

PERSONALITY DISORDERS AS EMERGENT INTERPERSONAL SYNDROMES: PSYCHOPATHIC PERSONALITY AS A CASE EXAMPLE

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Personality disorders have long been bedeviled by a host of conceptual and methodological quandaries. Starting from the assumption that personality disorders are inherently interpersonal conditions that reflect folk concepts of social impairment, the authors contend that a subset of personality disorders, rather than traditional syndromes, are *emergent interpersonal syndromes* (EISs): interpersonally malignant configurations (statistical interactions) of distinct personality dimensions that may be only modestly, weakly, or even negatively correlated. Preliminary support for this perspective derives from a surprising source, namely, largely forgotten research on the intercorrelations among the subscales of select MMPI/MMPI-2 clinical scales. Using psychopathic personality as a case example, the authors offer provisional evidence for the EIS hypothesis from four lines of research and delineate its implications for personality disorder theory, research, and classification. Conceptualizing some personality disorders as EISs elucidates long-standing quandaries and controversies in the psychopathology literature and affords fruitful avenues for future investigation.

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Readers of this journal surely need not be reminded that, since its inception in the third edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-III;* American Psychiatric Association, 1980), the personality disorders (PDs) chapter has consistently been among the most controversial portions of the diagnostic manual (Bernstein et al., 2007). Scholars have raised a multitude of concerns regarding these conditions' psychometric and diagnostic properties, including rampant comorbidity, extensive within-category heterogeneity, the absence of clear boundaries from normality, and the large number of unclassified cases (Clark, 2007; Grove & Tellegen, 1991;

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Lilienfeld & Latzman, 2018; Perry, 1992; Skodol, 2011; Widiger, 1993; Zimmerman, 1994). Important as these problems are, there is ample reason to suspect that the sources of controversy surrounding PDs run deeper and stem largely from unresolved *conceptual* questions that have received insufficient attention. How, if at all, do PDs differ from other mental disorders? Is the umbrella category of PDs conceptually coherent, or does it comprise fundamentally different kinds of entities? The resolution of these questions, arguably a prerequisite for adequate scientific progress on PDs, awaits clarification.

PERSONALITY DISORDERS AS REFLECTIONS OF INTERPERSONAL FOLK CONCEPTS

We begin with an assumption that has extensive and long-standing historical roots, namely, that PDs are quintessentially conditions of interpersonal impairment (Benjamin, 1996; Hopwood, Wright, & Pincus, 2013; Pincus & Wiggins, 1990). Recent meta-analytic research corroborates this assumption: Most or all PDs are characterized by marked difficulties with relationship partners, parents, coworkers, and the like (Wilson, Stroud, & Durbin, 2017). Still, the proposition that PDs are conditions of interpersonal impact requires considerable elaboration.

More specifically, we propose that most, if not all, of the PDs that have long been recognized over the centuries, and that have been enshrined in recent versions of the *DSM* and *ICD* (World Health Organization, 1992), are approximations of *intuitively recognizable prototypes* that are interpersonally meaningful. These prototypes are constellations of traits to which we selectively attend and remember because they matter to us in daily life (see also Tellegen, 1993; Widiger & Lynam, 1998; Wiggins, 1982). More specifically, these intuitively meaningful bundles of traits are especially salient to us because they are (a) potentially dangerous socially/physically, (b) distressing, puzzling, or annoying, (c) otherwise challenging for us to cope with, or all three (see also Beeney et al., 2019; Clifton, Pilkonis, & McCarty, 2007; T. F. Williams, Thomas, Donnellan, & Hopwood, 2014). For example, the prototypical individual with borderline PD tends to be interpersonally difficult because he or she is emotionally unpredictable, prone to anger outbursts, demanding, and the like; the prototypical individual with avoidant PD tends to be interpersonally difficult because he or she is challenging to forge close emotional connections with. These observations are broadly consistent with Hopwood's (2018) proposal that PDs correspond to "recursive interpersonal signatures" (p. 515) reflecting distinctive maladaptive patterns that play out in everyday transactions, as well as with recommendations to separately assess (a) the core personality dispositions comprising PDs and (b) their adverse real-world sequelae, which are often interpersonal in nature (Leising & Zimmermann, 2011).

The idea that PDs are approximate reflections of intuitively recognizable, interpersonally meaningful prototypes harkens back to Theophrastus (371–287 BCE), who provided capsule depictions of 30 "moral characters."

Theophrastus's character types are prototypes of difficult personalities to whom it would behoove members of society to closely attend and remember. The "boastful man . . . will stand in the bazaar talking to foreigners of the great sums which he has at sea; he will discourse of the vastness of his money-lending business, and the extent of his personal gains and losses" (Theophrastus, 319 BCE/2004, p. 131). The "dissimulator . . . will praise to their faces those whom he attacked behind their backs . . . such [are] the doublings and retractions to which [he] will resort. Disingenuous and designing characters are in truth to be shunned more carefully than vipers" (p. 65).

Even at a distance of 2,300 years, these character types still conjure up more than a modicum of recognition. It does not require a great stretch of the imagination to identify these two prototypes as similar to what we can recognize as narcissistic and psychopathic PDs, respectively. Many of Theophrastus's other character types, such as "the flatterer," "the mean man," and the "avaricious man," do not map unambiguously onto *DSM* or *ICD* PDs, but they reflect constellations of traits that we find interpersonally meaningful and memorable even today.

In some ways, Theophrastus and others (e.g., Fromm, 1955) anticipated the thinking of Gough (1965) with respect to his development of the California Psychological Inventory (CPI). When constructing the CPI, he targeted "folk concepts," readily recognizable constructs such as sociability and dominance that are etched into popular consciousness because of their relevance to everyday life (see Buss & Craik, 1980; McCrae, Costa, & Piedmont, 1993). Gough conceptualized folk concepts as:

variables used for the description and analysis of personality in everyday life and in social interaction. It is theorized that such folk concepts, *viewed as emergents from interpersonal behavior*, have a kind of immediate meaningfulness and universal relevance which enhance their attractiveness as diagnostic concepts. (p. 295; emphasis added)

Gough conceptualized folk concepts through a variable-centered lens, highlighting such traits as responsibility, dominance, and sociability as exemplars. Nevertheless, we can conceptualize folk concepts through a person-centered lens as well, extending them to prototypes reflecting constellations of two or more traits that engender important real-world outcomes. We propose that such folk concepts map broadly, although by no means precisely, onto most or all *DSM* and *ICD* PD concepts (see also Tellegen, 1993). At the same time, although most or all PDs reflect folk concepts, not all folk concepts reflect PDs. For example, the diagnosis of schizophrenia partially captures the folk concept of the prototypical psychotic person.

This proposition is consistent with social cognition research on interpersonal perception, much of which suggests that humans tend to think about others in categorical rather than dimensional ways (Macrae & Bodenhausen, 2000), as well as research that laypersons tend to conceptualize mental disorders as possessing qualitatively distinct essences (see also Haslam & Ernst, 2002). Work by Anderson and Sedikides (1991; see also Sedikides & Anderson, 1994) suggests that people tend to perceive others *typologically*, mentally clustering together bundles of diverse attributes into coherent prototypes (Cantor, Smith, French, & Mezzich, 1980).

A KEY IMPLICATION: SOME PERSONALITY DISORDERS MAY NOT BE TRADITIONAL SYNDROMES

The hypothesis that PDs are reflections of folk concepts leads to a key implication: At least some consensual PDs may not be *syndromes as commonly conceptualized*. This point is likely to be counterintuitive to many readers and therefore warrants unpacking.

The word *syndrome* derives from Greek, meaning “running together” (Diab, 1992). In medicine, a syndrome is a constellation of signs (observable indicators) and symptoms (subjective indicators that can be reported only by patients) that comprise a condition (Monroe & Anderson, 2015). Traditionally, philosophers of medicine have pointed to two quite different “types” of syndromes, although they are rarely distinguished explicitly.

The first type, which we term *classical syndromes*, comprises constellations of signs and symptoms that covary consistently across individuals (Lilienfeld, Waldman, & Israel, 1994). These are the syndromes most familiar to psychopathology researchers. In a classical syndrome, the presence of one feature in a given person is associated with an elevated likelihood of others. Panic disorder is a classical syndrome, because individuals who unexpectedly experience sudden surges of intense anxiety are considerably more likely than other individuals in the general population to also experience rapid heart rate, intense breathing, chest pain, numbness in the extremities, and fears of dying or losing control. Classical syndromes are typically assumed to reflect underlying (latent) predispositions that have yet to be uncovered (Kazdin, 1983).

The second type, which we term *taxonic syndromes*, resembles classical syndromes in that their signs and symptoms are similarly posited to spring from an underlying etiology. Nevertheless, in contrast to classical syndromes, taxonic syndromes are characterized by specific constellations of traits that (a) are largely or entirely uncorrelated in the general population given their low base rates, but that (b) nonetheless suggest the presence of a distinct, underlying illness. Meehl and Golden (1982) fancifully described “Fisbee’s syndrome,” a hypothetical condition marked by headache, seeing spots, low-grade fever, purple tongue, and pinkish ears. The physician, Dr. Fisbee, observes several patients with this peculiar constellation of signs and symptoms and proclaims it a new syndrome, assuming—perhaps correctly—that it points to a discrete, underlying disease entity. In Meehl’s (1979) terminology, such syndromes are taxa, entities that differ qualitatively from normality.

A number of syndromes in neurology and other domains of medicine fall into this second, taxonic, category (Lilienfeld et al., 1994). Consider Gerstmann’s syndrome, which is identified by dyscalculia, finger agnosia, agraphia, and left-right disorientation (Roeltgen, Sevush, & Heilman, 1983). Another likely example is Angelman’s syndrome, which is identified by such features as marked speech impairment, jerky or unsteady movements, a high likelihood of seizures, and microcephaly (C. A. Williams et al., 2006). The signs and symptoms constituting Gerstmann’s and Angelman’s syndromes are probably largely or entirely uncorrelated in the population at large given

their low base rates; nevertheless, when most or all such features are present conjointly, they point to the presence of a discrete underlying condition.

More recently, some researchers have introduced a third potential type of syndrome. Proponents of network models (Borsboom & Cramer, 2013; McNally et al., 2015) posit that mental disorders are constituted of the *bidirectional relations* among disorder features. For example, according to network models, major depressive disorder comprises the bidirectional relations among depressed mood, anhedonia, sleep disturbance, excessive guilt, and so on. At least in their pure form, network models do not imply the existence of a latent entity underpinning disorder signs and symptoms; instead, the signs and symptoms themselves, along with their bidirectional relations, constitute the disorder itself. Still, the replicability of network models in the psychopathology domain is an active point of contention, as is the meaning and interpretation of the relations among indicators within these models (for discussions, see Borsboom et al., 2017; Forbes, Wright, Markon, & Krueger, 2017a, 2017b; Fried & Kramer, 2017).

EMERGENT INTERPERSONAL SYNDROMES: A PROPOSAL FOR A FOURTH SYNDROME TYPE

If PDs are conditions of interpersonal impact, they need not comprise groupings of statistically interrelated indicators, as in classical or network syndromes. Instead, they need only consist of constellations of indicators, which, in conjunction, forge distinctive effects on others. In fact, some conjunctions of features may be interpersonally noteworthy largely *because* they consist of elevated scores on dimensions that are uncorrelated or negatively correlated in the broader population, because such conjunctions may be confusing or misleading to observers.

For example, a person who is simultaneously high in surgent extraversion (agency) but low in social warmth (communion) may fool us, because these two attributes are moderately positively correlated in the general population (Tellegen & Waller, 2008). Relying on this covariation in the world, we may assume that someone who is charismatic, lively, and sociable is also kind-hearted, although this is not always the case. One finds precisely this deceptive conjunction among individuals with marked psychopathic traits, because global psychopathy is moderately positively associated with social potency but moderately *negatively* correlated with social closeness (Lilienfeld & Andrews, 1996). Similarly, research using both self-reported and laboratory findings raises the possibility that psychopathic individuals tend to be marked by deficient affective empathy but largely intact cognitive empathy (Wai & Tiliopoulos, 2012; but see Brook & Kosson, 2013), a trait configuration that may mislead observers given that affective and cognitive empathy themselves are moderately positively correlated in the general population (Reniers, Corcoran, Drake, Shryane, & Völlm, 2011).

Once we conceptualize PDs as reflections of folk conceptions of interpersonal impairment, we are liberated from the restriction that they must consist of features that are moderately to highly positively correlated in the

general population, as in classical and network syndromes. At least some of these disorders may be interpersonally challenging precisely *because* they reflect trait configurations (e.g., high social potency conjoined with low social closeness, low affective empathy conjoined with intact or even elevated cognitive empathy) that are relatively rare in the general population, a proposition that has received scant attention.

EMERGENT INTERPERSONAL SYNDROMES: A CONCEPTUAL FRAMEWORK

PDs characterized by largely statistically independent traits do not fall unambiguously into any of the three syndrome types we have outlined. Their characteristic features do not necessarily covary across individuals, as in classical or network syndromes, nor do they necessarily point to the presence of a single underlying disease entity, as in taxonic syndromes. Nor do they reflect bidirectional relations between disorder features, as in network syndromes.

Hence, a novel, fourth syndrome type is needed to fill this gap. We contend that we can conceptualize some PDs as what we term *emergent interpersonal syndromes* (EISs). EISs are marked by distinctive patterns—specific constellations—of signs and symptoms that generate characteristic adverse reactions in others. We use the term *emergent* because these syndromes reflect not purely additive combinations of features, but rather emergent properties reflecting specific configurations (read: statistical interactions) among them (see also Lykken, McGue, Tellegen, & Bouchard, 1992, on *emergensis*).

Research discussed earlier on typological approaches to person perception is consistent with this view. Anderson and Sedikides (1991) articulated this point in a trenchant passage:

Are they [person types] simply clumps of traits located close to each other in multidimensional space? We maintain that they are not. In our Gestalt-like view, person types mean considerably more to the perceiver than their average intercorrelation or their average distance in multidimensional space ... some person types may contain one or more trait members that are only moderately correlated (in perceivers' eyes) with the other members. Indeed, we expect that for some person types there will exist nonmember traits having higher average correlations with the members than one or more of the member traits. (p. 204)

They elaborated on the implications of this view, pointing out that certain stereotypes consist of traits that are weakly or even negatively correlated in the population. They noted, for example, that, at least in Western culture, laypersons tend to perceive businesspeople as both responsible citizens and as ruthless. They concluded that “person types are Gestalt-like in that their effects are not entirely predictable from a simple aggregation (average correlation or dimensional location) of information about constituent trait members; *the whole is more than the sum of the parts*” (p. 204; emphasis added). To the extent that this view extends the reach of person perception to PD perception, it implies the existence of trait-by-trait statistical interactions in the interpersonal perception of PDs, a point to which we return.

EISs are reminiscent of *compound traits*, as described in the industrial/organizational literature (Hough & Ones, 2001; Schneider, Hough, & Dun-

nette, 1996; G. T. Smith, Fischer, & Fister, 2003). In contrast to multifaceted traits, which are marked by positively correlated traits that comprise a higher order dimension (e.g., negative emotionality; Tellegen & Waller, 2008), compound traits, sometimes termed *emergent traits*, consist of partially or entirely independent traits that comprise a coherent attribute, be it a personality trait or job skill. The construct of “integrity” in the personnel selection literature is an admixture of several modestly covarying but separable traits, such as conscientiousness, agreeableness, and emotional stability (low neuroticism; Berry, Sackett, & Wiemann, 2007).

Although compound traits are typically conceptualized as additive in their effects (Shoss & Witt, 2013), there is no reason why their interrelations could not also or instead be multiplicative, implying statistical interactions among features in predicting interpersonal outcomes. In this way, they would be aligned conceptually with EISs, in which specific constellations of features engender risk for social impairment.

EMERGENT INTERPERSONAL SYNDROMES: POTENTIAL EXAMPLES

We further contend that PDs, rather than being a monolithic class, encompass two broad sets of conditions: (1) *formes frustes*—mild or atypical expressions—of more severe conditions (what were termed Axis I conditions in earlier editions of the *DSM*; e.g., American Psychiatric Association, 1980) and (2) *configurations*—outcomes of statistical interactions—of personality traits that bear maladaptive interpersonal implications (Grove & Tellegen, 1991). The former, but not the latter, are likely to be classical syndromes, much as most Axis I disorders were.

With respect to (1), for example, it seems plausible that schizotypal PD and perhaps other conditions in Cluster A (the “odd, eccentric” cluster) are attenuated, often more stable forms of schizophrenia and allied disorders (Lenzenweger, 2015), and that avoidant PD in Cluster C is a more situationally pervasive variant of social anxiety disorder (social phobia; Isomura et al., 2015). In contrast, the PDs falling under (2), we posit, are not classical, taxonic, or network syndromes, but instead EISs, comprising distinctive patterns of multiple largely independent indicators that engender characteristic interpersonal consequences.

We conjecture that EISs disproportionately comprise what *DSM* terms Cluster B (emotional, erratic) conditions, namely, antisocial, histrionic, narcissistic, and borderline PDs rather than Cluster A (odd, eccentric) conditions, namely, schizotypal, schizoid, and paranoid PDs or Cluster C (anxious, fearful) conditions, namely, obsessive-compulsive, dependent, and avoidant PDs (Lilienfeld & Latzman, 2018). We offer this admittedly provisional hypothesis because some Cluster B conditions and overlapping disorders, including some earlier *DSM* appendix disorders (e.g., passive-aggressive PD), are characterized by an often-confusing mixture of superficial psychological health in conjunction with deeper affective and behavioral dysfunction. In this respect, they are promising candidates for EISs given that they are marked by the simultaneous presence of largely independent features. For example, using a “thin-slice” paradigm, Oltmanns, Friedman, Fiedler, and Turkheimer (2004)

found that undergraduates rated individuals with pronounced histrionic PD traits as especially likable and attractive after viewing a brief video (30-s) clip of them. Yet such positive first impressions were probably deceptive in view of data suggesting that histrionic personality disorder is associated with long-term interpersonal impairment, especially among family members of individuals with this condition (Wilson et al., 2017).

Another potential example of an EIS as we conceptualize it is passive-aggressive (negativistic) PD, a condition that was included in Cluster C (anxious, fearful) of *DSM-III* (American Psychiatric Association, 1980), although it was later relegated (arguably based on inadequate evidence; Wetzler & Morey, 1999) to the *DSM* appendix and eventually removed entirely. Passive-aggressive PD is associated with an enduring pattern of behavior that many observers find confusing and frustrating. Individuals with this condition tend to resist requests and demands, but do so indirectly, such as by means of “intentional inefficiency,” procrastination, excuses, delaying, or “convenient forgetfulness” (see M. D. Miller et al., 1998). Hence, when one accuses people with this condition of being hostile or uncooperative, they have plausible deniability and frequently express surprise at the accusation. Passive-aggressive PD can be readily accommodated within the classical interpersonal circumplex. Interestingly, however, some evidence suggests that it reflects the nexus of extreme scores on two essentially uncorrelated dimensions that reflect affiliation-hostility and dominance-submission, namely, high hostility and high submissiveness (Morey, 1985; but see Soldz, Budman, Demby, & Merry, 1993, for more mixed results). Hence, passive-aggressive PD does not appear to be a classical syndrome. One interpretation of this finding is that most of us find people who are simultaneously hostile and submissive to be exceptionally challenging to deal with, because our attempts to confront them frequently meet with insidious resistance or outright denial (“I’m not angry at you; I don’t know what you mean”). In addition, their tendency to vacillate between distinct emotional states renders their behavior difficult to predict.

EMERGENT INTERPERSONAL SYNDROMES AND *DSM* PROTOTYPES

Our hypothesis concerning EISs suggest that *DSM-5*’s much maligned (e.g., Livesley, 2012) hybrid proposal for PDs, which ended up in Section III of the manual after being vetoed by the American Psychiatric Board of Trustees, may have inadvertently stumbled on an essential truth despite its genesis as an unhappy compromise between largely scientific and largely political considerations (see Zachar, Krueger, & Kendler, 2016, for a history). In this hybrid scheme, clinicians first determine whether the individual falls into the higher order category of PD using two criteria: (1) impairment in sense of self, interpersonal functioning, or both, and (2) the presence of pathological personality traits. Then clinicians rate the individual on a series of lower order facets drawn from one or more higher order PD dimensions, namely, Negative Affectivity, Detachment, Antagonism, Disinhibition, and Psychoticism, and assign him or her into one of the six proposed PD categories (Krueger, Hopwood, Wright, & Markon, 2014).

According to the view articulated here, the Section III proposal acknowledges that PDs comprise (a) composites of dimensionally distributed personality dimensions as well as (b) select prototypes that are especially interpersonally impactful. That is, to adequately conceptualize and operationalize PDs, we require both traits *and* interpersonal prototypes (see Benjamin, 1996).

According to our model, prototypes are needed because for some PDs, namely EISs, the whole (*viz.*, the global PD) differs from the sum of its parts (*viz.*, its constituent traits). That is, the existence of EISs implies that some PDs can be understood only as multiplicative configurations, not as purely additive combinations, of traits, and that we perceive these configurations as coherent, albeit fuzzy, folk concepts of interpersonal abnormality. In this respect, our EIS conceptualization opens the door for further consideration of person-centered approaches to PD research to complement more traditional variable-centered approaches (e.g., Neumann, Vitacco, & Mokros, 2016). Our reasoning also dovetails with that of Morey and Skodol (2013), who noted that the *DSM-5* Section III PD proposal was guided in part by “a strategy specifying configurations of features [that] will serve to reduce heterogeneity relative to a simple sum of PD characteristics by assuring that key, potentially interacting features must be present in some form” (p. 181).

Nevertheless, the strictly prototype-based approach to PD diagnosis advocated by some authors (e.g., Shedler & Westen, 2004) is unlikely to be sufficient, because some PDs, especially EISs, are heterogeneous composites of statistically interacting traits. As a consequence, moderate scores on some PD prototypes are likely to be ambiguous in interpretation, potentially reflecting several markedly different trait patterns.

In addition, our EIS hypothesis does not imply that PD prototypes need be wedded to *DSM* or *ICD* categories. Although many of these categories are probably rough approximations of interpersonally meaningful folk concepts, they are unlikely to all map extremely well onto the patterns of interpersonal dysfunction typical of certain PDs. Hence, our hypothesis should not be taken as an endorsement of the specific PD prototypes proposed in *DSM-5* Section III, only as an acknowledgment that prototypes of some form are needed to fully capture the meaningful interpersonal configurations that exemplify EISs.

THE MMPI AS A NEGLECTED SOURCE OF EMERGENT INTERPERSONAL SYNDROMES

Provisional support for the existence of EISs derives from a surprising, older body of literature, namely, research on the intercorrelations among the subscales of the Minnesota Multiphasic Personality Inventory clinical scales (MMPI; Hathaway & McKinley, 1940). This corpus of work appears to have been all but overlooked, although it is available in the correlation tables of scattered published scholarship on the measure (e.g., Graham, 2012, p. 120).

The MMPI, as all psychology students will recall, was developed using an empirical (criterion-keyed) method of test construction, in which a

large, atheoretically constructed item pool was administered to various criterion groups of patients diagnosed with various (pre-*DSM*) disorders as well as to an ostensibly normative sample; the items that differentiated these groups then comprised the clinical scales. In contrast to largely deductive (rational/theoretical) methods of test construction, the empirical method of test construction—although not especially efficient (Burisch, 1984; Jackson, 1971)—has the potential virtue of being inductive, allowing the selected items to mirror the at times messy state of nature. This approach tends to produce outcomes that some authors have criticized, including high within-scale heterogeneity and low scale internal consistency (Helmes & Reddon, 1993). Nevertheless, although not discussed by most critics of the MMPI, such heterogeneity is also consistent with the alternative hypothesis that certain MMPI scales capture EISs.

Although not intended by Hathaway and McKinley (1940), at least three of the MMPI (and MMPI-2) clinical scales display a psychometric anomaly that has received little attention. Much of this work comes from research on the Harris-Lingoes subscales, which subdivide scores on six of the clinical scales into narrower, deductively derived subscales (Harris & Lingoes, 1968). Specifically, Scale 3 (Hysteria), Scale 4 (Psychopathic deviate), and Scale 6 (Paranoia) contain distinct subsets of items that are modestly *negatively* correlated in general population samples. We discuss Scales 3 and 6 here and revisit Scale 4 in the following section (“The Conundrum of Psychopathic Personality: A Case Example”).

On Scale 3, the “somatic” items, reflecting a wide range of largely unexplained physical complaints, tend to be moderately negatively correlated with the “nonsomatic” items, reflecting a pollyannaish world view, neediness, low social anxiety, and a willingness to overlook faults in oneself and others (Almagor & Koren, 2001; Graham, 2012). These nonsomatic items bear an intriguing resemblance to many of the key features of histrionic PD (American Psychiatric Association, 2013) or the older concept of the hysterical personality (Shapiro, 1965). In conjunction, the presence of simultaneous elevations on these two subsets of items is reminiscent of the classic concept of *la belle indifférence* (Janet, 1907; Meehl, 1945). *La belle indifférence* is the puzzling insouciance in response to physical symptoms displayed by some individuals with somatoform disorders, such as conversion disorder (“conversion hysteria”) or the condition formerly termed somatization disorder or Briquet’s syndrome (but see Stone, Smyth, Carson, Warlow, & Sharpe, 2006).

Similarly, on Scale 6, items reflecting persecutory beliefs and emotional oversensitivity (“poignancy”) are moderately negatively correlated with items reflecting a propensity to be overly trusting of others (“naivete”; Almagor & Koren, 2001; Graham, 2012; H. R. Miller & Streiner, 2005; Ward, Kersh, & Waxmonsky, 1998). The latter items may reflect paranoid individuals’ perceptions that they have placed undue faith in others (“That’s what I get for trusting people so much; they always end up taking advantage of me”). In conjunction, simultaneous elevations on both subsets of items may reflect the presence of pronounced paranoid traits.

To be certain, these findings are not dispositive evidence for EISs. The MMPI's empirical method of test construction, which afforded minimal control over Type I error, almost surely resulted in the inadvertent selection of some items of questionable validity (e.g., Weed, Ben-Porath, & Butcher, 1990). Moreover, the Harris-Lingoes subscales were derived deductively using "eyeball" methods of face validity, although the same overall pattern of negative correlations remains even when examining the interrelations among factor-analytically derived MMPI subscales (Almagor & Koren, 2001). Furthermore, the criterion groups used in the construction of the MMPI may bear only a modest resemblance to those represented by contemporary *DSM* or *ICD* diagnoses. Several other criterion groups were either small or sub-optimal in other ways; for example, the criterion "group" for MMPI Scale 4 actually comprised two distinct subgroups ostensibly marked by high levels of psychopathy (one of male psychiatric patients, one of male prisoners), neither of which was systematically assessed for psychopathic features (McKinley & Hathaway, 1944). These noteworthy interpretative ambiguities aside, it is intriguing that when an inductive (empirical) approach to test construction is used to develop measures of psychopathology, in which no a priori constraints are imposed on item selection, distinct and clinically interpretable aggregates of items that are negatively correlated in the general population sometimes emerge.

PSYCHOMETRIC IMPLICATIONS OF THE EMERGENT INTERPERSONAL SYNDROME HYPOTHESIS

The proposition that some PDs are EISs engenders at least four falsifiable psychometric implications. First, as we have already seen, this proposal implies that some PDs should be marked by the co-occurrence of certain features that are largely independent and therefore only modestly or weakly, and perhaps even negatively, correlated in the general population.

Second, this proposal implies that the features of certain PDs should be characterized by substantially different, in some cases perhaps even directionally opposite, external correlates, because these features may reflect markedly different psychological processes. We can witness this process at work in the literature we have already reviewed on the somatic and nonsomatic items of MMPI (and MMPI-2) Scale 3. Whereas the somatic items are moderately to highly positively associated with a broad swath of MMPI-2 content scales assessing maladjustment, including those measuring cynicism, anger, fears, social discomfort, and Type A personality traits, the nonsomatic items are moderately negatively associated with these content scales. Similarly, on MMPI (and MMPI-2) Scale 6, items measuring persecutory ideas and emotional sensitivity are correlated in opposing directions with MMPI-2 content scales detecting maladjustment compared with items measuring *navete* (Almagor & Koren, 2001).

Third, our proposal suggests that even when pairs of features of certain PDs are positively correlated, they should be associated with cooperative (also termed crossover or reciprocal) suppressor effects, in which statistical control for each feature increases the other features' association with

theoretically relevant external correlates. Replicable cooperative suppression effects can be theoretically important, because they frequently point to the presence of distinctive underlying psychological processes (Paulhus, Robins, Trzesniewski, & Tracy, 2004). As Watson, Clark, Chmielewski, and Kotov (2013) observed, suppressor effects often help to bring “into clearer focus opposing elements that are inherent—but largely hidden—in the measure’s overall score” (p. 929), because they frequently result from the removal of nonspecific shared variance.

Fourth, our proposal suggests that the traits of some PDs should interact statistically when predicting interpersonally relevant outcomes (see also Allen et al., 2018; Shoss & Witt, 2013). That is, if some PDs are configural conditions (EISs), the relations among their features and interpersonal outcomes should not be purely additive; they should be multiplicative instead or as well. That is, only certain consistent patterns of PD features, but not patterns comprising other features, should be associated with interpersonally maladaptive sequelae. Furthermore, these statistical interactions should be sizable enough to engender pragmatically meaningful “response penetration” (see Tellegen, 1991) in everyday life, and to therefore be readily noticeable by others in interpersonal interactions.

The lattermost implication warrants elaboration. Certain traits may be relatively benign in isolation but boost risk for psychopathology especially or exclusively in the context of other traits, which may amplify their risk for internalizing pathology, externalizing pathology, or both. Consider neuroticism. Neuroticism places individuals at risk for a variety of forms of psychopathology, such as mood, anxiety, somatoform, and substance use disorders (Lahey, 2009; Watson & Clark, 1984). Nevertheless, many and arguably most individuals with elevated levels of neuroticism are not mentally disordered. Why? One reason may be that neuroticism boosts risk for psychopathology only or especially in conjunction with other personality traits, such as low positive emotionality or poor impulse control (Muris, 2006; Vasey et al., 2013).

For example, in a 3-year prospective study of college students, neuroticism conferred heightened risk for global anxiety especially in the presence of high introversion (Gershuny & Sher, 1998; see also Hotard, McFatter, McWhirter, & Stegall, 1989; McFatter, 1994). If these findings are replicable, they could reflect neuroticism’s and introversion’s likely linkages to sensitivity to punishment cues (see Zinbarg & Revelle, 1989), thereby potentiating each other’s impact. There is promising evidence for other trait–trait interactions in the psychopathology literature. For example, in both a large ($N = 3,855$) sample of Finnish military recruits and a large ($N = 1,078$) sample of psychiatric outpatients, high threat sensitivity and high disinhibition, as assessed by self-report measures, each contributed independently to suicide risk. Nevertheless, measures of these constructs also potentiated each other statistically in predicting suicide risk (Venables et al., 2015). One potential explanation of this statistical interaction is that highly threat-sensitive individuals, who tend to experience elevated levels of anxiety and distress, are

buffered against suicide risk in the presence of adequate impulse control; in contrast, they are deprived of this protective effect in the absence of adequate impulse control (see also Allen et al., 2018, for evidence of trait–trait interactions in statistically predicting depression risk).

Similarly, in the industrial–organizational literature, replicable interaction effects have emerged for several trait–trait combinations. For example, across multiple studies, employees with both low conscientiousness and low agreeableness (high antagonism) have received lower ratings of work performance and prosocial behavior (Burke & Witt, 2004; King, George, & Hebl, 2005; Witt, Burke, Barrick, & Mount, 2002; see Shoss & Witt, 2013, for a review) and have been less committed to their jobs (Arora & Rangnekar, 2016) compared with workers with low levels of either trait alone. Antagonism probably potentiates the effects of low conscientiousness in the workplace, because whereas employees who are unconscientious alone may merely be lazy or careless, those who are also antagonistic may channel their lack of conscientiousness into actively counterproductive work behaviors.

It is plausible, if not probable, that similar trait–trait interactions characterize the PD domain with respect to interpersonal behavior. Specifically, some PDs, namely EISs, may reflect maladaptive multiplicative combinations of two or more largely independent traits. Nevertheless, with rare exceptions that we will discuss, researchers have yet to examine this possibility systematically.

EMERGENT INTERPERSONAL SYNDROMES: RELATIONS TO REFLECTIVE, FORMATIVE, AND NETWORK MODELS

It is useful to situate our EIS proposal within the context of three overarching models of psychopathology: reflective, formative, and network (Bollen & Lennox, 1991; Howell, Breivik, & Wilcox, 2007). In reflective constructs, also called latent variables (Cohen, Cohen, Teresi, Marchi, & Velez, 1990), disorder features lie causally downstream of underlying variables. In contrast, in formative constructs, also called emergent variables (Cohen et al., 1990), causality flows in the reverse direction, because the conjunction of disorder features is posited to cause the construct. According to the proposal advanced here, certain PDs are reflective constructs, whereas others, namely, EISs, are formative constructs because they originate (emerge) from the interrelations among two or more traits, which need not be positively correlated. In contrast to network models (Borsboom & Cramer, 2013), our EIS proposal emphasizes the *statistical interactions* among features in contributing to interpersonal outcomes. For example, in passive-aggressive PD, hostility and submissiveness potentiate each other's adverse impact on social behavior, but they do not mutually influence each other directly, as in network models.

The distinctions among the four syndrome types we have outlined are summarized in Table 1. As we note, EISs are unique among these four types in being formative constructs. Nevertheless, our proposal does not exclude the possibility that the constituent traits comprising EISs themselves are reflective constructs, being underpinned by latent entities.

TABLE 1. Four Types of Syndromes

Syndrome Type	Are Features Positively Correlated in General Population?	Relation Between Latent Entity Features?	Do Features Interact Statistically in Predicting Outcomes?
Classical	Yes	Reflective	Not necessarily
Taxonic	Not necessarily	Reflective	Not necessarily
Network	Yes	No latent entity invoked	Not necessarily
Emergent Interpersonal	Not necessarily	Formative	Yes

THE CONUNDRUM OF PSYCHOPATHIC PERSONALITY: A CASE EXAMPLE

One test of the hypothesis that some PDs are EISs is afforded by research on psychopathic personality (psychopathy). As observed by Crego and Widiger (2015), “psychopathy is perhaps the prototypic personality disorder” (p. 665). Ironically, psychopathy is not included in the main text of *DSM-5* (American Psychiatric Association, 2013), although it now appears in Section III of the manual as a specifier for antisocial personality disorder (ASPD). Psychopathy appears to be a better candidate than is ASPD for an EIS given its disparate and often seemingly conflicting attributes. Hence, psychopathy is worth examining in depth as a test case for the EIS hypothesis.

THE CLECKLEY PSYCHOPATH

Although conceptions of psychopathy stretch across several centuries to the writings of Pinel, Morel, Schneider, Kraepelin, and others (Hervé, 2007; Pichot, 1978), this condition’s features were not systematically delineated until the 1940s, when Cleckley (1941/1976) authored his seminal book, *The Mask of Sanity*. The title of the book is revealing. Cleckley regarded psychopathy as a hybrid condition; indeed, he described psychopaths as “paradoxical” (Lilienfeld, Watts, Smith, Patrick, & Hare, 2018). For Cleckley, psychopaths present with a superficial veneer (“mask”) of healthy functioning; they tend to be charming, engaging, and poised on the surface:

More often than not, the typical psychopath will seem particularly agreeable and make a distinctly positive impression when he is first encountered. Alert and friendly in his attitude, he is easy to talk with and seems to have a good many genuine interests.... *He [sic] looks like the real thing.* (p. 339; emphasis added)

In conjunction, these traits comprise much of what Cleckley described as psychopaths’ mask of seemingly adaptive functioning.

At the same time, Cleckley (1941/1976) contended, these individuals are characterized by profound affective and interpersonal deficits; they are severely lacking in the capacity for guilt, emotional empathy, and intimate emotional attachments (see also McCord & McCord, 1964), and they are self-centered, dishonest, and manipulative.

Hence, the prototypical psychopath exhibits a puzzling and at times contradictory configuration of attributes: appealing, affable, and perhaps even seemingly trustworthy on the exterior, but coldhearted, affectively detached, and dishonest on the interior. Cleckley’s (1941/1976) conception of psychop-

athy as a paradoxical condition finds some support in interview-based data that psychopathic prisoners are more likely than nonpsychopathic prisoners during interviews to display both Duchenne (natural) smiles and hostility (ten Brinke et al., 2017). In addition, individuals with high levels of the interpersonal and affective features of psychopathy are especially adept at mimicking affective expressions, particularly fear and remorse (Book et al., 2015). In another investigation (Porter, ten Brinke, & Wilson, 2009), psychopathic offenders were 2.5 times more likely than were nonpsychopathic offenders to be recommended by officers for parole, suggesting that the former individuals had created a favorable impression during interviews and other interpersonal interactions. Yet these parole officers had been fooled, as psychopathic prisoners' later rates of recidivism were considerably higher than those of other prisoners. Cleckley's hybrid conception also accords with evidence that psychopathic individuals are especially adept at crafting a physically alluring veneer by donning external adornments (Holtzman & Strube, 2013). The pernicious mix of at times inconsistent traits observed in psychopaths may help to explain why so many people fall prey to their often-seductive charms (Konnikova, 2017; Patrick, 2006). This combustible combination of attributes may also help to explain several puzzling findings in the psychopathy literature, such as the low or in some cases even negative correlations between boldness traits (see next paragraph) and most other psychopathy traits.

These correlations can be clarified by the triarchic model (Patrick, Fowles, & Krueger, 2009), an effort to synthesize the diverse conceptualizations of psychopathy that emerged following Cleckley's seminal work. The first dimension of this model, *boldness*, comprises social and physical fearlessness, immunity to stressors, and emotional resilience; it consists of attributes that tend to be psychologically adaptive, at least in the short term, and presumably maps at least partially onto Cleckley's "mask" of sanity. The second dimension, *disinhibition*, comprises poor impulse control, low frustration tolerance, hostile attribution bias, and a disposition toward antisocial behavior. The third dimension, *meanness*, comprises callousness, guiltlessness, and emotional detachment. According to this model, which serves as a foundation for our foregoing analysis of psychopathy as an EIS, prototypical psychopathy results from high scores on all three triarchic dimensions.

PSYCHOPATHY AS AN EMERGENT INTERPERSONAL SYNDROME

Numerous authors have described psychopathy as a "syndrome" (e.g., Kosson, Lorenz, & Newman, 2006; Vitale & Newman, 2001; Weaver, Meyer, Van Nort, & Tristan, 2006), but there is ample reason to question this received wisdom, if by "syndrome" these authors imply a classical syndrome. Elsewhere, we (Lilienfeld, 2013; Lilienfeld & Fowler, 2006; Lilienfeld et al., 2012, 2018) have argued that psychopathy is best construed not as a purely additive combination of signs and symptoms, but as a configuration of several largely uncorrelated attributes that generate malignant interpersonal consequences—an EIS. This perspective was echoed by Crego and Widiger (2015) in contrasting psychopathy with cyclothymic disorder, which is likely

to be a classical syndrome: “Psychopathy ... is more likely a constellation of traits, with each having its own separate, independent etiology” (p. 674). This view also dovetails with evidence, reviewed earlier, that psychopathy is tied to extreme scores on two essentially orthogonal dimensions of the interpersonal circumplex, which are frequently rotated to reflect dominance and (reversed) affiliation (Salekin, Leistico, Trobst, Schrum, & Lochman, 2005).

In the section that follows, we review evidence bearing on the four hypotheses that we have deduced from the EIS hypothesis. As we will discover, the support for some of these predictions is reasonably compelling, whereas for others it is mixed but suggestive.

LOW OR NEGATIVE CORRELATIONS AMONG PSYCHOPATHY FEATURES

As observed earlier, one prediction of the EIS view is that the features of some PDs, in this case psychopathy, should be only modestly, weakly, or, in some cases, even negatively correlated. The evidence for this view hinges in part on the psychopathy measure used. For psychopathy measures that feature only modest coverage of boldness, such as the Psychopathy Checklist-Revised (PCL-R; Hare, 1991), or minimal or no coverage of boldness, such as the Levenson Self-Report Psychopathy Scale (LSRP; Levenson, Kiehl, & Fitzpatrick, 1995), the EIS proposal receives relatively little support. The subscales of these measures are robustly and positively intercorrelated (e.g., Sellbom, 2011; Vitacco, Neumann, & Jackson, 2005), and at least with respect to the PCL-R and measures derived from it, confirmatory factor analyses point to a higher order dimension ostensibly reflecting global psychopathy (e.g., Hare & Neumann, 2005).

In contrast, the picture changes when considering psychopathy measures that are moderately or highly saturated with boldness, a trait that largely captures the adaptive features of Cleckley psychopathy (Patrick, 2006). For example, the self-report Psychopathic Personality Inventory (PPI; Lilienfeld & Andrews, 1996), subsequently revised (PPI-R; Lilienfeld & Widows, 2005), was constructed using an iterative procedure in which candidate items were administered to multiple samples of participants, subjected to factor analyses, and refined over time (Sellbom, Lilienfeld, Fowler, & McCrary, 2018). One of the three PPI-R's higher order dimensions, termed Fearless Dominance, consists of the lower order scales of Social Influence (formerly termed Social Potency), Fearlessness, and Stress Immunity (Benning, Patrick, Hicks, Blonigen, & Krueger, 2003); scores on this broad dimension are highly correlated with boldness as measured by the Triarchic Psychopathy Measure (TriPM), which assesses the dimensions of the triarchic model.

Scores on Fearless Dominance are weakly associated with the other two higher order dimensions of the PPI-R, namely, Self-Centered Impulsivity and Coldheartedness, which map moderately to highly onto the triarchic dimensions of Disinhibition and Meanness, respectively (Marcus, Fulton, & Edens, 2013; J. D. Miller & Lynam, 2012). Hence, in contrast to the PCL-R, it is unlikely that the covariation of scores on the PPI or PPI-R can be accounted

for by a single higher order dimension (Neumann, Malterer, & Newman, 2008). Finally, several PPI/PPI-R subscale intercorrelations, such as that between Stress Immunity and Blame Externalization, the latter measuring an enduring propensity toward hostile attribution bias and perception of oneself as a victim, are moderately negative (Lilienfeld & Andrews, 1996; Lilienfeld & Widows, 2005).

These same overarching conclusions hold for several other psychopathy measures, suggesting that they cannot be explained away merely by anomalies of the internal structure of the PPI or PPI-R. For example, in the Elemental Psychopathy Assessment (EPA), a well-validated self-report measure designed to map psychopathy onto the higher order and lower order dimensions of the Five-Factor Model (FFM), the correlations between the higher order dimensions of EPA Emotional Stability (which in part reflects boldness) and EPA Disinhibition are slightly negative (Few, Miller, & Lynam, 2013; Lynam et al., 2013). Even more striking divergences emerge at the EPA subscale (lower order) level; for example, in two university samples, the correlations between EPA Self-Contentment (which loads primarily on EPA Emotional Stability) and EPA Urgency (which loads primarily on EPA Disinhibition) ranged from $r = -.42$ to $-.48$ (Few et al., 2013). Similar findings are evident with the TriPM. Paralleling findings on the PPI and PPI-R, TriPM Boldness tends to be only minimally or even slightly negatively associated with Disinhibition, and only weakly to moderately associated with Meanness (Blagov, Patrick, Oost, Goodman, & Pugh, 2015; Patrick, 2010); this finding holds for both informant and self-report data (Latzman et al., 2017).

Interestingly, the same pattern emerged for an early version of the Self-Report Psychopathy (SRP) scale, a questionnaire modeled after the PCL (Hare, Harpur, & Hemphill, 1989). A factor analysis of a preliminary iteration of the SRP in undergraduates yielded two dimensions, the first of which reflected manipulativeness, dishonesty, and antisocial behavior, and the second of which reflected “emotional stability” (K. M. Williams & Paulhus, 2004). The items on the latter factor (e.g., “I think of myself as self-assured and confident”; “I wish I could be more assertive,” reverse-scored; “I often worry unnecessarily,” reverse-scored), seemed to reflect boldness, especially in the social realm. These two factors correlated significantly but only weakly ($r = .15$), leading the authors to describe the factor structure as “disappointing” (K. M. Williams & Paulhus, 2004, p. 770). They concluded that “the implication that confident, stable individuals are psychopathic rules out its use as a subscale” (p. 772). Nevertheless, a rival interpretation is that these traits are part-and-parcel of psychopathy, reflecting the social poise, charisma, and sangfroid identified by Cleckley (1941/1976) and others. The authors further reported that an alternative five-factor solution of the SRP yielded modest or even slightly negative factor interrelations (r s range from $-.08$ to $.22$). Many or most of the emotional stability items appear to have been omitted from later versions of the SRP, resulting in a psychometrically cleaner factor structure. Nevertheless, this omission may have come at the cost of diminished content validity.

As noted earlier, one observes this pattern of negative subscale correlations even on MMPI (and MMPI-2) Scale 4 (Psychopathic deviate). Scale 4, it should be noted, is a suboptimal measure of psychopathy, because it is largely a measure of generalized antisocial behavior rather than the core interpersonal and affective traits of psychopathy (Gynther, Altman, & Warbin, 1973; Harpur, Hare, & Hakstian, 1989; Sellbom, Ben-Porath, Lilienfeld, Patrick, & Graham, 2005). This limitation notwithstanding, Scale 4 contains one brief (six-item) Harris-Lingoes subscale, Social Imperturbability, that is weakly to moderately negatively associated with several of the other Scale 4 Harris-Lingoes subscales (Graham, 2012, p. 120). Interestingly, Social Imperturbability, which assesses assertiveness and a relative absence of social anxiety, is the lone Scale 4 subscale that is moderately to highly associated with the features of boldness, most notably PPI Social Influence and Stress Immunity (Lilienfeld, 1999), broadly corroborating findings that boldness is largely unassociated with other features of psychopathy (Patrick, 2010).

There are two competing explanations for the low or at best modest correlations between measures of boldness and measures of other psychopathy features. The first is that boldness is largely or entirely irrelevant to psychopathy and is at best a modifier of core psychopathic attributes (Lynam & Miller, 2012; J. D. Miller & Lynam, 2012). From this perspective, boldness does not “belong” in the psychopathy construct given that it maps onto adaptive features, which seem oddly misplaced in a conceptualization of personality pathology. This hypothesis, although difficult to falsify, is not easily reconciled with data that (a) measures of boldness are moderately to highly correlated (mean weighted $r = .39$) with total scores on a variety of measures of non-PCL psychopathy, most of which were developed and validated outside of prison samples (Lilienfeld et al., 2016); (b) boldness is moderately to highly associated with clinicians’, academicians’, and laypersons’ ratings of psychopathy above and beyond other psychopathy dimensions (Berg, Lilienfeld, & Sellbom, 2017; Sörman et al., 2016); (c) boldness is necessary (although perhaps not sufficient) for distinguishing psychopathy from antisocial PD (B. Murphy, Lilienfeld, Skeem, & Edens, 2016; Venables, Hall, & Patrick, 2014; Wall, Wygant, & Sellbom, 2015); (d) survey data demonstrate that boldness traits feature prominently in Cleckley’s (1941/1976) 15 classic case histories in *The Mask of Sanity* (Crego & Widiger, 2016); and (e) fearlessness, which is a cardinal feature of boldness, is a robust correlate of childhood and adolescent psychopathy, especially its associated callous-unemotional (affective) features (e.g., Klingzell et al., 2016).

The second hypothesis, and the one posited here, is that boldness is an essential feature of psychopathy that helps to account for the façade of healthy functioning displayed by prototypical psychopaths (Lilienfeld et al., 2012; Patrick, Venables, & Drislane, 2013). Furthermore, the low or negligible correlation between boldness and other psychopathy features is anomalous only if one presumes that psychopathy is a classical syndrome. In contrast, if one assumes that psychopathy is an EIS, this finding is actually consistent with Cleckley’s (1941/1976) observation that this condition reflects a paradoxical configuration of attributes.

DIVERGING OR OPPOSING CORRELATIONS BETWEEN PSYCHOPATHY FEATURES AND EXTERNAL CORRELATES

If the traits comprising psychopathy indeed reflect fundamentally different psychological processes, these traits should display markedly different external correlates. This hypothesis has generally been corroborated in numerous studies examining alternative operationalizations of psychopathy, although this pattern of findings holds most strongly for indicators of emotional maladjustment, such as depression, anxiety, and anger.

The differential correlates of psychopathy subdimensions are most apparent for measures, such as the PPI/PPI-R and TriPM, whose subdimensions are largely orthogonal, thereby allowing clear-cut discriminant validity to emerge. For example, whereas PPI Fearless Dominance is negatively and moderately correlated with a broad swath of measures of maladjustment, such as phobic fears, trait anxiety, depression, and bipolar disorder, PPI Self-Centered Impulsivity tends to be positively and moderately correlated with these variables, generating a virtual mirror-image pattern of correlations (Benning, Patrick, Blonigen, Hicks, & Iacono, 2005; Benning et al., 2018; Edens & McDermott, 2010; Lilienfeld & Widows, 2005). Similarly, whereas TriPM Boldness is moderately and negatively associated with self-reported hostility and anxiety/depression, TriPM Disinhibition displays the reversed pattern, with TriPM Meanness being essentially uncorrelated with these variables (Fanti, Kyranides, Drislane, Colins, & Andershed, 2016). More broadly, TriPM Boldness is negatively, but TriPM Disinhibition is positively, associated with internalizing psychopathology (Latzman et al., 2017). In addition, psychopathy subdimensions often fractionate in opposing directions with leadership variables. For example, TriPM Boldness is positively associated with adaptive leadership styles, whereas TriPM Disinhibition and Meanness are negatively associated; conversely, TriPM Boldness is negatively associated with passive leadership styles, whereas TriPM Disinhibition and Meanness are positively associated (Neo, Sellbom, Smith, & Lilienfeld, 2016).

Although the findings tend to be less striking, marked differential correlates sometimes emerge even for psychopathy measures in which subfactors are moderately to highly correlated, such as the PCL-R (Hare, 1991). For example, PCL-R Factor I, which assesses the core affective and interpersonal features of psychopathy, tends to be largely uncorrelated or slightly negatively correlated with measures of trait anxiety and fear, as well as largely uncorrelated with verbal intelligence. In contrast, PCL-R Factor II, which assesses a long-standing antisocial lifestyle, tends to be positively associated with measures of trait anxiety and fear, and (at least in prison samples) negatively correlated with verbal intelligence (e.g., Hale, Goldstein, Abramowitz, Calamari, & Kosson, 2004; Harpur et al., 1989).

COOPERATIVE SUPPRESSOR EFFECTS BETWEEN PSYCHOPATHY SUBDIMENSIONS

As observed earlier, cooperative suppression is a rare phenomenon that arises when examining the association between two predictor variables and an out-

come variable; controlling for the statistical influence of each predictor increases (rather than decreases, as is observed in the much more typical cases of statistical redundancy) the association of the other predictor with the outcome. Although suppressor effects in general are notoriously sample-specific and challenging to replicate (Tzelgov & Henik, 1991; Wiggins, 1973), the existence of cooperative suppression between psychopathy dimensions is arguably among the most robust findings in the psychopathy literature. These statistical effects have emerged most consistently for measures, such as the PCL-R, whose subdimensions are moderately to highly correlated. Not unexpectedly, they are far less prevalent for the PPI (PPI-R) and TriPM, whose subdimensions are less highly correlated and thereby militate against the existence of potent suppressor effects (which require nontrivial correlations between predictor variables).

Across numerous studies, statistical control for Factor I (affective, interpersonal) features of the PCL-R, LSRP, and the Antisocial Process Screening Device (APSD), a measure of childhood/adolescent psychopathy modeled after the PCL, tends to boost the often weak positive zero-order associations between Factor II (antisocial lifestyle) features and indices of negative emotionality, such as anxiety, distress, and hostility. In contrast, statistical control for the Factor II features of psychopathy tends to boost (viz., render more negative) the often weak or negligible negative zero-order associations between Factor I features and self-report indices of negative emotionality (Blonigen et al., 2010; Drislane et al., 2015; Frick et al., 2000; Frick, Lilienfeld, Ellis, Loney, & Silverthorn, 1999; Hicks & Patrick, 2006; Hyde et al., 2016; Kennealy, Hicks, & Patrick, 2007; Kosson, Steuerwald, Forth, & Kirkhart, 1997; McHoskey, Worzel, & Szyarto, 1998; Patrick, 1994). That is, the former associations, typically expressed as partial or semipartial correlations, become significantly and often substantially more positive, whereas the latter become significantly and substantially more negative. The same pattern of cooperative suppression has been reported for measures of antisocial behavior, aggression, and substance use (Kennealy et al., 2007).

This pattern extends to laboratory indicators of emotional processing. Vanman, Mejia, Dawson, Schell, and Raine (2003) reported a cooperative suppression effect for measures of fear-potentiated startle (FPS), whereby the association between PCL-R Factor I traits and FPS became more negative (i.e., weaker FPS) following statistical control for Factor II traits, whereas the association between Factor II traits and FPS became more positive following statistical control for Factor I traits. Using functional brain imaging, Seara-Cardoso, Viding, Lickley, and Sebastian (2015) found that Factor I scores on the SRP (Paulhus, Neumann, & Hare, 2015) became significantly more negatively correlated with neural (e.g., anterior insula) response to images depicting others' pain following statistical control for Factor II scores. Conversely, Factor II scores became significantly more positively correlated with this neural response following statistical control for Factor I scores. Cooperative suppression effects have emerged in several other neuroimaging and electrocortical investigations of both youth and adult psychopathy. In Hyde et al. (2016) and Gao et al. (2018), the absolute magnitudes of associations between affective/interpersonal dimensions and antisocial-impulsive dimen-

sions, on the one hand, and psychophysiological indicators tied to emotional and/or cognitive processing (e.g., P300 amplitude, amygdala activity), on the other hand, increased after controlling for the statistical influence of the corresponding psychopathy dimension. However, given that these findings derive from small or modest samples (e.g., the *N* in Seara-Cardoso et al., 2015, was only 31), they should be interpreted cautiously pending independent replication.

In aggregate, these findings suggest that when the statistical overlap between psychopathy subdimensions is removed, both of the residualized psychopathy dimensions become more divergent in their correlates, perhaps because this overlap reflects method covariance (e.g., social desirability artifacts, rater biases) or a nonspecific dimension (e.g., generalized impairment; Widiger & Oltmanns, 2016) that is largely irrelevant to psychopathy. These results, which unsurprisingly are most marked for psychopathy measures whose subdimensions are moderately to highly correlated, are potentially important given that cooperative suppression is often a signpost of distinctive processes underpinning these dimensions (Paulhus et al., 2004; Watson et al., 2013). In this respect, these findings afford encouraging, but not dispositive, evidence for the hypothesis that psychopathy is an EIS, that is, an interpersonally impactful condition emerging from the co-occurrence of largely unrelated attributes.

One caveat that should be attached to these findings is that most authors in the psychopathy literature have not reported on the presence or absence of cooperative suppression in published articles, so the prevalence of unreported negative findings is difficult to ascertain. We encourage authors in the psychopathy literature, especially those who administer the PCL-R and cognate measures (e.g., LSRP, SRP) marked by substantially overlapping subdimensions, to test for and report on the presence or absence of cooperative suppression effects in their datasets.

STATISTICAL INTERACTIONS BETWEEN PSYCHOPATHY SUBDIMENSIONS IN PREDICTING EXTERNAL CRITERIA

If a subset of PDs are EISs, they should be characterized by (multiplicative) patterns of signs and symptoms that interact statistically to yield maladaptive social outcomes (Andershed, 2010; Lilienfeld & Fowler, 2006; Lilienfeld et al., 2018; Patrick & Drislane, 2015). Such interactions ostensibly reflect the distinctive blend of superficial charm, on the one hand, and affective and behavioral malignancy, on the other hand, that can lure unwitting victims into psychopathic individuals' web. Referring to Cleckley's (1941/1976) conceptualization of the psychopath, Hopwood (2018) wrote that "The 'psychopath' in this formulation is not simply antagonistic. She concatenates antagonistic motives with agreeable behaviors to achieve self-serving outcomes" (p. 513). This view implies that psychopathy is intrinsically interactional in nature. It suggests that antagonistic features, such as dishonesty and manipulativeness, are necessary but insufficient to yield the full clinical picture of psychopathy, probably because individuals with elevated antagonism alone are unlikely to be persuasive in their efforts at deception, manipulation, and

seduction (Lilienfeld et al., 2018; but see Lynam & Miller, 2012, for a contrary view). Instead, antagonistic features must typically be conjoined with social boldness to generate short-term social success. Nevertheless, the support for this interactional hypothesis has been inconsistent across studies.

Despite an initial positive report (Harpur & Hare, 1991), a meta-analysis of studies ($k = 32$, $N = 10,555$) of the PCL-R yielded no support ($d = .00$) for the hypothesis that psychopathy subdimensions interact statistically in the prediction of violence (Kennealy, Skeem, Walters, & Camp, 2010). Nevertheless, because the subdimensions of the PCL-R are moderately to highly correlated (Hare, 1991), they may not be ideal for detecting statistical interactions. High correlations between predictor variables (multicollinearity) render it difficult to detect interactions (Jaccard, Wan, & Turrisi, 1990).

Somewhat more promising, albeit still somewhat inconsistent, results have emerged in studies of the PPI (PPI-R) and TriPM, whose subdimensions are less collinear, thereby affording enhanced opportunity for detecting statistical interactions. In a number of investigations, researchers have reported significant statistical interactions—typically of a potentiating form—between measures of boldness and disinhibition in the statistical prediction of antisocial behaviors and other adverse outcomes, such as predatory aggression (S. T. Smith, Edens, & McDermott, 2013), sexual risk taking (Kastner & Sellbom, 2012), negative affect (e.g., guilt, shame) following risky sexual behavior (Fulton, Marcus, & Zeigler-Hill, 2014), positive attitudes toward sexually coercive behaviors (Marcus & Norris, 2014), and treatment failure among domestic abusers (Rock, Sellbom, Ben-Porath, & Salekin, 2013). Nevertheless, most of the studies reported only the statistical significance, not the magnitude, of the interaction effects. There are few published investigations of this statistical interaction in laboratory studies, although one investigation revealed a potentiating interaction between boldness and disinhibition in statistically predicting interference by emotional stimuli during a categorization task (Maes & Brazil, 2015). In aggregate, these results suggest that boldness, although typically adaptive in its correlates, may at times become maladaptive in the presence of disinhibition.

Consistent evidence for interactional effects has also emerged in studies of the Youth Psychopathic Traits Inventory (YPI), a well-validated measure of psychopathic traits in children and adolescents. The YPI consists of three factor-analytically derived subscales: Grandiose-Manipulative, Callous-Unemotional, and Impulsive-Irresponsible (see Andershed, Kerr, Statin, & Levander, 2002). These three subdimensions map broadly onto Boldness, Meanness, and Disinhibition, respectively (Patrick et al., 2009). In four studies of youth samples, three-way potentiating interactions (Colins et al., 2014; Fanti, Kyranides, Lordos, Colins, & Andershed, 2018, Orue & Andershed, 2015; Somma, Andershed, Borroni, & Fossati, 2018) have emerged among the three YPI subdimensions in statistically predicting externalizing behavior, such as conduct problems and proactive aggression.

Although less extensively researched, provisional evidence suggests the possibility of boldness by disinhibition interactions in the *opposite* direction for internalizing behaviors, such as measures of anxiety and depression. In

two samples, one of community adults who completed self-report measures and one of community adults who completed informant measures on someone they knew well, Latzman et al. (2017) reported that boldness attenuated—rather than potentiated—the positive association between disinhibition and a broad measure of internalizing symptoms. This buffering interaction was marginally significant in the first sample, and it reached statistical significance in the second sample. These intriguing but preliminary findings are consistent with the possibility that boldness, perhaps by virtue of its ties to emotional resilience (Patrick et al., 2009), confers modest immunity to distress (see Nelson, Strickland, Krueger, Arbisi, & Patrick, 2016; Venables et al., 2017, for broadly comparable findings). Similarly, in sample of university students, Sellbom (2015) found that boldness significantly attenuated the association between disinhibition and posttraumatic stress symptoms. This buffering interaction, if replicable, may in part reflect the “mask” of calm and equanimity in the face of stressors that Cleckley (1941/1976) identified as emblematic of the psychopath.

In contrast, in a number of other studies, such interactions have been negligible and often nonsignificant when statistically predicting generalized antisocial behavior (Coffey, Cox, & Kopkin, 2018; Gatner, Douglas, & Hart, 2016; Hunt, Bornovalova, Kimonis, Lilienfeld, & Poythress, 2015; Vize, Lynam, Lamkin, Miller, & Pardini, 2016) or more specific forms of such behavior, such as pathological gambling or substance abuse (Maples et al., 2014). In still other investigations, the results have been mixed; for example, using a latent variable approach, Neo et al. (2016) found that meanness, but not boldness, interacted statistically with disinhibition to statistically predict high levels of counterproductive work behaviors in a community sample.

The reasons for these discrepancies across studies are unclear. It is unknown whether the significant interactional findings reflect Type I errors, whether the nonsignificant findings reflect Type II errors, or whether the differences across studies reflect the operation of undetected moderators, such as measure or sampling differences. Furthermore, as in the case of cooperative suppressor effects, the true prevalence of Type I and Type II errors is difficult to ascertain. It is plausible that some researchers have tested for statistical interactions, failed to detect them, and not reported them; conversely, it is also plausible that some researchers have neglected to test for such interactions and thereby overlooked potentially significant findings. We encourage researchers to consistently test for and report on the presence or absence of statistical interactions among psychopathy subdimensions in their datasets.

SUMMARY AND IMPLICATIONS

In sum, findings on psychopathy subdimensions provide at least some evidence for the position that psychopathy is an EIS, although the strongest supportive data derive from self-report measures of this condition that are imbued with boldness. Specifically, data suggest that subscales on several well-validated questionnaire measures of psychopathy, including the PPI/PPI-R, TriPM, EPA, and an early version of the SRP, tend to be weakly or even

slightly negatively correlated. Furthermore, these subscales at times display markedly diverging, even opposing, correlations with external indicators, especially markers of distress. For measures whose subscales are moderately to highly correlated, such as the PCL-R, cooperative suppression effects comprising these subscales frequently emerge (Hicks & Patrick, 2006), buttressing the contention that these subscales reflect distinctive processes.

Unquestionably, the weak link in the chain is the literature on statistical interactions among psychopathy subdimensions. Although some authors have reported significant interactions among such subdimensions in statistically predicting important outcomes (e.g., Latzman et al., 2017; S. T. Smith et al., 2013; Somma et al., in press), such as adult antisocial behavior and youth conduct problems, others have not (e.g., Vize et al., 2016).

Nevertheless, moderation analyses are marked by low statistical power for a number of reasons, including multicollinearity among predictor variables and the fact that such analyses typically entail multiplying two variables that each contain measurement error. As a consequence, in future work it will be important to examine statistical interactions among latent variables underpinning psychopathy dimensions given that these variables are free of measurement error arising from imperfect internal consistency among indicators (Jaccard & Wan, 1995). Another consideration militating against the detection of interactions is that some of the subcomponents of PDs are themselves often heterogeneous, thereby introducing measurement error (see G. T. Smith, McCarthy, & Zapolski, 2009, for a discussion of the importance of using homogeneous constructs in theory testing in personality and psychopathology research). For example, in the PPI-R, the higher order dimension of Fearless Dominance comprises the subdimensions of Social Influence, Fearlessness, and Stress Immunity, whose pairwise correlations typically range from only $r = .25$ to $.40$ (Lilienfeld & Widows, 2005). This lack of psychometric purity may dilute or obscure statistical interactions that apply to only one lower order dimension housed within higher order traits.

If our EIS model has merit, it would further predict that statistical interactions should be most pronounced for socially relevant outcomes, especially those in which one would anticipate the misleadingly hybrid nature of psychopathy to be most salient. Hence, we encourage future researchers to examine the interactions between psychopathy dimensions for statistically predicting such outcomes as deception, fraud, manipulation, sexual seduction, mate poaching, and malevolent leadership, all of which may be facilitated by a veneer of superficially healthy functioning counterposed against a readiness to exploit others.

We especially call for situating such efforts within a longitudinal framework. For example, we hypothesize that boldness is linked to positive social impressions in the short term but that the statistical interaction between boldness and disinhibition is linked to negative social impressions in the long term given that it typically takes time for psychopathic individuals' "true colors," such as their devious propensities, to become evident to observers.

TOWARD A RESOLUTION OF THE BOLDNESS DEBATE: CLASSICAL PSYCHOPATHY AS A FOLK CONCEPT

If our EIS hypothesis is correct, it would dovetail with the suggestion that psychopathy reflects a folk concept, one mapping onto an at times contradictory configuration of traits tied to deception, manipulation, exploitation, and free-riding. This hybrid folk concept has long appeared and reappeared in a myriad of guises in popular culture, literature, and film: Theophrastus's "dissimulator," the phony, the wolf in sheep's clothing, the confidence (con) artist, the smooth operator, the social chameleon, the used-car salesperson, the back-stabber, the snake in a suit, the devil in disguise, and so on (Lilienfeld et al., 2018).

All of these prototypes, their superficial differences notwithstanding, encapsulate the essence of the seemingly likable individual who is not whom he or she appears to be. We may be especially attuned to people who exemplify this prototype because we recognize that we can be easily duped by them (see also Widiger & Lynam, 1998). We may be alert to them because they activate our innate cheater-detection algorithms (Barkow, Comsides, & Tooby, 1992; but see Fodor, 2000) or because we have learned over time that we should be wary of people who seem "too nice" at first blush. Humans' inherent propensity to detect and recall distinctive patterns that are evolutionarily significant may also facilitate such recognition (Shermer, 2008). From a triarchic model perspective (Patrick et al., 2009), people who are disinhibited and mean are unlikely to fool us because they are decidedly unpleasant interpersonally; in contrast, people who are bold, along with being disinhibited, mean, or both, are more likely to fool us because they are superficially prepossessing.

This reconceptualization may inform an ongoing debate in the psychopathy literature regarding the place, if any, of boldness in the psychopathy construct. Some authors contend that boldness is necessary, albeit insufficient, to account for the full condition of psychopathy (Lilienfeld et al., 2012; Lilienfeld, Watts, Smith, Berg, & Latzman, 2015). In contrast, others disagree, citing well-replicated data that boldness is weakly associated with total scores on the PCL-R and allied measures and, just as important, to antisocial behavior (Lynam & Miller, 2012; Marcus et al., 2013; Miller & Lynam, 2012).

Our ecumenical position is that both perspectives have merit, and that the resolution of this controversy hinges crucially on how one defines "psychopathy" in the first place (see also Hopwood, 2018). Much of the debate here is every bit as much analytical (i.e., definitional) as synthetic (i.e., empirical), to borrow Kant's (1781/2008) well-worn distinction. If one defines psychopathy as potentially successful in the short run, boldness becomes relevant to the construct given that it is probably necessary to account for the superficial veneer of adaptive functioning, comprising such traits as charisma, poise, flamboyance, and venturesomeness, that is one hallmark of the Cleckley (1941/1976) psychopath (Patrick, 2018). It is worth noting,

incidentally, that in his writings aside from *The Mask of Sanity*, Cleckley left scant doubt that he viewed psychopaths as at least partially successful in the short term, even if usually disastrously unsuccessful in the long term. For example, Cleckley (1946) wrote that “Usually, he [*sic*] will have succeeded better than average for days, weeks or months, and nearly always, even in a decade’s background of nearly incredible failures and follies, sporadic, brief flashes of ability show” (p. 22). In contrast, if one defines psychopathy as largely or entirely pathological and as tied largely or exclusively to antisocial behaviors, boldness becomes at best peripheral to psychopathy.

From the former perspective, psychopathy differs sharply from the *DSM* diagnosis of ASPD (see also Lykken, 1995); from the latter perspective, psychopathy and ASPD overlap substantially (e.g., Lynam & Vachon, 2012). In this respect, the term *successful psychopathy* (Lilienfeld, Watts, & Smith, 2015) is arguably something of a pleonasm, because psychopathy—at least compared with ASPD—is inherently successful, at least in the short term.

In our view, neither conceptualization of the condition is inherently more “accurate” than the other (see also Crego & Widiger, 2015). Classical (Cleckley) psychopathy is a multifaceted condition, which, at least as operationalized by measures imbued with boldness, is something of a psychometric anomaly given the weak associations among some of its subtraits. In contrast, ASPD is a more coherent and homogeneous condition because it reflects the conjunction of two moderately or highly correlated maladaptive attributes, namely, disinhibition and meanness (or the allied trait of antagonism). Each condition is linked to differing nomological networks (Cronbach & Meehl, 1955), in turn reflecting differing correlates, namely, a complex mixture of successful and unsuccessful behaviors in the case of psychopathy but primarily of unsuccessful behaviors in the case of ASPD. In addition, each condition maps onto a different folk concept, with the modal psychopath reflecting the wolf in sheep’s clothing (and cognate prototypes) and the modal individual with ASPD reflecting the common career criminal.

We suspect that the source of the long-standing difference between these two perspectives on the condition stems in part from sampling differences. Many psychopathy scholars have concentrated their efforts on prison and jail samples, as well as other samples that are at elevated risk for antisocial behavior, all of which are presumably characterized by a predominance of largely unsuccessful individuals. In contrast, others have concentrated their efforts on community or undergraduate samples, which are presumably characterized by a higher prevalence of largely successful individuals, perhaps including those who have capitalized on certain psychopathic traits, especially boldness, to achieve success in social relationships or in the business world (S. F. Smith & Lilienfeld, 2013). Understandably, the former scholars are probably less likely to perceive boldness as an important trait than are the latter, if only because they typically encounter much lower levels of boldness in their everyday work with criminals.

DISCUSSION: RETHINKING PERSONALITY DISORDERS

Our EIS model implies that PDs are alike in one important way, but differ among themselves in a second important way. Specifically, we posit that although PDs are unified in their tendency to generate characteristic interpersonal impacts that coalesce into readily recognized folk prototypes, they fall broadly into two superordinate categories. One of them comprises conditions that are relatively mild or alternative manifestations (“formes frustes”) of major mental disorders (e.g., major depression, schizophrenia, social anxiety disorder; see Alnaes & Torgersen, 1988), and, like these disorders, are marked by moderately to highly intercorrelated features. In contrast, the second category, which probably comprises most Cluster B PDs along with psychopathy and several other conditions not formally included in the *DSM* (e.g., passive-aggressive PD), consists of what we term emergent interpersonal syndromes, stemming from configurations of largely independent traits that conjointly engender characteristically adverse influences on others. Although we have focused on psychopathy given that the literature bearing on the tenets of our EIS hypothesis is almost certainly the best developed for this condition, our analysis can be provisionally extended to other PDs, especially other Cluster B conditions. In doing so, however, we do not intend to reify the PD categories in the *DSM* or *ICD*, which are unlikely to map extremely well onto psychological reality.

EXTENDING THE EIS HYPOTHESIS TO OTHER PERSONALITY CONDITIONS

This caveat notwithstanding, narcissistic PD is a promising candidate for an EIS given that its features are underpinned by two dimensions, grandiose (overt) and vulnerable (covert; see Wink, 1991), albeit probably with somewhat greater representation of the former (see J. D. Miller, Lynam, & Campbell, 2016, and Wright, 2016, for discussion regarding the relevance of these dimensions to narcissistic PD). Grandiose narcissism is typified by flamboyance and self-aggrandizement, whereas vulnerable narcissism is typified by brittleness and defensiveness. These two dimensions, although sharing antagonism, tend to be only weakly or at best moderately correlated. Furthermore, they tend to fractionate in opposing directions with neuroticism (grandiose – negative; vulnerable – positive) and extraversion (grandiose – positive; vulnerable – negative; J. D. Miller et al., 2011). Consistent with the possibility that NPD is an EIS, provisional research points to suppressor effects comprising these two dimensions. Specifically, in two large samples, one clinical and one undergraduate, Edershile, Simms, and Wright (in press) found that grandiose narcissism scores displayed more marked positive associations with extraversion and more marked negative associations with neuroticism and measures of Cluster A and C personality disorders, after controlling for vulnerable narcissism scores. We are aware of only one study examining the statistical interaction of these two dimensions. Manley, Roberts, Beattie, and Woodman (2018) reported that in three online community samples, grandiose and vulnerable narcissism interacted in predicting self-reported goal

persistence, including perseverance following achievement-oriented (but not interpersonal) setbacks. Specifically, only individuals with elevated scores on both subdimensions reported consistently persisting in pursuing their goals in the face of failures or obstacles. A plausible interpretation is that, in the aftermath of defeat, individuals with high levels of grandiose narcissism alone tend to lick their wounds and pursue alternative courses of action; in contrast, grandiosely narcissistic individuals who also possess elevated levels of vulnerable narcissism tend to persist in previously punished behavior in the hopes of assuaging their bruised egos.

In contrast, the evidence for borderline PD's status as an EIS is considerably more mixed. More than a decade ago, after reviewing the literature on BPD, Paris (2007) concluded that "BPD is a multidimensional syndrome that is not rooted in a single diathesis" (p. 457) and that "attempts at simplifying BPD, either into an Axis I variant or one primary trait, have not been successful. The clinical picture is more than the sum of its parts" (p. 468; see Tellegen, 1993, and Muñoz-Champel, Gutiérrez, Peri, & Torrubia, 2018, for similar arguments). Specifically, BPD draws upon traits from several modestly overlapping but etiologically separable FFM domains, especially neuroticism and, to a lesser extent, reversed conscientiousness and agreeableness (antagonism; Saulsman & Page, 2004; Widiger & McCabe, 2018). In addition, in two samples, psychopathy Factor I and Factor II, which are in part proxies for more fundamental trait dimensions (Factor I: low agreeableness; Factor II: low agreeableness + low conscientiousness), interacted statistically in a potentiating manner to boost risk for borderline PD traits. Nevertheless, this association was consistent only in women (Sprague, Javdani, Sadeh, Newman, & Verona, 2012), highlighting the need for independent replication. We are unaware of any studies examining the implications of statistical interactions among borderline PD traits *per se* (e.g., instability in identity, chronic anger) for interpersonal behavior, or of studies examining suppressor effects among BPD dimensions. Other data are inconsistent with BPD's status as an EIS. Specifically, some but not all factor analytic data (Sanislow et al., 2002; Trull, Distel, & Carpenter, 2011) suggest that although BPD is multidimensional at a lower order level, its shared variance can be accommodated by a single higher order dimension, which largely reflects the nexus of neuroticism with reversed agreeableness and conscientiousness. Moreover, twin data suggest that the subdimensions underpinning BPD may stem from a single, highly heritable higher order factor (Kendler, Myers, & Reichborn-Kjennerud, 2011). In view of these inconsistencies, we call for further research on BPD within the EIS framework.

Our EIS proposal implies that meaningful statistical interactions among PD features are likely to be the exceptions rather than the rule, perhaps corresponding to "zones of rarity" reflecting distinctive, interpersonally meaningful configurations of such features. For example, in a large dataset of approximately 35,000 participants, Trull, Vergés, Wood, Jahng, and Sher (2012) examined all possible pair-wise interactions among seven factor-analytically derived PD variables in statistically predicting 19 outcomes, some of them interpersonal (e.g., divorce, problems with boss), and reported that "the number of significant interactions was higher than chance expectations

... for only four of the 19 outcomes, and examination of the plots did not reveal any consistent or interpretable interaction pattern” (p. 361). Nevertheless, such findings do not necessarily vitiate the EIS hypothesis, which posits statistical interactions only for circumscribed patterns of interpersonal outcomes.

Another intriguing implication of our analysis is that the EIS framework may apply to certain widely recognized personality conditions not present in the *DSM* or *ICD*. For example, the long-discussed but contentious concept of the authoritarian personality (Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950) is another potential candidate for an EIS. Although authoritarianism has often been characterized as a monolithic syndrome, some analyses suggest that it comprises at least three separable subdimensions, namely, submissiveness toward authority figures, punitiveness toward figures who disobey authority, and conformity with respect to societal norms, and that measures of these constructs may be only moderately or even weakly intercorrelated (Duckitt, Bizumic, Krauss, & Heled, 2010). Indeed, an EIS conceptualization dovetails broadly with the time-honored conception of authoritarian individuals as simultaneously obsequious toward persons above them in the status hierarchy *and* hostile toward persons below them in this hierarchy (Adorno et al., 1950), implying statistical interactions between authoritarianism subcomponents. We encourage investigation of authoritarianism and allied constructs within an EIS framework.

CONCEPTUAL IMPLICATIONS

The EIS perspective advanced here leads to a number of conceptual implications. At the same time, it poses several quandaries that warrant further consideration.

Personality Disorders as Two Kinds of Kinds. Our proposal implies that PDs are not all the same *kind* of entities. As D. Murphy (2014) observed, the *DSM* and *ICD* hinge largely on “the wager that folk attributions of mental disorder track genuine causal signatures, rather than just imposing a unity dictated by how other people strike us” (p. 119; see also Tabb, 2017). In contrast, we wager that at least in the domain of PDs, some diagnoses are better described as the former and others as the latter.

Specifically, we conjecture that a subset of PDs, especially those (e.g., schizotypal, avoidant, and obsessive-compulsive PDs) that are probably variants of what were once called Axis I disorders (schizophrenia, social anxiety disorder, and obsessive-compulsive PD, respectively), loosely approximate *natural kinds*. We do not use this philosophically freighted term in the essentialist sense, which implies a discrete category grounded in a biological essence (Haslam, 1998). Instead, we posit that some PDs are similar to what Kendler, Zachar, and colleagues (e.g., Kendler, Zachar, & Craver, 2011), following Boyd (1991), termed *mechanistic property cluster kinds*. Mechanistic property cluster kinds are fuzzy densifications of attributes held together by overlapping causal properties, such as personality traits. To conceptualize a

subset of PDs in this sense accords with the view that they reflect or at least approach the status of classical syndromes.

Nevertheless, our proposal further implies that other PDs, namely EISs, are unlikely to approximate natural kinds. Instead, EISs are better construed as *practical kinds*: socially constructed entities that serve helpful real-world purposes for us (Zachar, 2000). Specifically, the identification of EISs helps us to sort people into psychologically meaningful, albeit fuzzy, groupings that are readily recognizable. For example, the folk concept of the wolf in sheep's clothing, captured by the Cleckley psychopath, alerts us to the likelihood that the individual matching this prototype is untrustworthy; the folk concept of the self-centered person, captured largely by the individual with narcissistic PD, alerts us to the likelihood that the individual matching this prototype is challenging to deal with.

Despite their differences, both types of PD diagnoses serve a pragmatic function. They both reflect folk concepts that operate as helpful heuristics, allowing us to warn each other of individuals who pose distinctive interpersonal challenges, such as hostility, romantic attachments, and dishonesty. In addition, these folk concepts streamline our information processing, facilitating our identification of problematic individuals in our social groups with less cognitive effort. Lynam and Vachon (2012) argued that "PD [personality disorder] types are familiar to clinicians and represent useful shorthand for describing consequential collections of traits" (p. 492). We concur, and would further contend that the *DSM* and *ICD* PDs, which map approximately onto folk concepts, may be helpful for laypersons too, because they assist us with spotting predictable configurations of traits that are interpersonally challenging.

Folk Concepts: Outside of Nature or Part of Nature? Our proposal implies that although PDs reflect folk concepts that are pragmatically useful, some of them—especially EISs—do not map directly onto the state of nature, if by "nature" one means the structure of personality. If so, should the extant PDs, especially those that are EISs, simply be dropped by *DSM* and *ICD* in favor of a purely dimensional model? We are not prepared to offer a definitive answer, although we offer some provisional thoughts.

On the one hand, one might contend with some justification that many of the *DSM* and *ICD* disorders, especially those that are EISs, are largely illusions: They often fail to accurately reflect the genuine covariation of traits in nature (e.g., Krueger et al., 2018). Indeed, some folk concepts, such as those of the "witch" and the "shaman," reflect lay conceptions of certain memorable individuals that do not map onto reality. Perhaps the widespread belief that Cleckley psychopathy and other EISs are classical syndromes at least partly reflects an illusory correlation (Chapman & Chapman, 1967), whereby observers mistakenly perceive statistical coherence in its absence. Hence, this reasoning goes, the current PD taxonomy should be jettisoned in favor of a more empirically based, dimensional personality-based model, which more accurately mirrors the state of nature (Kotov et al., 2017; Widiger et al., 2019).

This view accords with broader philosophy of science writing on folk psychology. Churchland and colleagues (e.g., Churchland & Haldane, 1988) noted that our folk understandings of our own and others' minds are often woefully mistaken, and that our lay conceptions of psychological phenomena, such as our thoughts and motives, have long impeded scientific progress into their nature and causes. Over time, however, scientific knowledge about nature gradually comes to supplant folk knowledge.

Data from non-Western cultures suggest that folk taxonomies of plants and animals are often based largely on superficial appearances (Hunn, 1976). As a consequence, these taxonomies may correspond only weakly to scientifically informed classification systems. As readers of Melville's (1851) *Moby-Dick* will recall, whales were once widely viewed as large fish, because whales superficially resemble fish more than prototypical mammals. Over time, however, folk classifications gradually give way to those based on underlying scientific principles, which frequently conflict with our intuitions. The same progression may hold in the domain of PDs. As psychologists and psychiatrists come to recognize that these conditions are constellations of general personality traits, our folk conceptions of them—which largely reflect widely held intuitive stereotypes of the covariation among traits—will and should eventually fade from our formal classification systems.

On the other hand, one might legitimately contend that the assertion that some folk concepts of personality pathology, especially EISs, are not part of “nature” overlooks a key insight. We humans are, after all, part of nature, and our conceptions of others almost inevitably shape our reactions to them. In turn, these reactions very likely influence their reactions to us too. Hence, exceptions such as the witch and the shaman notwithstanding, many folk concepts in part map accurately onto reality, and thus capture an inherent part of nature as well. Once we recognize someone as a confidence artist, for example, our interactions with him or her are likely to change. In this respect, the analogy to folk conceptions of plant and animal classification may be inapt. Whereas a bat does not react to us differently depending on whether we regard it incorrectly as a bird or correctly as a mammal, a superficially charming person may react differently to us depending on whether we have concluded that he or she is untrustworthy. As observed by Tellegen (1993):

In the natural sciences, a folk concept or scientific concept that is no longer considered valid becomes a historical fact and is no longer part of the domain of that science. The situation is different, however, for concepts of personality. Ideas about the physical world are not facts of physics in the way ideas about persons can be facts of personality. Personality psychologists must incorporate a person's construals of self and others in their construal of that person. If folk concepts represent people's everyday perceptions of personalities, then it makes sense in the psychological assessment of personality to include folk concept measures embodying these common perceptual dimensions. (p. 127)

We see merit in both positions. Still, if PDs are proxies for interpersonally meaningful folk concepts, we will very likely need to accommodate them in models of human pathology, even if they do not ultimately find a home in formal taxonomies of mental disorder. These folk concepts can create a

psychological reality of their own, shaping our perceptions of others and in turn shaping their behavior, and so on (see Hacking, 1995, for a discussion of “looping effects”).

IMPLICATIONS FOR RESEARCH AND CLASSIFICATION

Finally, the proposal that some PDs are EISs bears several noteworthy implications for research and psychiatric classification; we delineate them in the following section.

Maximizing Internal Consistency and the Attenuation Paradox. When developing measures of PDs, many researchers have followed the time-honored practice of excluding items or subdimensions that are weakly correlated with others. In addition, internal consistency considerations have played a role in the diagnostic revision process for PDs; for example, when revising the *DSM-III-R* PD criteria for *DSM-IV*, criteria that did not display adequate sensitivity and specificity with the total scores for each disorder were modified or in a few cases eliminated (First, Frances, & Pincus, 2004). This approach is understandable and at times defensible given the desire to enhance internal consistency.

Nevertheless, this approach hinges on a critical assumption that has often gone unarticulated, namely, that PD measures are best construed as *scales* rather than as *indexes* (Streiner, 2003; see also Bollen & Lennox, 1991). In the case of scales, items or subscales presumably reflect the influence of a (latent) reflective construct. Hence, one anticipates positive item or subscale intercorrelations. For example, scales assessing trait anxiety ostensibly reflect a shared reflective construct, so their items and subscales would be expected to covary. In contrast, in the case of indexes, the items or subscales do not reflect a construct; instead, the phenomena assessed by these items or subscales constitute the very attribute being measured, as in the case of formative constructs (see Table 1). Hence, they do not necessarily covary. For example, measures of adverse life events are not traditionally viewed as the products of underlying traits. Instead, the total scores on these measures constitute the attribute of interest per se, namely, the aggregate amount of life stress that individuals have experienced. According to the proposal advanced here, measures of some PDs—namely, those that reflect alternative or subsyndromal manifestations of major mental disorders—are best regarded as scales. In contrast, measures of EISs are best regarded as indexes because they do not stem from a single source. Hence, for EISs, maximizing internal consistency at the total score level may be counterproductive, although maximizing internal consistency at the subscale level will typically be necessary to ensure minimal measurement error in the detection of PD subcomponents.

As observed earlier, some authors (K. M. Williams & Paulhus, 2004) argued for the exclusion of items relevant to boldness from a measure of psychopathy, ostensibly in part because boldness was largely unassociated with other psychopathy features. Similarly, after reporting that the PPI-R Stress Immunity subscale, one of three markers of boldness within this measure, was negligibly related to other psychopathy features and did not load ap-

preciably on a higher order psychopathy dimension, Visser, Ashton, and Pozzebon (2012) concluded that “these results suggest that despite its historical importance in the conceptualization of psychopathy, low anxiety is likely not a core feature of psychopathy” (p. 725). Nevertheless, this conclusion may be premature given that some features of boldness, including low trait anxiety, may interact statistically with other psychopathy features to predict relevant outcomes. Indeed, some laboratory evidence points to psychopathy-by-trait anxiety interactions, whereby passive-avoidance learning deficits (e.g., on go–no go tasks) emerge primarily or only when psychopathy total scores are paired with low trait anxiety (e.g., Newman & Kosson, 1986; Newman & Schmidt, 1998; but see S. F. Smith & Lilienfeld, 2015, for concerns regarding the replicability and typical effect sizes of these findings).

Analytic decisions to reflexively exclude items or subscales that are not highly associated with other items or subscales potentially run afoul of what Loevinger (1957; see also Clark & Watson, 1995) termed the *attenuation paradox*: In the process of maximizing reliability (especially internal consistency), one may inadvertently decrease content validity (also see McGrath, 2005). We encourage researchers who are developing measures of PDs to consider retaining potentially meaningful subsets of items that are largely uncorrelated or even negatively correlated with other item subsets, at least in the early, exploratory phases of test development. Alternatively, researchers may wish to exclude such items from the total scores on scales, but to retain them as independent scales to permit examination of them as potential moderators in interactional analyses.

Exclusive Reliance on Total Personality Disorder Scores. Our analysis suggests that exclusive reliance on total (global) scores of specific PDs, a practice that is widespread in the published literature, is unwise, especially for conditions that are potential EISs. For example, many investigators routinely use indices, such as the 12-item “Dirty Dozen” measure of the dark triad of psychopathy, narcissism, and machiavellianism, that yield only total scores, not scores on subdimensions (e.g., Jonason, Li, & Czarna, 2013). This practice, which is prevalent in the dark triad literature, precludes the examination of potential statistical interactions among psychopathy subdimensions (J. D. Miller, Vize, Crowe, & Lynam, in press; Watts, Waldman, Smith, Poore, & Lilienfeld, 2017). In other cases, meta-analyses have collapsed across psychopathy subdimensions, focusing exclusively on the correlates of psychopathy total scores (e.g., Poepl et al., 2019; see Latzman, Patrick, & Lilienfeld, 2019, for a critique).

Even if our EIS hypothesis is incorrect or incomplete, ample data we have reviewed demonstrate that certain psychopathy subdimensions at times fractionate in opposite directions with indices of psychopathology, especially those heavily saturated with distress. Combining these subdimensions into a total score will often dilute or cancel out differential associations, leading to misleading or at least oversimplified conclusions (see Schaich Borg et al., 2013; Watts et al., 2017). For example, although psychopathy total scores are negligibly associated with suicidal ideation and attempts, this finding conceals a more nuanced picture: Factor I traits tend to be modestly

negatively correlated with suicide-related variables, whereas Factor II traits tend to be modestly positively correlated with these variables (Douglas et al., 2008; Verona, Patrick, & Joiner, 2001).

Empirical Test Construction: A Case of Premature Abandonment? Scholars in personality assessment are by now familiar with criticisms of empirical (external) methods of test construction, which were used to develop the MMPI, CPI, Strong-Campbell Interest Inventory, and several other early measures of individual differences. These approaches have since been largely (but not completely; see Clark & Watson, 1995) abandoned in psychological assessment, owing primarily to their inefficiency, frequent low internal consistency, expense (arising from the need to identify and test criterion groups), dependence on the adequacy of content coverage of the initial item pool, and evidence that their validities do not typically exceed those of measures constructed using more economical rational-theoretical (deductive) methods (Burisch, 1984; Helmes & Reddon, 1993). Indeed, deductive methods are the techniques of choice whenever the test developer has in mind a well-understood and homogeneous construct, such as a surface trait (e.g., friendliness, laziness; see Cattell, 1957).

Nevertheless, the assessment field's large-scale disavowal of empirical test construction methods may have been too hasty. These methods, which are more exploratory than deductive methods (Tellegen & Waller, 2008), can play a valuable role when constructs are inadequately understood, as is the case for most or all PDs. Because they place no a priori constraints on item selection, empirical construction techniques may reveal unexpected correlates of constructs that would otherwise have gone undetected (Clark & Watson, 1996; Meehl, 1945).

In the case of the MMPI, data that appear to have been all but forgotten point to a curious phenomenon that may be something of a canary in the coal mine: For three clinical scales relevant to personality pathology, namely, histrionic, psychopathic, and paranoid PDs, theoretically meaningful subsets of items are negatively correlated with other item subsets. Such intriguing subgroups of items might never have been uncovered using standard test construction approaches, which would not have anticipated these items and could well have discarded them on the grounds of their lack of statistical coherence with other items.

Etiological Endeavors. Our EIS analysis suggests that for at least some PDs, such as psychopathy and narcissistic PDs, attempts to detect a specific etiological agent (Meehl, 1977) are unlikely to succeed. The psychopathy field has long sought a single major cause of the condition, whether it be low fear, inadequate cognitive empathy, low autonomic or cortical arousal, poor response modulation, left hemisphere dysfunction, or amygdala dysfunction, among others (Lilienfeld, Smith, & Watts, 2016). Nevertheless, given that accumulating data indicate that psychopathy is not monolithic, etiological efforts would be better invested in understanding the sources of the specific subcomponents of this condition and the mechanisms underpinning their interactions rather than to psychopathy as a global entity.

According to the proposal advanced here, EISs are indeed distinct, *but what makes them distinct is not their etiology, but their characteristic social impact on us*. Perhaps because we are prone to what William James (1890) termed the *psychologist's fallacy*—the error of mistaking our mental state for the state of nature—we may assume erroneously that a condition that strikes us as unique possesses a unique etiology (Lilienfeld et al., in press). In this respect, we can think of EISs as “folk taxa” (see also Brown, Kolar, Torrey, Trúong Quang, & Volkman, 1976), that is, constructs that subjectively impress us as taxonomic (categorical) even though they are not. Indeed, taxometric data consistently indicate that psychopathy is nontaxonomic in structure (e.g., Edens, Marcus, Lilienfeld, & Poythress, 2006; Walter, Ermer, Knight, & Kiehl, 2015).

CONCLUDING THOUGHTS

The possibility that at least some PDs are EISs reminds us that psychometric research on psychopathology ought not to proceed within a theoretical vacuum. Tempting as it may be to rely on structural equation modeling (SEM), item response theory methods, and other sophisticated statistical techniques to discern the state of nature with respect to PDs, we must recall that such techniques, enormously useful as they can be for many purposes, should not be applied thoughtlessly or reflexively. Instead, the interpretation of the analyses yielded by these techniques hinges on one's a priori conceptual model of PDs. If some PDs are configurations of distinct personality dispositions, then many of the standard assumptions underlying our use of statistical methods, such as the presumption that all PDs are classical syndromes, are likely to be questionable. For example, inadequate model fit in SEM for a PD measure may reflect erroneous assumptions regarding the nature of the PD in question rather than a flaw in the measure.

There are surely many reasons why the *DSM* and *ICD* PDs remain scientifically controversial despite decades of research (Bernstein et al., 2007; Clark, 2007; Lilienfeld & Latzman, 2018). One of them may be that for some PDs, we have long been imposing psychometric and etiological assumptions that are untenable. It may be time to consider alternative models.

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