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Construct Validity of the Psychodiagnostic Chart:

A Transdiagnostic Measure of Personality Organization,

Personality Syndromes, Mental Functioning, and Symptomatology

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Abstract

The *Psychodynamic Diagnostic Manual* (PDM; Alliance of Psychoanalytic Organizations [APO], 2006) was developed to add a contrasting, person-centered perspective to the conceptualization and diagnosis of psychological dysfunction in traditional diagnostic systems (i.e., the International Classification of Diseases, the Diagnostic and Statistical Manual of Mental Disorders). In addition to considering symptom patterns (Axis S), the PDM—and its recently updated version, PDM-2 (APO, 2017)—enables clinicians to describe overall level of personality organization, specific personality patterns and syndromes (Axis P), and the patient's mental functioning in a broad array of domains, including strengths and vulnerabilities (Axis M). This article discusses scale development, structure, format, scoring, and interpretation of the *Psychodiagnostic Chart* (PDC; Gordon & Bornstein, 2012, 2015), an instrument for coding PDM/PDM-2 data. We evaluate the psychometric soundness of the PDC with respect to internal consistency, inter-rater and retest reliability, and relations to external criteria. Following a review of evidence bearing on the construct validity of the PDC and clinical utility of constructs assessed by the measure, we discuss the instrument's strengths and limitations, and offer suggestions for continued work in this area.

Keywords: Diagnosis, Construct Validity, Clinical Utility, DSM, ICD, PDM

Construct Validity of the Psychodiagnostic Chart: A Transdiagnostic Measure of Personality Organization, Personality Syndromes, Mental Functioning, and Symptomatology,

In part in reaction to the atheoretical emphasis of recent editions of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM; e.g., American Psychiatric Association [APA], 1994, 2000) and International Classification of Diseases (ICD; World Health Organization [WHO], 2004), and these manuals' long-standing adherence to a medical/disease model, the *Psychodynamic Diagnostic Manual* (PDM; Alliance of Psychoanalytic Organizations [APO], 2006) was developed to add a contrasting, person-centered perspective to the conceptualization and diagnosis of psychological dysfunction. In addition to considering symptom patterns (Axis S), the PDM enables clinicians to describe overall level of personality organization, identify specific personality patterns and syndromes (Axis P), and evaluate the patient's level of mental functioning (Axis M). Because M Axis ratings capture strength and adaptation as well as dysfunction and deficit, the PDM is unique among the major diagnostic systems; both DSM–5 (APA, 2013) and ICD–10 (WHO, 2004) focus more or less exclusively on the identification of pathology.

Although the PDM is less widely used than DSM–5 or ICD–10, it has received increasing attention from researchers in recent years (see Bornstein, 2015; Etzi, 2014; Gazzillo et al., 2015), and has been employed in clinical settings as an adjunct to the more widely used diagnostic systems, especially in Europe (Gazzillo, Lingiardi, & Del Corno, 2012). As Del Corno and Lingiardi (2012) noted, use of the PDM in Europe increased substantially during the first several years after publication (see also Lingiardi,

McWilliams, Bornstein, Gazzillo, & Gordon, 2015); the first edition of the PDM has been revised and updated, with PDM–2 scheduled for publication in 2017.

Gordon and Bornstein (2012) developed the *Psychodiagnostic Chart* (PDC) so that key constructs assessed in the PDM could be operationalized and recorded using a brief, clinician-friendly tool. The PDC was designed to help practitioners formulate a PDM diagnosis, and to integrate PDM diagnostic data with those of DSM-5 and ICD-10; PDC items are written to be accessible for clinicians of any theoretical orientation. An integrative instrument like the PDC, which captures information from an array of diagnostic systems, is potentially valuable in several respects. In addition to providing a concise method for summarizing PDM information, the PDC allows for comparison of diagnostic data from multiple frameworks (e.g., to determine whether a patient who receives a particular diagnosis in one system also qualifies for that diagnosis in other systems), and to assess syndrome comorbidity between as well as within diagnostic manuals. The PDC can be used to help frame an initial diagnostic formulation, identify treatment targets, and track progress throughout and following treatment. The PDC may be valuable in teaching contexts as well (Brabender & Whitehead, 2011), and has been used in research settings that emphasize the empirical study of psychodynamic constructs and concepts (see Gordon, Stoffey & Perkins, 2013; Gordon et al., 2016a and b).

This paper discusses evidence bearing on construct validity of the PDC and PDC-2, complementing and extending Lingiardi et al.'s (2015) review of the development and implementation of the PDM and PDM-2. In contrast to Lingiardi et al., which focused primarily on the conceptual underpinnings and clinical applications of the PDM, and the revisions that were implemented in PDM-2, this article focuses primarily on the

operationalization and assessment of PDM/PDM-2 constructs, and how scores derived from the PDC and PDC-2 can be applied to enhance treatment planning and empirical research on psychodynamic concepts.

After briefly contrasting the principles and assumptions underlying psychodynamic diagnosis versus diagnosis approached from a medical/disease model we discuss the development, structure, format, scoring, and interpretation of the PDC. We evaluate the psychometric soundness of the PDC with respect to internal consistency, retest reliability, and relations of PDC-derived data to external criteria. Following a review of evidence bearing on the construct validity of the PDC, and clinical utility of constructs assessed by the measure, we touch upon the instrument's strengths and limitations, and offer suggestions for continued work in this area since PDC is in only its early stages of validation.

Contrasting Approaches to Psychological Dysfunction

Detailed discussions of psychoanalytic frameworks for conceptualizing psychopathology and diagnosing personality and symptom disorders are offered by Kernberg (1984), McWilliams (2011, 2012), and others (e.g., OPD Task Force, 2008). In the traditional medical/disease model characteristic of DSM and ICD, patients are classified into discrete diagnostic categories when they meet criteria for a specific number of symptoms within a particular category. Neither DSM-5 nor ICD-10 include pathognomonic symptoms (i.e., symptoms that are so strongly predictive of the presence of a particular syndrome that they are required to assign a diagnosis), and as a result there is considerable heterogeneity within many diagnostic categories in both diagnostic systems (see Skodol, 2012). In addition, because DSM and ICD symptom criteria are

primarily descriptive rather than tapping underlying process, many symptoms are characteristic of multiple disorders, which artificially inflates comorbidity across syndromes (Bornstein, 2015). As a result inter-diagnostician reliability in DSM and ICD is generally modest at best, despite the fact that revisions in recent versions of both manuals have been aimed in part at increasing syndrome distinctiveness and enhancing diagnostic agreement (see Newton-Howes, Mulder, & Tyrer, 2015).

In contrast to diagnosis in DSM-5 and ICD-10, psychoanalytic diagnosis—including diagnosis as articulated in PDM and PDM-2—emphasizes underlying process (i.e., the proximal and distal factors that impel and maintain psychological dysfunction, including ego strength, defense style, and internalized representations of self and significant others). In contrast to DSM-5 and ICD-10 diagnoses, PDM diagnoses are based on the fit between a patient's underlying dynamics and expressed behaviors with prototypic descriptions of individuals manifesting different syndromes. Moreover, consistent with McWilliams' (2012) conceptualization of psychopathology from a psychodynamic perspective, rather than being based on lists of discrete symptoms as in DSM-5 and ICD-10, diagnoses in PDM and PDM-2 are assigned by the clinician when a patient's behavior and internal mental processes reflect particular "themes" (e.g., a preoccupation with power in antisocial/psychopathic individuals, a preoccupation with control in obsessive patients). Inherent in PDM diagnoses—and psychoanalytic diagnoses more generally—is the assumption that a particular disorder may be expressed in contrasting ways in different contexts and settings (e.g., that a narcissistic patient may be haughty and arrogant around peers, but docile and sycophantic when interacting with someone they perceive to be of higher status).

Although PDM and PDM-2 diagnoses capture a broader range of information regarding a patient's vulnerabilities and strengths than do traditional symptom-focused diagnoses, rendering PDM and PDM-2 diagnoses is in certain respects more challenging than assigning diagnoses in more traditional systems. As numerous clinicians and researchers have noted, evaluating underlying "hidden" mental states (e.g., defense styles, implicit processes) can be difficult (Dahlbender, Rudolph, and OPD Task Force, 2006), though recent advances in assessment methods have helped facilitate these efforts (Hopwood et al., 2013). Moreover, in contrast to DSM and ICD diagnoses, which are based primarily on questionnaire and interview data, PDM and PDM-2 diagnoses are based on the integration of multi-method assessment data involving tests from different modalities (e.g., self-report and performance-based), with an emphasis on meaningful test score divergences as well as convergences (e.g., the pattern of high implicit and low self-reported dependency scores that is characteristic of histrionic pathology; see Bornstein, 2015).

PDC Scale Development

The PDC was developed to complement symptom-focused information from DSM and ICD with a more process-focused approach to diagnosis. Although many constructs in the PDM were influenced by the structural model, drive theory, and ego psychology, other psychodynamic frameworks (e.g., object relations theory, self-psychology) also played a role in the construction of the PDM (Huprich, Lingiardi, McWilliams, Bornstein, Gazzillo, & Gordon, 2015; Lingiardi et al., 2015); the theoretical underpinnings of PDM-2 have been expanded to incorporate relational models (see Press, 2015) as well as other psychodynamic and quasi-dynamic frameworks (e.g., attachment

theory). Field trials were not conducted prior to publication of the PDM (although a substantial portion of the initial version of the manual was devoted to reviews of empirical literature supporting key concepts and concepts; see APO, 2006, pp. 381-837). The PDC was developed in part to facilitate continued empirical refinement of the PDM.

The initial version of the PDC was published in 2012; the current version, the PDC-2 (Gordon & Bornstein, 2015), is based on five years of field-testing and refining the PDC based on evidence gathered from practitioners of various theoretical orientations (Gordon, 2009; Gordon et al., 2016a). The PDC-2 is an updated version of the original PDC intended to be compatible with the PDM-2 by incorporating changes that were introduced during the PDM revision process (see Huprich, et al., 2015; Lingiardi et al., 2015).[1]

The PDC-2 is intended for use with adult clients, but the basic format of the PDC-2 has been adapted for use with patients across the life span. Alternative versions of the PDC-2 include the *Psychodiagnostic Chart-Infancy and Early Childhood* (PDC-IEC, Speranza, 2015); the *Psychodiagnostic Chart-Child* (PDC-C, Malberg, Rosenberg, & Malone, 2015); the *Psychodiagnostic Chart-Adolescent* (PDC-A, Malberg, Malone, Midgley & Speranza, 2015); and the *Psychodiagnostic Chart-Elderly* (PDC-E, Del Corno & Plotkin, 2015).

Effective use of the PDC-2 requires some familiarity with the PDM-2. The clinician must obtain (or have access to) diagnostic interview data and psychological assessment data to derive optimal PDC-2 ratings; the *Tools* chapter of PDM-2 (APO, 2017) reviews a broad array of psychological assessment methods that are useful for this purpose. In cases where access to interview and psychological assessment data is not

feasible the clinician can make a provisional diagnostic formulation that may be later revised as additional information accumulates. If PDC data are used in progress notes, there will be opportunities to re-assess and update the person's diagnostic profile as treatment proceeds.

Structure, Format, Scoring, and Interpretation

Like the original PDC, the PDC-2 includes five sections; these are summarized in Figure 1. In PDC-2 Section I, *Level of Personality Organization*, the patient's personality organization is rated on a 1-10 scale which captures variations in personality functioning within four broad categories: Psychotic, Borderline, Neurotic, and Healthy. Level of personality organization is reflected in the 12 mental functions of the PDM-2 M Axis (see Table 1 for a summary). However, rating all 12 mental functions is a lengthy process; initial field trials confirmed that a rapid assessment of personality organization based on four of the mental functions yields personality organization ratings that approximate those obtained when all 12 M Axis functions are used. The four key functions used for rapid personality organization assessment are: 1) *Identity*, the ability to view the self in a complex, stable, and accurate ways; 2) *Object relations*, the ability to maintain intimate, stable, and satisfying relationships; 3) *Level of Defenses*; and 4) *Reality testing*, the ability to appreciate conventional notions of what is realistic.

After rating these four domains of functioning the practitioner is asked to classify the patient into one of four levels of personality organization (psychotic, borderline, neurotic, or healthy; see Table 2). Although the four individual ratings guide the practitioner in making a classification, decisions regarding the patient's personality organization are not based solely on the average of the four component scales. These

classification decisions involve the integration of clinical judgment and empirical data; three steps are involved:

1. Rate each of the four key mental functions using the 1-10 scale.
2. Review the definitions of levels of personality organization (healthy, neurotic, borderline, and psychotic, summarized in Table 2)
3. Using both the numerical ratings and clinical judgment, indicate the person's overall level of personality organization. There are no sharp cutoffs (e.g., a score of 3 could reflect high functioning psychotic or low functioning borderline personality organization, or someone who moves between the psychotic and borderline levels).

Section II asks the practitioner to determine the client's *Personality Syndromes* (P Axis) by checking as many relevant personality patterns as apply. In line with the PDM (APO, 2006) and PDM-2 (APO, 2017), personality syndromes are defined on the PDC-2 as relatively stable patterns of thinking, feeling, behaving, and relating to others, with healthy personality patterns involving minimal impairment, and personality disorders involving impairment at the neurotic, borderline, or psychotic level. Some personality syndromes are more commonly found at the psychotic or borderline level (e.g., Schizoid); others are more commonly found at the neurotic level (e.g., Anxious/Avoidant/Phobic). Knowing the level of Personality Organization for a given personality syndromes facilitates treatment planning in that level of Personality Organization may interact with the type of intervention (i.e., interpretive versus supportive; Koelen et al., 2012; Horowitz, 2013). Some personality patterns (e.g., an anaclitic style) may be more responsive to a relational approach, while others (e.g., an

introjective style) are more responsive to an interpretive approach (see Luyten & Blatt, 2013). Finally, the practitioner is asked to note the dominant personality syndrome. For research purposes, each personality syndrome can be assigned a severity rating ranging from 1 (severe) to 5 (high functioning).

Section III asks the practitioner to determine the client's overall *Mental Functioning* (M Axis) using a series of 5-point ratings. This involves a detailed consideration of the patient's various strengths and limitations along 12 dimensions which are subsumed under four broad domains (see Table 1). As Table 1 illustrates, M Axis dimensions are not limited to psychodynamic constructs, but include aspects of functioning that contextualize psychological dysfunction and adaptation (e.g., attentional processes, impulse control and regulation, psychological-mindedness, spirituality), helping place PDM-2 diagnoses in the context of a patient's overall psychological functioning (see Bornstein, 2005, and Dahlbender et al., 2006, for detailed discussions of this issue). After being rated individually, the 12 M Axis mental function ratings are summed to derive an overall severity score, divided into seven levels, as follows:

1) Healthy/Optimal Mental Functioning (54-60)
2) Appropriate Mental Functioning with Some Areas of Difficulty (47-53)
3) Mild Impairments in Mental Functioning (40-46)
4) Moderate Impairments in Mental Functioning (33-39)
5) Major Impairments in Mental Functioning (26-32)
6) Significant Defects in Basic Mental Functions (19-25)
7) Major/Severe Defects in Basic Mental Functions (12-18)

Section IV asks the practitioner to describe the main *Symptom Patterns* from the PDM-2 S Axis (e.g., those related to psychotic disorders, mood disorders, anxiety disorders, event and stress disorders, addiction and medically related disorders, etc.). The practitioner may substitute the PDM Symptom Patterns for the most recent DSM or ICD symptoms and codes as needed. The dominant symptom patterns are then rated on a 5-point scale, from 1 (severe) to 5 (mild).

In Section V, the practitioner may choose to add relevant information regarding *Cultural, Contextual and Other Relevant Considerations* (e.g., information regarding divorce, bereavement, financial stressors, immigration/assimilation challenges, domestic violence, and other salient issues).[2]

Construct Validity of the Psychodiagnostic Chart

Although test score validation in psychology has traditionally emphasized the derivation of separate indices of reliability and validity (e.g., convergent and discriminant validity, retest reliability), contemporary integrative models conceptualize test score validity as a unified construct. As the *Standards for Educational and Psychological Testing* (AERA et al., 2014) note, although it is possible to quantify the various components of test score validity separately—and this is indeed a reasonable practical strategy for test score validation—in practice validity is best understood as an overall summary of a test score's ability to generate accurate and clinically useful predictions in vivo (see also Bornstein, in press; Messick, 1995).

Internal Consistency and Retest Reliability

In an initial attempt to assess the construct validity of PDC scores as indices of psychopathology and personality functioning, Gordon and Stoffey (2014) recruited 38

psychologists from the Pennsylvania Psychological Association who frequently used the MMPI-2 in their assessment work. They were asked to rate their last 10 psychotherapy patients, disability, or forensic clients using the PDC; all participants were given the PDC manual to aid in their ratings. The psychologists were also asked to rate their clients using the Karolinska Psychodynamic Profile (KAPP; Weinryb, Rössel, & Asberg, 1991) and the Operationalized Psychodynamic Diagnosis (OPD) Psychic Structure/Mental Functioning Scales (Dahlbender et al., 2006) Two weeks later, they were asked to rerate their clients using the PDC.

Of the 38 psychologists, 15 sent in a total of 98 completed PDCs with MMPI-2's, and 73 cases of two week retest of the PDC with the additional ratings of the KAPP and OPD Psychic Structure/Mental Functioning Scales. Six cases had PDC, KAPP, and OPD retest data but no MMPI-2. The overall sample of 104 clients consisted of 43 women and 61 men, 93% of whom were identified as Caucasian. The sample had a mean age of 40.65, with ages ranging from 18 to 74 years. Additionally, the sample had an average of 15.54 years of education, with a range of 6 to 22 years. The client sample included people from forensic, disability, and psychotherapy evaluations, representing a wide range from psychotic to neurotic personality organizations.

Gordon and Stoffey (2014) found that the PDC has excellent internal consistency and good retest stability over two weeks. As a measure of scale internal consistency, Cronbach's alpha was calculated for the seven components of the Overall Personality Organization Scales. Coefficient alpha was .94, indicating a high degree of internal consistency among the scales; mean interscale correlation was .76.

Retest reliabilities for the seven component scales of Overall Personality Organization (Identity, Object Relations, Affect Tolerance, Affect Regulation, Superego Integration, Reality Testing, and Ego Resilience) ranged from .69 to .90 (all *p*'s < .001) indicating moderate to high levels of stability across the 2-week interval. Retest reliability for the Overall Personality Organization Scale was .92 ($p < .001$), while retest reliability for Overall Severity of Personality Disorder ratings was .89, ($p < .001$).

Retest reliabilities for the nine Mental Functioning scales of the PDC (Capacity for Attention, Memory, Learning, and Intelligence; Capacity for Relationships and Intimacy; Quality of Internal Experience; Affective Comprehension, Expression, and Communication; Level of Defensive or Coping Patterns; Capacity to Form Internal Representations; Capacity for Differentiation and Integration; Self-Observing Capacity; and Realistic Sense of Morality) ranged from .77 to .89 (all *p*'s < .001), while retest reliability for Severity of Symptoms ratings was .87 ($p < .001$).

External Validity

Gordon and Stoffey (2014) also found good convergent and discriminant validity for the PDC scales with respect to scores on the MMPI-2 clinical scales, the OPD Axis IV Psychic Structure/Mental Functioning scales, and the KAPP (see Table 3). They had predicted significant negative correlations between the PDC Severity of Symptoms scale and scores from the MMPI-2 A scale (severity of symptoms), KAPP-18, and OPD-7, and a significant positive correlation with current GAF. All correlations were significant ($p = .001$) and in the predicted direction: MMPI-2 A ($r = -.46$), K18 ($r = -.80$), OPD-7 ($r = -.90$), and GAF ($r = .75$).

Gordon and Stoffey (2014) then took the 7 mental functions from the PDM (Identity, Object Relations, Affect Tolerance, Affect Regulation, Super Ego Integration, Reality Testing, and Ego Resilience) and found with a step wise regression that Affect Regulation ($\beta = .35$, $t[93] = 6.01$, $p < .001$), Reality testing ($\beta = .32$, $t[93] = 5.02$, $p < .001$), Object Relations ($\beta = .20$, $t[93] = 3.76$, $p < .001$) and Identity ($\beta = .19$, $t[93] = 2.69$, $p < .001$) produced an $R^2 = .89$, indicating that these four components accounted for 89% of the variance in Overall Personality Organization. This resulted in a reduction of personality organization mental components from 7 on the PDC to 4 on the PDC-2. We relabeled Affect Regulation, invoking the simpler concept of Level of Defenses for the PDC-2. The initial version of the PDM had combined the concepts of Affect Regulation with Defense Mechanisms, stating that "To regulate impulses and affects in ways that foster adaptation and satisfaction, with flexibility in using defenses or coping strategies" (APO, 2006, p. 22). This clarification made the PDC-2 more understandable to our respondents, and was more in keeping with extant empirical and theoretical findings. Our finding echoes that of Ellison and Levy's (2012) factor analysis of the Inventory of Personality Organization (Lenzenweger, Clarkin, Kernberg, & Foelsch, 2001), an assessment based on Kernberg's (1984) structural theory.

In a study contrasting MMPI-2 and MMPI-RC scores in patients who were classified using the PDC as functioning at the neurotic level (N = 33), the borderline level (N = 51), and the psychotic level of personality organization (N = 13), Gordon, Stoffey, and Perkins (2013) found that the MMPI-2 clinical scales had more sensitivity to psychopathology than did the newer RC scales, and that the PDC served as an independent predictor of level of personality organization beyond that of the MMPI-2 and

MMPI-RC. These results offer additional support for the validity of PDC-derived ratings of overall personality organization in predicting theoretically related indices of psychopathology.

In a study of the prevalence rates of different levels of personality organization, and the distribution of personality syndromes within and across levels, Gazzillo et al. (2015) used the PDC and found that of 621 patients with personality disorders, 11.8% (n = 72) functioned at the psychotic level, 55.1% (n = 365) were at the borderline level (BPO), and 30.9% (n = 193) were at the neurotic level. All personality disorders included at least some patients at the borderline level of personality organization.

Inter-rater reliability

Attendees at workshops on DSM-5, ICD-10, and PDM-2 who volunteered to participate in a study of diagnostic reliability were asked to rate a patient in a short 8 minute psychotherapy vignette using the PDC-2. Eighty-seven participants (49 women and 38 men) agreed to take part (M age = 53.39, SD = 14.50; M years in practice = 20.94, SD = 13.29). Primary theoretical orientations were as follows: psychodynamic 84%, CBT 5%, Family Systems 6%, Humanistic/Existential 2%, Eclectic 6%, Other 2%. Each participant first received an hour instruction on the PDM-2 and PDC-2. They were asked to first practice rating a client of theirs on the PDC-2; using the PDC-2 was a new task for all participants.

Participants were then shown an 8 minute psychotherapy vignette wherein Glen Gabbard interviewed an actress playing a patient "Brenda"; the DVD is from Gabbard's (2010) *Long-Term Psychodynamic Psychotherapy: A Basic Text*. Participants were asked to focus on the patient's personality and rate her on all the PDC-2 sections. They rated

"Brenda" on a version of the PDC-2 which was accompanied by a print-out of definitions of all 12 personality syndromes and all 12 mental functions.

Results supported the inter-rater reliability of PDC-2 scores across all dimensions. For Section I (Level of Personality Organization), correlations between scores from independent raters ranged from .74 (Identity) to .81 (Reality Testing), with mean Section I inter-rater agreement of .76. For Section II (Personality Syndromes), correlations ranged from .85 (Borderline) to .96 (Obsessive-Compulsive and Schizoid), with a mean inter-rater correlation of .94. For Section III (Mental Functioning), correlations between scores from independent raters ranged from .82 (Mentalization and Reflective Functioning) to .92 (Meaning), with a mean inter-rater correlation of .85. For Section IV (Symptom Patterns), correlations ranged from .77 (Trauma) to .89 (Anxiety), with a mean Section IV inter-rater correlation of .83.

Clinical Utility

The 2014 *Standards* (AERA et al., 2014) distinguish test score validity from clinical utility, which goes beyond predictive accuracy to include considerations regarding cost effectiveness, clinician friendliness, and accessibility to patients with diverse backgrounds and experiences. Unlike validity, there is no agreed upon index (or set of indices) for quantifying clinical utility; most research to date has used clinicians' judgments of the quality and usefulness of information obtained from a given measure (e.g., ratings of helpfulness, usefulness, or some other clinically relevant dimension on a Likert type rating scale; see Bornstein, in press).

Although there are no data bearing directly on the clinical utility of the PDC *in vivo*, evidence supports the utility of PDC-assessed constructs as reflected in practitioner

ratings. In an initial investigation, Bornstein and Gordon (2012) recruited 50 experienced assessment psychologists to complete an online survey after using the PDC with at least one client. The survey asked practitioners to rate the value of various PDC taxa, as well as the DSM and ICD symptom based nosologies, on 7-point scales ranging from 1 (Not at All Helpful) to 7 (Very Helpful). They found that 68% of the practitioners rated the PDM Personality Organization as "helpful/very helpful," 44% of the practitioners rated the PDM Personality Dominant Personality Patterns or Disorders as "helpful/very helpful," and 58% rated PDM Mental Functioning as "helpful/very helpful". In contrast, 18% of practitioners rated DSM GAF scores as "helpful/very helpful," and 14% rated ICD or DSM symptoms as "helpful/very helpful".

A follow up study by Gordon, Blake, Bornstein, Gazzillo, Etzi, Lingiardi, McWilliams, Rothery, and Tasso (2016) asked the same survey questions to a sample of 438 respondents who were not assessment experts, but mental health practitioners from a wide range of educational backgrounds and theoretical orientations (26% Psychodynamic, 33% CBT, and 41% Other [e.g., Family Systems, Humanistic/ Existential, Eclectic]). Respondents were asked to diagnose a recently seen patient and then rate how helpful various personality diagnostic taxa were in understanding their patient. Results indicated that the percent rated as "helpful/very helpful" in understanding their patient were: Level of Personality Organization 75%, Personality Disorders 62%, Mental Functioning 67%, and Cultural/Contextual Dimension 41%. In contrast, 30.5% rated DSM/ICD symptom based nosologies as "helpful/very helpful" in understanding their patient. This finding replicates and extends Bornstein and Gordon's earlier (2012) study that surveyed psychodynamically oriented assessment psychologists. Thus, these studies, taken

together, support the clinical utility of the PDC among clinicians who are mainly psychodynamic as well as practitioners of diverse theoretical orientations.

Discussion and Conclusions

This review confirms that evidence bearing on the construct validity of the PDC is generally quite strong: Indices of internal consistency, inter-rater and retest reliability, and relations of PDC-derived data to external indices of dysfunction and adaptation all meet established criteria for establishing the validity and reliability of scores derived from a test or measure (e.g., AERA et al., 2014; see also Bornstein, 2011). The PDC has generated good preliminary evidence of clinical utility as well, with clinicians of various theoretical orientations consistently rating PDC scores as being more clinically useful than those derived from traditional diagnostic systems like the DSM and ICD.

A particular strength of the PDC-2 is its ability to capture variations in patient functioning within categories, providing a more nuanced understanding of the whole person, and illuminating the person's particular strengths and limitations. No two individuals within any diagnostic category are alike in particular mental functions. For example, a patient at a borderline level of obsessive-compulsive personality disorder may be high in self-awareness and psychological mindedness and profit from an interpretive approach, while another patient who is also at a borderline level of obsessive-compulsive personality disorder may have comparatively little self-awareness and psychological mindedness, and therefore need more of a supportive approach to treatment. In this context Gazzillo et al.'s (2015) finding that all PDC diagnosed PDs had at least some patients at the borderline level of personality organization suggests that many patients not

classified as borderline in the DSM-5 will favor primitive defenses and thus present risk management problems to practitioners.

Beyond its applicability in the clinical setting, the PDC has also shown to be useful as a research instrument (Gazzillo, Lingiardi, Del Corno, Genova, Bornstein, Gordon, & McWilliams, 2015; Gordon, Gazzillo, Blake, Bornstein, Etzi, Lingiardi, McWilliams, Rothery, & Tasso, 2016; Gordon & Stoffey, 2014; Gordon, Stoffey, & Perkins, 2013; Lingiardi, McWilliams, Bornstein, Gazzillo, & Gordon, 2015; Gordon, Blake, Bornstein, Gazzillo, Etzi, Lingiardi, McWilliams, Rothery, & Tasso, 2016; Spektor, Luu, & Gordon, 2015). This is particularly important given the need for continued empirical verification of psychodynamic concepts and constructs (Bornstein & Becker-Matero, 2011), and the marginalization of psychoanalytic treatment methods in contemporary discussions of evidence-based practice (see Norcross, Beutler, & Levant, 2006). By strengthening the empirical underpinnings of psychodynamically informed diagnosis the PDM-2 can provide a foundation for continued work in this area.

Looking ahead, PDC-derived indices of Level of Personality Organization (Section I) may be particularly useful in guiding treatment formulation and planning. Kaleen, Luyten, Eurelings-Bontekoe, Diguer, Vermote, Lowyck, and Bühring's (2012) meta-analysis found that higher initial levels of personality organization are moderately to strongly associated with better treatment outcome, and that level of personality organization may interact with the type of intervention (i.e., interpretive versus supportive) in predicting treatment outcome. In other words, individuals with neurotic to healthy level personalities may profit more from interpretive interventions, while

individuals toward the borderline to psychotic end may profit more from supportive treatments.

All measures have certain strengths and limitations, and the PDC is no exception. Although it has the advantage of yielding a detailed summary of patient functioning across a broad array of domains, and was designed to be accessible to clinicians of diverse theoretical orientations, the PDC requires considerable training and experience to be used effectively, and at least some familiarity with psychoanalytic concepts. As the PDM and PDC evolve over successive revisions it will be important to integrate a broader array of empirical findings and theoretical formulations into both manual and measure; these may include—but need not be limited to—findings from neurobiology and neuropsychoanalysis, as well as evidence from the relational and intersubjectivity perspectives.

In an increasingly multicultural society continued refinement of PDC-2 Section V will be important to meet the needs of a diverse patient population. Although it is currently formatted to gather open-ended descriptions from practitioners, it may be useful to complement these open-ended descriptions with more structured ratings. For example, clinicians could be asked to rate the degree to which the culture in which a person was raised was individualistic as opposed to collectivistic, egalitarian as opposed to hierarchical, instrumental as opposed to expressive, and matricentric as opposed to patricentric. It will also be useful to consider the degree to which different aspects of culture have impacted—and continue to influence—an individual's psychological adjustment and interpersonal patterns (see Dadlani et al., 2012). Along somewhat similar lines, the majority of studies involving the PDM and PDC have involved participants from the United States, and European countries (e.g., Italy) that are among the most

Westernized. In the future it will be important extend research efforts to include individuals raised in a more diverse array of cultures, with contrasting norms and values.

Finally, additional research is needed to establish the utility of PDC-derived ratings in predicting relevant clinical constructs (e.g., risk for self-harm, potential to benefit from treatment). Although the present results offer strong preliminary support for the psychometric soundness of PDC-derived ratings, and the clinical utility of the PDC, a number of issues have yet to be addressed. One important goal of the PDM-2 is to facilitate field trials assessing the utility of PDM-2 concepts and constructs. Preliminary work in this area is underway (e.g., Gazzillo et al., 2015).

Footnotes

1) The minor modifications that distinguish the original PDC from the PDC-2 should not affect the reliability and validity of the PDC-2, and it is likely that psychometric evidence bearing on the initial version of the PDC will be applicable to the updated version. For additional detail regarding evidence bearing on the PDC along with access to relevant articles and downloadable versions of the measure search online for "Psychodiagnostic Chart-2" (or https://sites.google.com/site/psychodiagnosticchart/).

2) The PDC-2 is also available in digital format; the digital form of the PDC-2 automatically derives Mental Functioning (M Axis) scores, provides cursor-prompted definitions for the Personality Syndromes and Mental Functions, and includes a dialog box allowing for additional narrative space to describe Cultural, Contextual and Other Relevant Considerations.

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Table 1. *The 12 Mental Functions of the PDM-2 M Axis*.

Cognitive and affective processes

1) Capacity for regulation, attention, and learning *(attend to and process internal and external information, regulate focus, learn from their experiences)*

2) Capacity for affective range, communication and understanding *(ability to experience, express and comprehend the full range of affects in a way that is appropriate)*

3) Capacity for mentalization and reflective functioning *(to infer and reflect on own and others' mental states, and to use ideas to experience, describe, and express internal life)*

Identity and relationships

4) Capacity for differentiation and integration *(ability to construct and maintain a differentiated, realistic, coherent and complex representation of self and other people)*

5) Capacity for relationships and intimacy *(depth, range, and stability of the person's interpersonal relationships, ability to engage in pleasurable sexual fantasies and activities, and the ability to blend sexuality with emotional intimacy)*

6) Self-esteem regulation and quality of internal experience *(level of confidence and self-regard)*

Defense and coping

7) Impulse control and regulation *(ability to modulate impulses and express them in adaptive, culture-appropriate ways)*

8) Defensive functioning *(ability to modulate anxiety resulting from internal conflict, external challenge, or threat to the self without excessive distortion in self-perception and reality testing)*

9) Adaptation, resiliency, and strength *(ability to cope effectively with uncertainty, loss, stress, and challenge with individual strengths, such as empathy and sensitivity to other peoples' needs and feelings, the ability to recognize alternative viewpoints, or to be appropriately assertive when necessary)*

Self-awareness and self-direction

10) Self-observing capacities, psychological mindedness *(motivated to introspect and observe own internal life mindfully and realistically, and use this information effectively)*

11) Capacity to construct and use internal standards and ideals *(capacity to formulate internal values and ideals and to make mindful decisions based on a set of coherent, internally consistent underlying moral principles)*

12) Meaning and purpose *(ability to construct a personal narrative that gives cohesion and meaning to personal choices, and a sense of directedness, purpose, and spirituality and grasp the broader implications of one's attitudes, beliefs, and behaviors)*

Table 2. *Levels of Personality Organization in PDM-2.*

Healthy Personality Characterized by mostly 9-10 scores, life problems rarely get out of hand and enough flexibility to accommodate to challenging realities.
Neurotic Level Characterized by mostly 6-8 scores, basically a good sense of identity, good reality testing, mostly good intimacies, fair resiliency, fair affect tolerance and regulation, rigidity and limited range of defenses and coping mechanisms, favors defenses such as repression, reaction formation, intellectualization, displacement, and undoing.
Borderline Level Characterized by mostly 3-5 scores, recurrent relational problems, difficulty with affect tolerance and regulation, poor impulse control, poor sense of identity, poor resiliency, favors defenses such as splitting, projective identification, idealization/devaluation, denial, omnipotent control, and acting out.
Psychotic Level Characterized by mostly 1-2 scores, delusional thinking, poor reality testing and mood regulation, extreme difficulty functioning in work and relationships favors defenses such as delusional projection, psychotic denial, and psychotic distortion.

Note. A score of 9 may be used for people at the high functioning neurotic level. People who vary between borderline and neurotic levels should be assigned a score of 6; those who vary between psychotic and borderline levels should be assigned a score of 3.

Table 3. *Relationships of PDC Overall Personality Organization Scale Scores to MMPI-2, MMPI-RCd, KAPP, and OPD-7 Global Personality Structure Scale Scores (from Gordon & Stoffey, 2014).*

Scale	Overall r	M	SD
F	−.60**	61.10	16.52
Hy	−.31*	63.62	14.42
Sc	−.56**	63.44	15.59
A	−.55**	57.39	13.75
RCd	−.41**	56.65	11.71
K-18	−.88**	1.58	0.64
OPD-7	−.93**	2.36	0.67
Ego Strength	.47**	44.50	10.98
Intellectual Efficiency	.52**	45.03	10.20
Responsibility	.32**	47.08	11.72

Note. MMPI-2 scales are as follows: F = Infrequency, Hy = Hysteria, Sc = Schizophrenia, A = first factor index of overt symptomatology. RCd = Demoralizaton, Ego Strength = Ego Strength, Intellectual Efficiency = MMPI-2 index of rationality, Responsibility = MMPI-2 index of sense of duty and ethical concerns. K-18 = Karolinska Psychodynamic Profile (KAPP) index of personality organization, OPD-7 = Operationalized Psychodynamic Diagnosis (OPD) global index of psychic structure.

*$p = .02$ **$p < .001$

Figure 1. *Taxonomic Organization of the Psychodiagnostic Chart-2 (PDC-2)*