	.23	.40	.52	−1.66	63.51 (12.81)	63.68 (12.95)	−0.06	0.01
RC6	.41	.29	2.52	.14	.03	1.30	69.17 (20.10)	62.19 (16.30)	1.79	0.38
RC7	**.61**	**.29**	**8.06**	**.20**	**−.10**	**3.66**	57.80 (15.20)	49.30 (11.63)	3.02	0.63
RC8	.38	.27	2.28	**.29**	**−.03**	**3.97**	57.80 (16.66)	54.23 (12.14)	1.20	0.24
RC9	.61	.61	−.25	.28	.28	0.00	48.76 (10.50)	47.79 (12.00)	0.36	0.09
MLS	−.03	.07	−1.95	.03	−.10	1.53	59.80 (12.51)	52.90 (11.56)	2.58	0.57
GIC	.13	−.03	3.17	.02	−.05	0.82	57.54 (12.61)	51.80 (11.38)	2.16	0.48
HPC	**.29**	**.09**	**4.08**	.08	−.12	2.38	**59.08 (13.17)**	**51.11 (9.76)**	**3.35**	**0.69**
NUC	.18	.15	.59	.13	.03	1.18	63.56 (14.05)	57.60 (12.75)	2.01	0.44
COG	.49	.40	1.98	.22	−.01	2.78	60.61 (15.68)	52.97 (12.27)	2.59	0.58
SUI	**.23**	**.00**	**4.69**	.19	−.06	3.02	63.31 (25.88)	52.33 (11.74)	3.19	0.55
HLP	.37	.23	2.9	.15	.00	1.78	56.92 (15.20)	50.00 (11.45)	2.49	0.51
SFD	**.43**	**.10**	**7.47**	.07	−.03	1.17	**60.35 (13.44)**	**50.17 (10.79)**	**3.95**	**0.84**
NFC	**.47**	**.20**	**6.04**	.13	.02	1.30	**59.67 (12.47)**	**51.01 (10.84)**	**3.40**	**0.74**
STW	**.52**	**.17**	**8.41**	**.30**	**.02**	**3.46**	**58.15 (13.21)**	**48.63 (10.23)**	**3.86**	**0.81**
AXY	**.38**	**.15**	**4.87**	**.19**	**−.16**	**4.33**	62.51 (18.10)	53.27 (12.51)	2.97	0.59
ANP	.58	.55	.72	.28	.20	0.98	54.47 (12.26)	50.13 (10.76)	1.72	0.38
BRF	.12	.05	1.36	.15	−.05	2.38	**64.53 (17.10)**	**53.32 (11.85)**	**3.81**	**0.76**
MSF	.07	−.06	2.55	.02	−.02	0.47	56.44 (10.56)	50.67 (9.77)	2.54	0.57
JCP	.38	.39	−.21	.24	.46	−2.88	58.28 (13.31)	64.59 (12.80)	2.14	0.48
SUB	.40	.36	.84	.32	.42	−1.30	57.87 (11.55)	55.32 (10.85)	1.01	0.23
AGG	.57	.60	−.74	.34	.26	1.00	53.88 (13.21)	52.48 (12.83)	0.47	0.11
ACT	**.39**	**.19**	**4.21**	.20	.05	1.79	51.90 (16.82)	46.75 (11.29)	1.82	0.36
FML	**.46**	**.28**	**3.90**	.18	.02	1.91	57.30 (15.21)	50.04 (11.72)	2.56	0.53
IPP	−.27	−.34	1.43	−.13	−.21	0.96	53.23 (12.31)	47.66 (10.04)	2.33	0.50
SAV	−.05	−.13	1.56	.02	−.15	2.02	52.93 (10.13)	50.81 (10.40)	0.89	0.21
SHY	**.30**	**.03**	**5.68**	−.04	−.25	2.54	50.61 (11.27)	48.33 (9.04)	1.05	0.22
DSF	.17	.21	−.79	−.02	−.09	0.82	59.58 (14.29)	54.40 (11.89)	1.84	0.39
AGGR-r	.38	.48	−2.19	.22	.29	−0.86	48.14 (11.75)	52.90 (10.73)	1.91	0.42
PSYC-r	.32	.22	2.02	**.20**	**−.07**	**3.27**	59.68 (18.82)	55.92 (14.15)	1.09	0.23

DISC-r	.50	.60	−2.40	.29	.50	−2.82	53.25 (10.69)	57.77 (10.42)	1.89	0.43
NEGE-r	**.60**	**.24**	**9.24**	**.30**	**.02**	**3.46**	**59.79 (14.17)**	**49.91 (10.59)**	**3.83**	**0.79**
INTR-r	−.09	−.14	.97	−.04	−.14	1.18	53.39 (11.07)	51.39 (11.42)	0.77	0.18

Note: Significant findings are listed in bold; Bonferroni corrected alpha = .0014; BPD = borderline personality disorder; ASPD = antisocial personality disorder; EID = Emotional/Internalizing Dysfunction; THD = Thought Dysfunction; BXD = Behavioral/Externalizing Dysfunction; RCd = Demoralization; RC1 = Somatic Complaints; RC2 = Low Positive Emotions; RC3 = Cynicism; RC4 = Antisocial Behaviors; RC6 = Ideas of Persecution; RC7 = Dysfunctional Negative Emotions; RC8 = Aberrant Experiences; RC9 = Hypomanic Activation; MLS = Malaise; GIC = Gastrointestinal Complaints; HPC = Head Pain Complaints; NUC = Neurological Complaints; COG = Cognitive Complaints; SUI = Suicidal/Death Ideation; HLP = Helplessness/Hopelessness; SFD = Self-Doubt; NFC = Inefficacy; STW = Stress/Worry; AXY = Anxiety; ANP = Anger Proneness; BRF = Behavior Restricting Fears; MSF = Multiple Specific Fears; JCP = Juvenile Conduct Problems; SUB = Substance Abuse; AGG = Aggression; ACT = Activation; FML = Family Problems; IPP = Interpersonal Passivity; SAV = Social Avoidance; SHY = Shyness; DSF = Disaffiliativeness; AGGR-r = Aggressiveness-Revised; PSYC-r = Psychoticism-Revised; DISC-r = Disconstraint-Revised; NEGE = Negative Emotionality/Neuroticism-Revised; INTR-r = Introversion/Low Positive Emotionality-Revised.

to hypotheses, there were no significant differences across scales representing externalizing psychopathology.

Dutch forensic psychiatric sample

Similar to the U.S. correctional sample, we ran a series of Pearson correlations between substantive scales on the MMPI-2-RF and BPD and ASPD symptom counts (as measured by the SIDP-IV). We followed this with a series of Steiger's *t*-tests to examine differences in correlation magnitude. As previously noted, Steiger's *t*-test controlled for the correlation between BPD and ASPD scores. We used a Bonferroni corrected alpha of .002 to control for Type I error. These results are shown in Table 2. Consistent with the previous sample, internalizing MMPI-2-RF scales (i.e. RC7, STW, AXY, NEGE-r) showed significantly stronger correlations with BPD (*rs* = .19 [AXY] to .30 [STW and NEGE-r]) than ASPD (*rs* = .02 [STW and NEGE-r] to −.16 [AXY]). In addition, Aberrant Experiences (RC8) and Psychoticism (PSYC-r) also differentiated between BPD (*rs* = .29 and .20, respectively) and ASPD (*rs* = −.03 and −.07, respectively). No other scales, including externalizing scales, differentiated these disorder variables, in terms of zero-order correlations.

U.S. Forensic psychiatric sample

Finally, in the U.S. forensic psychiatric sample, we ran a series of independent samples *t*-tests to examine group differences between individuals with BPD and ASPD across all MMPI-2-RF substantive scales. To control for Type I error, we used a Bonferroni corrected alpha of $p < .0014$. These results are shown in Table 2. Again, significant differences were found across several internalizing scales (i.e. EID, RCd, SFD, NFC, STW, Behavior Restricting Fears [BRF], NEGE-r), where individuals diagnosed with BPD showed significantly higher scores on these scales than individuals diagnosed with ASPD (Cohen's *d* = .79 [EID] to .90 [RCd]). The only addition was HPC, which was also significantly higher for BPD than ASPD (Cohen's *d* = .69).

Discussion

The current study examined the MMPI-2-RF's ability to differentiate between borderline and antisocial personality disorders across three samples from two countries using three distinct assessment/diagnostic modalities. Indeed, this study examined the measurement of ASPD and BPD using both the categorical DSM-5 Section II and the dimensional DSM-5 Section III models. Notably, BPD and ASPD are highly comorbid disorders, with their dimensional conceptualizations in the AMPD even including several shared traits. Complicating diagnostic differentiation, both disorders are prominent in forensic psychiatric/correctional settings (e.g. Black et al., 2007; de Ruiter & Trestman, 2006; Fazel & Danesh, 2002; Sansone & Sansone, 2009; Warren & South, 2009; Widiger & Corbitt, 1995) where externalizing behavior and psychopathology is prevalent across a majority of the population. However, such diagnostic determinations could play a particularly strong role in clinical decision making in these contexts (e.g. DeMatteo et al., 2011; Edens & Cox, 2012). Therefore, an examination of how to differentiate these disorders in forensic settings could be of critical clinical importance. Given its utility in measuring PDs in general and widespread use

in clinical and forensic settings, we were particularly interested in examining the way in which the MMPI-2-RF differentiated these diagnostic constructs.

Generally speaking, analyses showed BPD and ASPD were differentiated by the severity of internalizing psychopathology, where individuals diagnosed with BPD or with higher scores on symptom or trait measures of BPD showed greater levels of internalizing symptoms. Importantly, this finding remained consistent across all three samples, regardless of the conceptualization or measurement of personality psychopathology. This pattern was not surprising given that emotional dysregulation has been considered a core feature of BPD (e.g. Linehan, 1993; Selby & Joiner, 2009), whereas ASPD symptoms/traits do not include aspects of internalizing symptomatology. Notably, however, despite ASPD being conceptualized solely by externalizing symptoms, individuals with ASPD traits/symptoms did not show higher scores on MMPI-2-RF scales related to externalizing psychopathology, including those related to an antagonistic interpersonal style. This may be particularly important in forensic settings where the majority of individuals show externalizing symptoms, as this suggests that individuals with traits of ASPD are not differentiated by a greater presence of externalizing behavior or attitudes alone. Rather, at least based on these findings, individuals with BPD may be better identified by the additional presence of internalizing symptoms.

Additional differences also emerged in both the U.S. correctional and Dutch forensic psychiatric samples. In the U.S. correctional sample, BPD traits were also associated with higher scores on interpersonal and somatic scales. Consistent with previous research showing significant interpersonal dysfunction in individuals with BPD (e.g. Hilsenroth et al., 2007; Russell et al., 2007; Stepp et al., 2011), BPD traits were associated with higher levels of social anxiety and familial discord. Further, somewhat unexpectedly, higher levels of BPD traits were associated with higher levels of broad somatic concerns and head pain. Although not hypothesized as a way to differentiate BPD and ASPD, this finding may relate to a link between stress reactivity (common in BPD) and somatization (e.g. Hamelsky & Lipton, 2006; Merikangas et al., 1990; Watson & Pennebaker, 1989). In addition, psychotic scales showed stronger associations with BPD than ASPD in the Dutch forensic psychiatric sample. Although this was also not hypothesized, this is consistent with numerous previous studies that have shown BPD to transcend across all major domains of psychopathology, including thought dysfunction (e.g. Zanarini et al., 1990).

Importantly, despite the overlapping trait profiles present in the DSM-5 Section III constellations of BPD and ASPD, there was a greater number of scale differences using dimensional traits than using symptom counts or categorical diagnoses. Although somewhat peripheral to the overarching purpose of the current study, this suggests the dimensional trait perspective may show some improvement in diagnostic comorbidity. Relatedly, our findings speak to the broader debate in the field of personality and personality psychopathology, which suggests that PD diagnoses have more shared symptoms than differentiating symptoms (e.g. Dolan-Sewell et al., 2001; Zimmerman et al., 2005). The current study highlights the complexities of differentiating ASPD in forensic settings and suggests BPD may include similar levels of externalizing psychopathology, the defining feature of ASPD. Importantly, ASPD is likely better differentiated from other PDs (see Anderson, Sellbom, Bagby, et al., 2015 and Anderson, Sellbom, Kamphius, et al., 2015 for differing correlates on the MMPI-2-RF), and the varying levels of internalizing psychopathology between ASPD and BPD symptom presentations indicates that differential diagnosis is

still possible. Therefore, clinicians should be careful to specifically assess for the presence of internalizing psychopathology rather than relying on behavioral indicators (e.g. overt externalizing behaviors) in making personality disorder diagnoses.

The current findings also have substantial implications for the MMPI-2-RF measurement of PDs, particularly its utility in differentiating between ASPD and BPD. Numerous studies have established the validity of the MMPI-2-RF in PD assessment (e.g. Anderson et al., 2013; Anderson, Sellbom, Bagby, et al., 2015; Anderson, Sellbom, Kamphius, et al., 2015; Anderson et al., 2017; Finn et al., 2014; Kamphuis et al., 2008; Sellbom et al., 2014; Van der Heijden et al., 2013), but no study to date has examined how the MMPI-2-RF should be used to differentiate between these overlapping constructs. However, this is very important from a clinical utility perspective, particularly given its widespread use in forensic settings. The current study mirrors past research showing theoretically expected associations with both ASPD and BPD; however, it adds to previous work in this area by establishing which specific scales may best contribute to differential diagnosis within forensic settings. More practically, the current study suggests that MMPI-2-RF may be useful in differentiating these disorders in forensic settings. Although results varied slightly across samples and PD diagnostic methodologies, there were fairly consistent findings that internalizing dysfunction differentiated BPD and ASPD. Since the MMPI-2-RF provides a thorough examination of broad psychopathology, this instrument is likely to be useful in presenting a thorough overview of the symptoms that are (or are not) present. In other words, individuals who exhibit both internalizing and externalizing dysfunction on the MMPI-2-RF may be demonstrating symptoms more consist with BPD than ASPD. Importantly, differentiation is inherently more complicated in cases where genuine diagnostic comorbidity exists, and previous work has shown that individuals with ASPD may present with symptoms of distress and dysphoria (e.g. Weiss et al., 1983). Nonetheless, these findings highlight the ways in which the MMPI-2-RF may be useful in differential diagnosis.

As previously discussed, differences on the internalizing scales were most salient. More specifically, the Stress/Worry (STW) and Negative Emotionality/Neuroticism (NEGE-r) scales differentiated between BPD and ASPD across all three samples, and scales reflective of broad internalizing (EID), demoralization (RCd), dysfunctional negative emotions (RC7), inefficacy (NFC), self-doubt (SFD), and anxiety (AXY) differentiated between the two PDs across two samples. In other words, these scales are likely to be particularly useful in making diagnostic determinations in forensic settings where externalizing psychopathology is highly prevalent. In such settings, when externalizing psychopathology is evidenced on the MMPI-2-RF (e.g. Behavioral/Externalizing Dysfunction [BXD], Antisocial Behavior [RC4]), the presence of internalizing psychopathology (particularly elevations on the aforementioned differentiating scales) may better support a diagnosis of BPD, whereas the absence of internalizing may support an ASPD diagnosis. Of note, although this general pattern emerged across all three samples, the specific scale differentiations varied. This could be due to sample differences or PD diagnosis methodology; however, more research should continue to better establish specific differential indicators on the MMPI-2-RF.

Limitations and future directions

Several limitations in the current study should be noted. First, this study only examined the differentiation between ASPD and BPD. This decision was made given the conceptual

overlap across these diagnostic constructs, their prevalence in forensic settings, and the variability present in our samples. However, future studies would benefit from examining the differentiation of other PDs. In addition, for the purpose of our analyses, we removed individuals with comorbid BPD and ASPD diagnoses in the U.S. psychiatric sample, which limits clinical generalizability, as many individuals in clinical settings will have multiple PD diagnoses. Therefore, future work should also examine the profiles of individuals with multiple (or numerous) PD diagnoses. Furthermore, these findings may not generalize to non-forensic settings. Although diagnostic overlap remains problematic in a variety of settings (e.g. Black et al., 2007; Black et al., 2010; Blackburn et al., 2003; Grant et al., 2008), the level of externalizing psychopathology is likely to be higher across all participants in the current study given the forensic nature of the samples. In addition, it should be noted that the diagnostic construct of ASPD has been criticized as a poor representation of the intended construct of psychopathy (e.g. Hare, 1996). Although a PID-5 conceptualization of ASPD has been shown to better exemplify psychopathic traits (e.g. Anderson et al., 2014; Few et al., 2015; Strickland et al., 2013; Wygant et al., 2016), it is important to note that the current study did not evaluate the differentiation between BPD and traits of psychopathy. Therefore, future research should aim to replicate the current findings using measures of psychopathic personality traits.

There are sample-specific limitations that should also be noted. First, the U.S. correctional sample and Dutch forensic psychiatric sample included only male participants; therefore, future research should examine these differences in samples with larger proportions of females. Further, regarding the U.S. correctional sample, both the MMPI-2-RF and PID-5 are self-report measures (leading to possible inflated associations from shared method variance) and the PID-5 trait profiles do not constitute the entirety of PD diagnosis in Section III (i.e. we did not examine functional impairment). Future research should use multimethod assessment in examining these traits and should also incorporate a measurement of functional impairment in order to thoroughly assess the extent to which personality disorder is present. Finally, diagnoses in the U.S. forensic psychiatric sample were based on diagnoses present in the records as determined by a treatment team; although such diagnoses are ecologically valid, they were not determined in a standardized fashion by the current authors. Further, the majority of individuals in this facility are hospitalized for psychotic-related illnesses and PD diagnoses are often assigned as secondary. Therefore, PD diagnoses are likely comorbid with psychotic spectrum disorders. Although outside the scope of the current evaluation, future research would benefit from studying the ways in which PD symptoms vary in these populations, and whether the MMPI-2-RF is sensitive to these presentations. In addition, although a fairly substantial number of individuals were diagnosed with ASPD in this sample, a smaller number had BPD diagnoses, which likely impacted statistical power in these analyses.

Despite these limitations, the current study provides an important examination of the differentiation of BPD and ASPD in forensic settings. Our findings indicate that severity of internalizing psychopathology is a primary distinction across these diagnostic constructs, with no meaningful differences in externalizing psychopathology. This suggests that diagnostic clarity may be particularly difficult in forensic settings and supports previous work that has shown problematic diagnostic overlap and a lack of differentiation between PD constructs. Nonetheless, although our current diagnostic system continues to rely on

categorical determination of PDs, this study suggests the MMPI-2-RF is likely to aid in diagnostic differentiation.

Notes

1. Although non-overlapping in purpose, data from the larger dataset were also used in Neo et al. (2019), Kutchen et al. (2017), Sellbom et al. (2015), Wall et al. (2015), and Wygant et al. (2016).
2. These data were previously used in Anderson et al. (2015), De Saeger et al. (2020), and Sellbom et al. (2014). However, data analysis and purpose are non-overlapping.
3. Although non-overlapping in purpose, participants from the larger dataset were used in several previous studies related to the validity of the MMPI-2-RF (e.g., Anderson et al., 2017; Glassmire et al., 2016; Tarescavage et al., 2016).

Disclosure statement

No potential conflict of interest was reported by the author(s).

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