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An interpersonal view of personality disorders

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An Interpersonal View of Personality Disorders

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Abstract

One of the most controversial psychological disorders in the mental health field is personality disorders. Personality disorders are difficult to study and difficult to treat. Among other issues, high comorbidity among personality disorders interferes with its reliability and differential diagnosis. Substantial efforts in the last decades are attempting to address some of these issues by rethinking the way personality disorders are diagnosed, and special attention has been placed on traits-based dimensional models. Despite the multiple advantages of traits-based dimensional models, there is some hesitancy in the field regarding whether these models are truly equipped to serve as the basis for a clinically useful PD diagnostic system.

Given the clinical tradition of the interpersonal paradigm for conceptualizing personality, the general goal of this study was to see if an interpersonal model could contribute to develop a clinically useful comprehensive diagnostic system of PDs. Thus, this study explores Benjamin's interpersonal model's conceptualization of the nature and structure of PDs. Two research goals guide this investigation: exploring a) whether clinically and theoretically meaningful profiles of behaviors emerge when defined according to Benjamin's model and b) whether Benjamin's conceptualization of the structure of PDs and its patterns of overlap could be operationalized and predict observed patterns of comorbidity. The multifaceted study utilizes archived clinical data from ninety-three adults from an inpatient psychiatric hospital who were interviewed utilizing Benjamin's case formulation method. Content experts converted qualitative data into quantitative data representing presence (i.e., =1) or absence (i.e., =0) of specific interpersonal variables. Hierarchical cluster analyses were conducted showing that a 5-

cluster solution captured clinically distinct groupings of patients with severe characterological issues based on their interpersonal features. A Mantel test was also conducted to compare correlational matrices representing the expected and observed patterns of comorbidity among PDs. The results from this study provide preliminary support to the internal coherence and validity of Benjamin's interpersonal model as a clinically useful measurement framework for personality disorders, and develops guiding questions for further clarification.

Chapter I: Introduction

Currently, there is significant criticism in the field of mental health as to the conceptualization, classification, and treatment of personality disorders (PDs). PD categories are considered to be so comorbid and unreliable that it is difficult to study them. Clinically, the presence of diagnostic comorbidity challenges the possibility of differential diagnosis and identification of appropriate treatment targets, as well as the ability to empirically-validate treatments directed toward specific categories of PD. Efforts have been made to address these and other issues by developing alternative models for conceptualizing and diagnosing PDs (Widiger et al., 2009). Special attention has been placed on dimensional and traits-based systems (Frances, 1993). One of such efforts is the alternative model for diagnosing PDs proposed by the Diagnostic and Statistical Manual of Mental Disorders (DSM) 5's Personality and Personality Disorders Work Group (American Psychiatric Association, 2013). In its most recent edition, the DSM has included in the Section III of the manual an alternative hybrid (dimensional and categorical) model for classifying personality pathology that aligns closely with one of the most well-known traits-based frameworks of personality structure, the Five Factor Model.

The alternative model conceptualizes personality disorders as disturbances in self and interpersonal functioning and pathological personality traits, which are organized in five broad domains: Negative Affectivity, Detachment, Antagonism, Disinhibition, and Psychoticism (APA, 2013). The broad domains further differentiate into 25 more specific dimensional traits. Section III of the manual additionally includes only six of the personality disorder diagnoses listed in previous editions of the DSM (i.e., borderline,

antisocial, avoidant, narcissistic, obsessive-compulsive, and schizotypal personality disorders), each defined in terms of common personality functioning disturbances and maladaptive traits.

Although the DSM 5 alternative model is recognized as one of the most serious attempts at addressing issues present in the current PD diagnostic system, it is far from being accepted as an adequate model. Authors have criticized its lack of empirical support (Gunderson, 2010; Livesley, 2010) and have questioned its clinical utility (Gunderson, 2010; Rottman et al., 2009; Widiger, 2011). The DSM 5 itself presents the alternative model as a "proposed *research model* [emphasis added] for personality disorder diagnosis and conceptualization", keeping the categorical model in the Section II of the manual for clinical use (APA, 2013, p. 645).

Although there is an almost shared agreement on the limitations of the current categorical diagnostic system, some authors have questioned whether the research on personality traits is ready to be translated into a clinically useful diagnostic model (Gunderson, 2010). One of the reasons for this lack of bridge between research and practice seems to be in the overemphasis that the supporters of traits-based models place on the structural validity of the system, to the detriment of its clinical salience (Benjamin, 1994; Gunderson, 2010). Authors have also pointed out the challenges that traits-based models have given the ambiguity of the traits descriptors (Rottman et al., 2009) and the lack of research on the relationship between traits and the person's developmental history (Gunderson, 2010). More research is needed to see the clinical utility of dimensional traits-based systems not only in terms of their structural validity and assessment features,

but also in terms of their capacity to guide clinicians for developing treatment plans and communicating with other clinicians or patients (Rottman et al., 2009).

One alternative paradigm for conceptualizing personality and personality psychopathology is the focus of the present work, and is grounded in the interpersonal literature. Extensive research has focused on utilizing interpersonal theory for defining most psychiatric disorders in terms of interpersonal functioning (Benjamin, 2003; Horowitz & Vitkus, 1986; Leary & Coffey, 1955; McLemore & Benjamin, 1979; Pincus & Hopwood, 2012). Interestingly, compared to the traits literature, the interpersonal literature has an extensive tradition of dialogue with clinical practice. Within the last decades, the field has witnessed the development of interpersonally-informed therapies for treating different psychological disorders (e.g., Interpersonal Therapy, Interpersonal Reconstructive Therapy, Interpersonal Process Approach), recognizing many of them as particularly appealing for conceptualizing and treating PDs in particular (Critchfield et al., 2019; Markowitz, 2012).

Given the solid theoretical tradition of interpersonal frameworks and the appeal of interpersonally-informed therapeutic models for conceptualizing and treating personality disorders, it is safe to ask whether an interpersonally-informed model for diagnosing PDs could help to address some of the limitations with current PD diagnostic systems. The current study explores whether an interpersonal therapeutic model utilized in the treatment of Axis I and II disorders (Benjamin's model; Benjamin, 1996/2003, 2003/2006; McLemore & Benjamin, 1979) could contribute in the development of a clinically useful diagnostic system with a deep understanding of personality disorders and their comorbidity patterns. Two broad goals guide this investigation. First, this study

explores whether clinically and theoretically meaningful profiles of behaviors emerge when defined according to Benjamin's model. Thus, this study investigates whether conceptualizing patterns of maladaptive behaviors in attachment-based interpersonal terms helps to visualize behavioral patterns observed in the PDs clinical population.

Second, this study explores Benjamin's conceptualization and potential for operationalization of the structure of PDs. According to Benjamin (1996/2003), much of the, so called, PDs comorbidity problem is solved when we make sense of the patterns of overlap among PDs. Benjamin (1996/2003) claims that much of the overlap among PDs is the result of the overlap among their symptoms, and proposes that defining their symptoms in attachment-based interpersonal terms helps to understand the patterns of comorbidity without risking differential diagnosis. Thus, the current study investigates whether Benjamin's conceptualization of the structure of PDs and its patterns of overlap could be operationalized and predict observed patterns of comorbidity.

The ultimate goal of the present study is to reflect more deeply about the nature, diagnosis, and treatment of personality disorders from a clinical angle. The hope is to stimulate a deeper conversation in the field about the need to develop a comprehensive diagnostic system that is easily translatable into clinical practice and can guide individualized treatment. The purpose of this study is not to foster the development of a diagnostic system solely based on an interpersonal framework. It is broadly accepted that PDs emerge as the result of the interaction between both genetics and environmental factors, and therefore a purely interpersonal diagnostic model might not be able to address all of the issues related to PDs (Livesley, 2018). By analyzing in more detail Benjamin's model, we aim at exploring whether an interpersonal model that is grounded

in clinical practice could address some of the concerns raised by the field regarding the clinical utility of the personality disorders diagnostic system.

Chapter II: Literature Review

The Diagnosis of Personality Disorders

One of the psychological diagnoses that creates more controversies in the mental health field is that of personality disorders. The development of the personality disorders section of the last edition of the Diagnostic and Statistical Manual of Mental Disorders (APA, 2013) has been the arena for one of the most heated debates in the field (Widiger, 2012)[1]. The Personality and Personality Disorders Work Group (PPDWG) proposed major changes in the conceptualization, classification, and diagnosis of PDs. This initial proposal received significant criticism from experts in the area, which triggered substantial revisions (Livesley, 2010; Widiger, 2012). Just a few months before launching the manual, it was still unclear what the final version of this section was going to be (Widiger, 2012). The result was unprecedented. The DSM 5 included two personality disorders diagnostic systems. The PPDWG's proposal was presented in the Section III of the manual as a research model for conceptualizing and diagnosing personality disorders and an edited version of the DSM-IV TR's personality disorders diagnostic system was retained in the Section II of the manual for clinical use.

One of the primary concerns that generated this debate has been the presence of high co-occurrence of personality disorders, which is also referred as comorbidity. In clinical samples, some studies have found that approximately 50% of individuals receive at least two PD diagnoses when assessed by a structured interview (Skodol, 2005). The elevated rates of comorbidity among PDs has raised questions regarding the validity and

[1] A more detailed description of the process underlying the development of the DSM 5 Personality Disorders section could be seen in Widiger, 2018.

reliability of the current categorical system. Authors have suggested that the excessive overlap among PDs questions whether PDs are truly discrete clinical entities or arbitrary cut-offs along dimensions of personality functioning (Widiger et al., 2009). High co-occurrence of disorders might also impact differential diagnosis, clinical case conceptualization, and treatment. The therapist is often left with the responsibility of deciding which of the different PDs should be attended first. Excessive co-occurrence of PDs has also impacted research. PD categories are considered to be so unreliable that it is difficult to study them (Oldham et al., 1992).

Several changes were proposed to address these and other issues present in the DSM's categorical diagnostic system for personality disorders. Some of the proposed changes included switching to a dimensional trait diagnostic model, eliminating overlapping criteria among PDs, and eliminating half of the DSM-IV TR PD diagnoses (Skodol, 2010, 2012). After extensive revisions and changes, the oversight committees—the Clinical and Public Health Committee (CPHC) and the Scientific Review Committee (SRC)—recommended the APA Board of Trustees to reject all proposals (Widiger, 2018). The CPHC was primarily concerned with the clinical utility of the system, questioning the elimination of PDs that were in fact used by clinicians and whether the system was too complicated for immediate use (Skodol et al., 2013). The SRC, on the other hand, was concerned about the lack of adequate empirical support for the changes (Skodol et al., 2013). The PPDWG proposal was placed in Section III of the DSM-5 with the intention of potentially moving toward this model in the next edition of the manual if the concerns are addressed.

The resulting alternative PDs diagnostic system that appears in the Section III of the DSM 5 is a "hybrid model" of PD diagnosis (Skodol, 2012). It combines a psychodynamically-oriented criterion on level of personality dysfunction, as seen in interpersonal dynamics and self functioning, and a traits-based dimensional approach on maladaptive personality traits (Widiger, 2018). Although the model has received significant criticism from within and outside the traits literature it is still considered an important attempt to develop a dimensional traits-based diagnostic system for personality disorders.

Traits-Based Dimensional Models

There is longstanding enthusiasm in the field on traits-based dimensional models for diagnosing personality disorders. Allen Frances (1993), chair of the DSM-IV-TR, considers that it is not a matter of "whether" we would move to a dimensional model but of "when" and "which", recognizing traits-based models as promising for the task. One of the primary reasons for adopting a traits-based system is the possibility of addressing the problem of excessive comorbidity (Skodol, 2012). It is believed that part of the overlap among PD categories is caused by the fact that some maladaptive personality traits are present across PD diagnoses, causing the individual to meet criteria for several PDs. Authors have suggested that models that are detailed enough could potentially account for—and explain—this comorbidity (Trull et al., 2012). A study from Lynam and Widiger (2001), for example, showed that a translation of PDs in the Five Factor Model language predicted the observed patterns of comorbidity reported in the literature in the case of 8 out of 10 PDs. Others have suggested that the problem of excessive comorbidity could be eliminated by using traits as diagnostic criteria and generating a personality

profile for each patient, avoiding the use of pre-established categories (Zapolski et al., 2013).

Another advantage of a traits-based system is the possibility of developing a model that has a clear baseline (i.e., normal personality) that serves as a normative framework (Livesley, 2018). Under such a model, personality disorders are conceived as pervasive malfunctions of normal personality. According to Livesley (2018), the current PD categorical diagnostic model does not have a reference from which pathological personality could be conceptualized and assessed. The PD categories present in the DSM are not grounded in a theoretical model informed by the research on normal personality functioning. The traits literature certainly has much to offer in terms of the study of normal personality structure and could contribute to develop a taxonomy that captures personality pathology as an extreme in a continuum of personality functioning (Livesley, 2018). This would even permit the assessment of any type of personality, not only dysfunctional personality. Given that personality has been found to mediate different mental health conditions some authors consider that having access to the personality profile of the patient would be clinically beneficial, even when there is no personality disorder (Skodol, 2012).

These and other reasons have created some hope in the field that a traits-based dimensional system could be the answer for the significant problems present in the categorical diagnostic model. Within the last decades, we have witnessed the development of several models for conceptualizing and diagnosing PDs grounded in the personality traits literature (Widiger & Simonsen, 2005). Among the different structural models of personality traits, the Five Factor Model is the one that has received more

attention, serving as the primary model from which the DSM 5 alternative diagnostic system is developed (Krueger & Eaton, 2010).

The Five Factor Model

The Five-Factor Model is the most used framework for conceptualizing personality traits structure. The history of its development is quite interesting. Recognizing the daily life importance of traits, personality researchers hypothesized that our language would have specific words for these stable personality characteristics (McCrae & Costa, 2013). Following a lexical approach, researchers reviewed English dictionaries and found 18 000 trait-descriptive terms (Allport & Odbert, 1936). This long list was later shortened to 4000 terms that were specific to personality. A series of factor analyses conducted by different researchers further shortened this list into 16 dimensions (i.e., 16 PF; Cattell et al., 1970) and then into 3 dimensions: Neuroticism, Extraversion, and Openness to Experience (Singer, 2005).

In the early 1980s, a parallel lexical research conducted by Goldberg yielded five factors, replicating the findings of previous researchers (Singer, 2005). These factors (i.e., the Big Five) were originally called: Extraversion, Agreeableness, Conscientiousness, Emotional stability, and Culture. Empirical studies utilizing psychological questionnaires for measuring psychological traits found that these traits match up with the lexical Big Five factors (McCrae, 1989). This provided further support to the Five Factor Model (FFM) of personality traits.

Based on these findings, Costa and McCrae (1992) developed an instrument for measuring the FFM, the Revised NEO Personality Inventory (NEO PI-R). The NEO PI-R has five factors (i.e., Neuroticism, Extraversion, Openness to experience, Agreeableness,

and Conscientiousness) and each factor has six different facets (Table 1[2]; Widiger & Costa, 2013). Neuroticism (N) refers to the level of emotional adjustment and stability. People who have high scores of N tend to experience negative affects, such as hostility, depressiveness, and anxiousness. It is also related to vulnerability to stress, self-consciousness, low tolerance to frustration and excessive urges. Extraversion (E) refers the interest in social interactions, high activity level, stimulation, and capacity for joy. People who have high levels of E tend to be social, talkative, optimistic, and affectionate. People who have low levels of this trait, on the other hand, tend to be more reserved, independent, and quiet. Openness to experience (O) refers to curiosity, imagination, openness to different ideas and values, and cognitive flexibility. People who have low levels of O—closed individuals—are conventional, dogmatic, rigid, and emotionally unresponsive. Agreeableness (A) refers to the type of interactions people prefer to have, going from compassionate to antagonistic. People who have high levels of A are more trusting, helpful, forgiving, empathetic, and altruistic. People who have low levels of A, on the other hand, tend to be more rude, cynical, uncooperative, manipulative, and irritable. Finally, Conscientiousness (C) refers to level of organization, persistence, goal-directed behavior, and self-control. People who score high on C tend to be reliable, responsible, hardworking, and self-directed.

[2] A complete list of the definitions of each facet could be found in Widiger and Costa (2013, p. 445), and the descriptive statistics and factor loadings of each factor could be found in Costa and McCrae (1991, p. 174).

Table 1

Facets of the NEO PI-R

Neuroticism	Extraversion	Openness to Experience	Agreeableness	Conscientiousness
(N1) Anxiety	(E1) Warmth	(O1) Fantasy	(A1) Trust	(C1) Competence
(N2) Angry Hostility	(E2) Gregariousness	(O2) Aesthetics	(A2) Straight-forwardness	(C2) Order
(N3) Depression	(E3) Assertiveness	(O3) Feelings	(A3) Altruism	(C3) Dutifulness
(N4) Self-consciousness	(E4) Activity	(O4) Actions	(A4) Compliance	(C4) Achievement strivings
(N5) Impulsiveness	(E5) Excitement seeking	(O5) Ideas	(A5) Modesty	(C5) Self-discipline
(N6) Vulnerability	(E6) Positive emotions	(O6) Values	(A6) Tender-mindedness	(C6) Deliberation

The reliability and validity of the NEO PI-R has been evaluated in several studies (Costa & McCrae, 1991; Fundler et al., 1995; McCrae & Costa, 1987). Research on the NEO PI-R has been used to validate the FFM. For example, the stability of the five personality traits across time, a key aspect of the underlying FFM, has been evaluated in longitudinal studies. A study conducted by Costa and McCrae (1991) on the stability of peer ratings of the NEO PI (i.e., the N, E, and O domains) over a period of 7 years, found that retest correlations ranged from .51 to .84, with a median of .70 in the case of women and .71 in the case of men. In a study of the stability of the NEO PI-R over a period of time that ranged from 6 to 15 years, it was found that all the retest correlations for the domains and facets were significant, with the median retest correlation being .81 for the domains and .70 for the facets (Terracciano et al, 2006).

Additionally, cross-cultural studies have provided support to the thesis that these five traits are universal aspects of human nature (McCrae & Terracciano, 2005; Yamagata et al., 2006). The NEO PI-R has been translated into 40 different languages and utilized to measure the presence of the five factors across cultures. A study conducted in 50 different cultures with college students who were asked to rate a peer, showed that in most cultures factor analyses have replicated the normative American five factors structure observed in self-report data (McCrae & Terracciano, 2005).

The FFM and the DSM 5. The empirical support of the FFM is widely recognized. Through the study of the NEO PI-R, the FFM has shown to be a stable representation of human personality traits (Costa & McCrae, 1991; Terracciano et al, 2006). Given that the FFM has proven to be such a robust framework for conceptualizing the personality traits structure, authors have argued the need to extend this framework for capturing the extremes of these dimensions (i.e., the pathological representations of personality) (Widiger et al., 2013). The DSM 5 PPDWG has utilized the FFM as the primary model for developing the traits-based dimensional system that is one of the two key pieces of its alternative PDs diagnostic system (Krueger & Eaton, 2010). Thus, based on the findings from meta-analyses of personality traits studies and the review of existing measures of normal and abnormal personality, the PPDWG developed a personality disorder trait model that was known as the Pathological Five Model (PFM; Krueger & Eaton, 2010)[3].

[3] A more detailed explanation of the reasons for keeping these factors could be found in Skodol, 2012.

The PFM includes five higher order domains that align with the FFM: negative affectivity (or emotional dysregulation) aligns with FFM neuroticism, detachment aligns with FFM introversion, psychoticism (or peculiarity) aligns with FFM openness, antagonism aligns with FFM antagonism, and disinhibition aligns with FFM conscientiousness (Trull & Widiger, 2013). Each of these higher order domains includes more specific trait facets. For example, within the domain of detachment would be intimacy avoidance, social withdrawal, and anhedonia (Widiger et al., 2013). The final model has a total of 25 trait facets[4].

Limitations of Traits-Based Systems

The PFM was not well received and the model was rejected by the APA Board of Trustees and placed in Section III of the DSM as an alternative research system (APA, 2013). Although there are shared concerns among researchers and practitioners on the limitations of the current categorical model and shared optimism on the potentials of dimensional models, some have argued that there are considerable challenges in adapting a trait framework developed by researchers, for clinical use (First, 2010). The concerns regarding the PFM and other traits-based dimensional models in general could be categorized in three main areas: lack of empirical support, lack of theory, and lack of clinical utility.

Empirical Support. One of the main criticism that the PFM has received is its lack of adequate empirical evidence. The DSM 5 PPDWG's proposals changed

[4] A complete map showing each of the broad domains with their specific traits could be found in Krueger et al., 2011.

substantially during the years prior to the release of the manual and the final version was presented with little time to obtain validating evidence (Kendler, 2013). It is not clear, for example, in what way the DSM 5 alternative system addresses the flaws of the DSM-IV-TR, such as excessive comorbidity (Widiger, 2018). This lack of validating evidence resulted in the Scientific Review Committee requesting the APA Board of Trustees to reject the proposal in its entirety (Widiger, 2018).

Authors supporting the move to a diagnostic system based on the FFM consider that although there is extensive research that supports that move, the DSM 5 is not truly grounded in such research (Widiger, 2011). Others, more hesitant of the suitability of the FFM for conceptualizing and diagnosing PDs, have a different perspective. According to Gunderson (2010), head of the DSM IV-TR PD task force, it is worth noting that the strong scientific advances in discovering the structure of personality were not a sufficiently strong argument for developing consensus around a traits-based system. The PPDWG considered, for example, that the FFM could not capture important features of some PDs and included elements from other models (Skodol, 2012). As Gunderson says, "this typology was not the result of just science, but of compromise between competitive models" (2010, p. 121).

Theory. Another aspect from the PFM and other trait-based diagnostic initiatives that has triggered some concerns is the lack of a coherent and sound theoretical framework. Livesley, a seminal thinker in personality disorders and a member of the PPDWG until 2012, has shared his frustration with the PPDWG's "lack of clarity about the theoretical, measurement, and diagnostic model's underlying the proposal" (2010, p. 305). Livesley (2010) claims that the PPDWG is not clear on whether the model is

conceptualizing PDs as distinct entities (i.e., categories) or whether they are represented in a continuum from normal to abnormal. By including both, personality types and dimensional classifications based on traits, the PPDWG illustrates a confusion regarding the relationship between traits and types and, ultimately, about the nature of PDs. This confusion creates measurement problems and hinders theory development (Livesley, 2010).

Along the same lines, others have suggested that by not maintaining a coherent conceptualization of PDs as representing the extremes in the personality functioning range, the PPDWG misses the opportunity to take advantage of dimensional systems. One of the benefits of dimensional models is the possibility of capturing the range from normal to abnormal personality features. Unfortunately, by only including maladaptive traits, the PFM cannot capture the adaptive manifestations of the broad trait domains (Widiger et al., 2013).

The lack of a coherent conceptual and theoretical framework is in part by design, the result of an emphasis on statistical procedures that produce dimensional results, without much appeal to context, meaning, development, or maintenance of personality traits. Trait theorists instead have tended to trust that language (especially adjectives describing persons) provides the essential building blocks of personality, and that the resulting factors are essentially that which is to be explained by other forms of personality theory and research. A particular kind of emphasis on structural validity (i.e., number and type of trait factors) is thus given more emphasis in this literature than other approaches to theory or construct validity. Consistent with the trait-theoretical tradition, the FFM is an empirically derived model in which the primary input has been language

and the method of development is factor analysis. Traditionally, there has been no additional theory about the origins, meanings, development, or dynamics of personality—or about personality disorders—within the FFM. Currently, some efforts are being made for developing such a theory to explain the emergent data structures (McCrae & Costa, 2013). However, some authors consider that more research is needed for truly creating a bridge between the current research on personality structure and the treatment of patients with PDs (Gunderson, 2010). According to Gunderson (2010), for example, before a dimensional traits-based diagnostic model could be developed, research would have to clarify the relationship between traits and the individual's developmental history.

Clinical Utility. The most significant impediment to shifting to a traits-based dimensional model of classification is the concern in the field regarding clinical utility (First, 2005, 2010; Mullins-Sweatt, 2013). Authors have called out the lack of research on the clinical utility of dimensional traits-based models, specifically in terms of the use of the model for making clinical inferences (Gunderson, 2010; Rottman et al., 2009).

The research that we do have shows that there is some level of consensus among experts regarding the conceptualization of PD types based on profiles of personality traits (Samuel et al., 2012). This means that a traits-based model might be able to address the consistent lack of reliability (i.e., inter-rater reliability) observed in the PD diagnostic system (Mellsop et al., 1982). Studies that look at the practicality of traits-based models in general for daily clinical use and their utility for making clinical inferences are less promising, though. Trait-based dimensional models have been described as too cumbersome (Trull & Widiger, 2013), too ambiguous (Rottman et al., 2009), and too unfamiliar to clinicians (First, 2010). This is not surprising as the longstanding discussion

regarding the advantages and disadvantages of categorical and dimensional models have always pointed out the practical limitations of dimensional models (First, 2005; Frances, 1982, 1993).

In the case of the FFM, for example, Rottman and colleagues (2009) found that FFM descriptions of PD categories were found to be less clinically useful than descriptions based on the DSM-IV categories. In the study, FFM descriptions were found to be less clinically useful for developing a prognosis, developing a treatment plan, communicating with other mental health professionals, describing all relevant personality problems, and describing the person's global personality (Rottman et al., 2009). Based on these findings authors warned that replacing the DSM-IV Axis II diagnoses with the FFM represented "serious challenges" (Rottman et al., 2009, p. 432).

Significant attempts have been made to continue building stronger bridges between the FFM research tradition and clinical practice (Mullins-Sweatt, 2013; Presnall, 2013; Stone, 2013). However, these attempts tend to focus on the clinical utility of the model as an assessment tool and fail to specify the way in which the FFM could serve as the basis for a successful treatment approach. Stone (2013), for example, claimed that, compared to the DSM, the FFM offers a more comprehensive picture of the client's personality and individual needs as it allows to produce a personality profile for each patient. This profile can provide information about the patient's openness to therapy, capacity to build a good working alliance with the therapist, and general prognosis in terms of level of general functioning (Stone, 2013). All valuable pieces of information when assessing symptoms severity and suitability for therapeutic work. Interestingly, however, when describing his approach to therapy with a patient diagnosed with

Borderline Personality Disorder, Stone reported functioning from an "analytically oriented and supportive" approach rather than a FFM approach (Stone, 2013, p. 355).

It all seems to indicate that, as of right now, the FFM can offer limited therapeutic guidance in terms of how to effect change in the therapy room. The FFM has proven to be very successful describing personality structure across time and cultures and offers a sound framework for assessing traits-based personality profiles. However, in the clinical work we also need to understand the mechanisms that originate and/or maintain the maladaptive patterns, in order to know how to intervene. We need understanding of the clients' underlying motivations, their behavioral, cognitive and emotional barriers for change, what keeps them stuck in lifelong problematic patterns, and how to help them move on. A successful model for conceptualizing, diagnosing, and guiding treatment of PDs ought to be able to create bridges in the literature between traits-based understanding of personality dysfunction and accounts that emphasize context and underlying motivations[5].

Interpersonal Learning-Based Framework

A different paradigm for conceptualizing personality and, therefore, personality disorders, is found in the interpersonal literature. Authors have recognized for long time the suitability of interpersonal models for conceptualizing, diagnosing, and treating personality disorders (Frances, 1993; Markovitz, 2012; McLemore & Benjamin, 1979).

[5] In a way, this discussion is an extension of a very old debate in the personality research arena between those who define personality from a traits point of view and those who emphasize social contexts and internal motivators. Some have already attempted to create bridges between these paradigms (McAdams & Pals, 2006) even in a mental health and psychotherapy context (Henriques, 2017). The scope of the current study is more narrow. This study hopes to foster the discussion of the importance of creating bridges between these paradigms specifically regarding the conceptualization, diagnosis, and treatment of personality disorders.

Interestingly, the initial section of the DSM 5 PD alternative model assesses the level of functionality of self and interpersonal dynamics before utilizing the traits-based system, clamming that "disturbances in **self** and **interpersonal** functioning constitute the core of personality psychopathology" (APA, 2013, p. 762).

PDs are easily conceptualized in terms of dysfunctional interpersonal dynamics. Narcissistic personality disorder, for example, is characterized by a need to be admired by others, to be perceived as grandiose and successful, as lacking empathy, feeling entitled to take advantage of others, etc. Dependent personality disorder, on the other hand, is characterized by a difficulty establishing healthy boundaries with others and being assertive, by having an excessive need to be nurtured and supported by others and to submitting to others' demands.

The suitability of interpersonal frameworks for conceptualizing PDs has encouraged some therapists to utilize interpersonal therapeutic models for treating PDs. Interpersonal Psychotherapy (IPT; Markovitz & Weissman, 2012), for example, is a time-limited, life-event-based, affect-based treatment that has mainly been used for treating Axis I disorders (Weissman & Marcovitz, 2007; Weissman et al., 2008). Later, it has been adapted for personality disorders, specifically for Borderline personality disorder (Markowitz et al., 2007). Another example of an interpersonal model that has been utilized in the treatment of PDs is Benjamin's model (1996/2003, 2003/2006), discussed in more detail below.

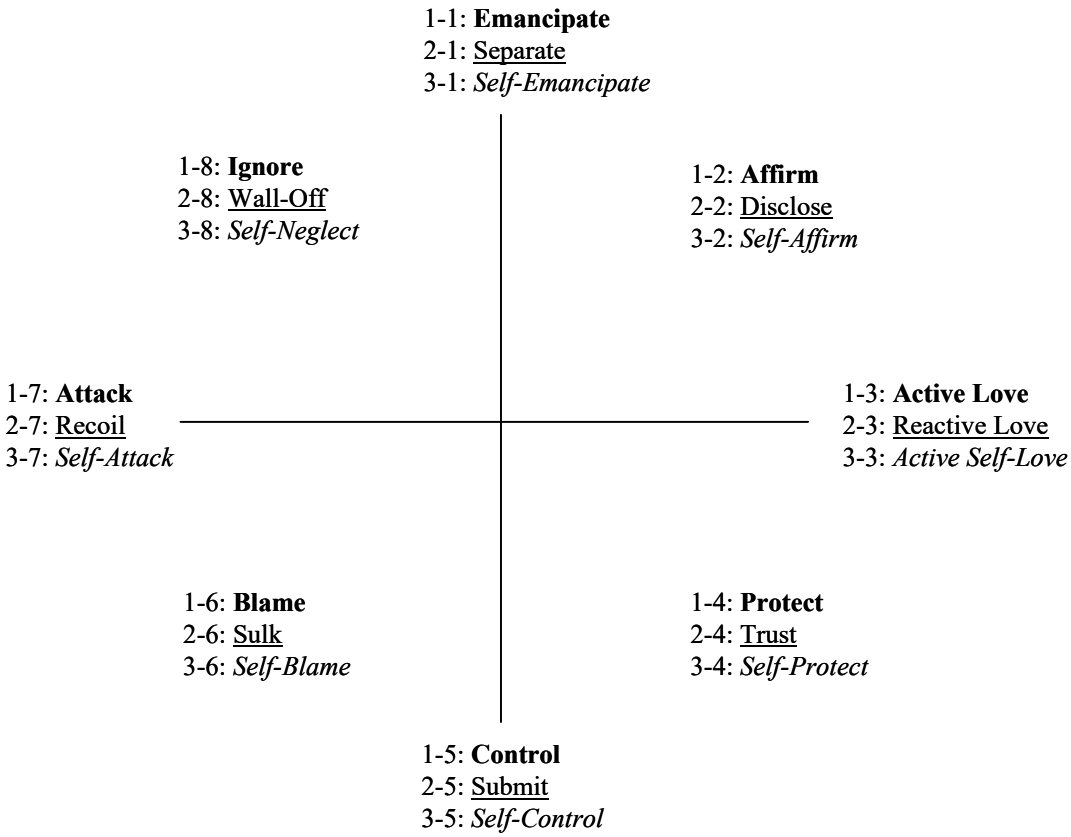
Benjamin's Interpersonal Model[6]

One of the key pieces in Benjamin's model is the Structural Analysis of Social Behavior (SASB; Benjamin, 1974, 1987). The SASB is a comprehensive model of interpersonal patterns and their impact on the self-concept. The SASB conceptualizes interpersonal and intrapsychic patterns in three dimensions: the affiliation dimension (i.e., horizontal axis), the interdependence dimension (i.e., vertical axis), and the focus of the action (Figure 1). The affiliation dimension goes from the Attack pole to the Active love pole. Hostile interactions are illustrated then on the left quadrants of the map and friendly interactions are illustrated on the right quadrants of the map. The interdependence dimension goes from the Control/Submit pole to the Autonomy pole. Interactions that represent autonomy or separation are illustrated on the top quadrants of the map, whereas interactions that represent control or submission (being controlled by) are illustrated on the bottom quadrants of the map.

[6] This section draws from Critchfield et al., 2019.

Figure 1

The SASB Simplified Cluster Model (with Two-Digit Codes)



Note. The first digit (also indicated by the font) refers to Focus (1 [bold] = other, 2 [underline] = self, 3 [italic] = introject). The second digit indicates the cluster, number clockwise from 1 – 8. The vertical line represents degree of Interdependence; the horizontal line represents degree of Affiliation on each surface. The figure combines two figures. One from *Interpersonal Diagnosis and Treatment of Personality Disorders (2nd ed.)* by L. S. Benjamin, 1996, p. 55, New York: Guilford Press. Copyright 1996 by Guilford Press.; and From "Use of the SASB Dimensional Model to Develop Treatment Plans for Personality Disorders, I: Narcissism" by L. S. Benjamin, 1987, p. 53, *Journal of Personality Disorders*, *1*, 43–70. Copyright 1987 by Guilford Press.

The third dimension captures whether the focus of the action is on the other (i.e., transitive actions), on the self (i.e., intransitive actions), or the introject (i.e., transitive

actions directed inward). Stereotypical behavioral patterns that illustrate focus on other would be “parentlike” dynamics. When relating with their children, parents tend to focus on them (i.e., other), protecting them, listening to them, etc. On the other hand, stereotypical behavioral patterns that illustrate focus on self would be “childlike” dynamics. When relating with their parents, children tend to focus on themselves (i.e., self), expressing their own needs, for example. Finally, behavioral patterns that illustrate the introject, for example, would be those that reflect being attuned to our own needs.

The SASB has been found to be useful for clinical practice and research in a wide variety of contexts and theoretical approaches since its initial development in the 1960’s (for summary, see Benjamin et al., 2006; Critchfield et al., 2015, 2017). A formal clinical use of the SASB is found in the Intrex questionnaire (Benjamin, 1988), an instrument based on the SASB model. The SASB Intrex questionnaire allows to assess perceived patterns in important relationships. The Intrex helps the clinician identify relevant copied behaviors and facilitates the conversation with the client about the case formulation.

The SASB, however, orients the clinician in her work not only as a diagnostic tool, but as a guidance for making assumptions regarding case formulation, prognosis, and treatment planning. The SASB functions as a transtheoretical map for keeping track of interpersonal and intrapsychic relationship patterns, including use *in vivo* by clinicians. A clinician who has interiorized the SASB model could identify the structure of adaptive and maladaptive interpersonal and intrapsychic patterns, and connect them with the client’s attachment history, enriching the case formulation and treatment planning. For example, a narrative about perfectionism, high standards, and stress-related work would alert a SASB-versed clinician to keep track of codes that illustrate control and negligence,

both in the attachment history and the present. If there is indeed a history of being controlled and neglected by an important attachment figure, the clinician would expect in the present behaviors that illustrate an interiorization, recapitulation, and/or identification with those behavioral patterns. More importantly, the clinician would expect that at least part of the source of the current emotional problems rests in the maintenance of these maladaptive behavioral patterns, and that at least part of the treatment would be focused on increasing the client's flexibility and self-care. Depending on the level of hostility of the control and negligence patterns and the presence or absence of other friendlier patterns, the clinician could assess the level of severity and the prognosis.

Benjamin's work on the SASB, especially noting the frequency of exact parallels between current patterns and the remembered/internalized learning history, became the basis for the development of the Interpersonal Reconstructive Therapy (IRT; Benjamin, 2003/2006). IRT is an integrative therapeutic approach for treating severe psychopathologies, including personality disorders. IRT's theoretical basis takes from attachment and evolutionary theories. According to IRT, it is evolutionarily advantageous to remember early learning about what to fear and how to be safe (Benjamin, 2018). Our nervous system makes sure that this is the case. In the context of threat, the nervous system reacts activating negative affect that is adaptive for coping with danger. Anger, for example, mobilizes the individual and facilitates fighting and chasing, and anxiety activates flight or hide behaviors. In the context of safety, the nervous system reacts activating positive affect that is adaptive in conditions of safety, such as pleasure, relaxation, and bonding.

These behaviors are highly adaptive when we have learned to fear what is appropriate to fear and to feel safe when it is appropriate to feel safe. Early main caregivers have a pivotal role in this learning process and different biopsychological mechanisms have developed to secure it. The need for physical proximity, contact comfort, and responsiveness predisposes us to feel attached to our main caregivers[7] and to learn from them what to fear and when to feel safe. In healthy secure base conditions individuals learn from their main caregivers adaptive ways of avoiding threat and finding safety. On the other hand, internalized representations of the main caregivers that carry maladaptive or unhealthy messages of threat and safety have psychiatric symptoms as natural outcome. In other words, unhealthy internalized lessons around safety and threat deregulate the affect systems and activate maladaptive patterns of affect, behavior, and cognition (Benjamin, 2018).

Throughout development, relationship dynamics with main caregivers, including their rules and values, are internalized and experienced in a somewhat holistic, dynamic way. Within IRT this is known as "the family in the head" (Benjamin, 2018). Evidence of internalization can be seen in repetition of relationship patterns or "copy processes". There are three primary types of copy process: identification (be like the main attachment figure), introjection (treat yourself as you were treated by the main attachment figure), and recapitulation (act as if the main attachment figure is still here and in control).

The first copy process describes behaviors that illustrate a level of identification with the values of the important attachment figures. Being a strict parent as your main caregiver could be an example of identification. In introjection, on the other hand, we see

[7] However, during adulthood new attachment figures could develop, especially under intense experiences of safety under threat conditions (for example, marital partners and cult members) (Benjamin, 2018).

behaviors that illustrate that the individual treats herself as she was treated. Self-criticism, for example, could be the result of the internalization of critical messages received from main caregivers. As a child the individual might have been expected to meet almost impossible high standards, and as an adult she is now imposing herself those standards. Finally, recapitulation refers to those behavioral patterns that illustrate a need for recapitulate a previous history with important attachment figures. For example, people's tendency to have abusive romantic partners is hypothesized to be a recapitulation of the history of abuse experimented earlier in their lives. The copy processes can co-occur and they tend to be stable over time (Critchfield & Benjamin, 2008, 2010; Critchfield et al., 2015). Within IRT, these behavioral patterns that are deeply embedded in important attachment history are considered to reflect an underlying personality structure that attempts to adapt and respond to current circumstances.

Conceptualization of Personality Disorders Within Benjamin's Model. IRT typically uses copy process formulations as the basis for tailoring psychotherapy in relation to an individual's unique learning history. It has shown great utility particularly with "complex," "stuck" or "non-responder" cases. However, the SASB and IRT models (i.e., Benjamin's model) have also been used to provide a language for translating each of the DSM-IV PDs in interpersonal terms, seeing each as a relatively common and/or clinically salient presentation based on the history of practice in psychotherapy (Benjamin, 1996/2003).

Based on SASB key concepts and principles—further developed in IRT—Benjamin defines the interpersonal context for each of the PD symptoms and the interpersonal forces that might have acted as sources of the disorder. Thus, Benjamin's

(1996/2003) model offers a social pathogenetic hypothesis for the emergence of each of these disorders. Specific early learning experiences that generally represent insecure attachment styles are hypothesized to be associated with the characteristic maladaptive interpersonal and intrapsychic patterns observed in each disorder. For example, within this model, OCPD[8] is characterized by the presence of a relational history that included being judged for being imperfect and not being rewarded for successes (SASB code Blame), a coercion to perform following "the rules" without recognition of the costs (Control and Ignore), and teaching of those rules without personal involvement (Wall off, Control, and Ignore). In the present, these maladaptive relational patterns have an impact in the way the person treats herself and others. For example, a fear to be judged as imperfect triggers harsh self-criticism (Self-blame) and the self imposition of strict rules and high standards (Self-control and Self-neglect). Interpersonally, the quest for perfection and order generates an inconsiderate demand for perfectionism (Control, Ignore, and Blame).

Individuals who are diagnosed with NAR, on the other hand, wish for recognition, protection (Active love and Protect), and self-less (Wall-off) unconditional love from somebody who will submit (Submit) to their unconditional demands, neglecting their own needs (Self-neglect). NARs are terrified of criticism from others (Blame), which is immediately translated as self-degradation (Self-blame). The hypothetical prototypical attachment history for these individuals involves similar interpersonal messages. They were very likely admired and adored (Active love) by an important caregiver who

[8] The following acronyms will be used to refer to each personality disorder: PAR (Paranoid personality disorder), SZT (Schizotypal), SZD (Schizoid), ASP (Antisocial), BPD (Borderline), HIS (Histrionic), NAR (Narcissistic), AVD (Avoidant), DEP (Dependent), OCPD (Obsessive compulsive) and PAG (Passive aggressive).

provided submissive nurturance (Protect and Submit) without pairing that love with appropriate and genuine disclosure of own self and needs (Wall-off and Self-neglect). Admiration came with an explicit message of disappointment (Blame) at the minimum sign of imperfection. Thus, in the NAR diagnosis interpersonal messages of submissive and self-less love and protection, coupled with significant pressure to perform and disappointment when not, were carried into adulthood and gave rise to similar maladaptive patterns. Similar SASB-based descriptions of past and present interpersonal and intrapsychic patterns, and hypotheses about the specific learning history that might have caused the emergence of these patterns in the present are developed for each of the 11 DSM-IV PDs (Benjamin, 1996/2003).

Part of Benjamin's PDs theory has been operationalized. The interpersonal descriptions of the 11 DSM-IV personality disorders have been used as the basis for developing the Wisconsin Personality Disorders Inventory (WISPI; Klein et al., 1993). Studies have shown that personality disorder diagnoses based on the WISPI converge with diagnoses based on the SCID II (Smith et al., 2003). In a more recent study evaluating the validity and reliability of the IRT case formulation method, the interpersonal descriptions of the 11 DSM-IV personality disorders were coded using the SASB (Critchfield et al., 2015). Thus, the 11 DSM-IV personality disorders were translated into prototypes of presence and absence of 72 SASB codes, illustrating the prototypes' present and past interpersonal dynamics. These prototypes were used in the study to diagnose 93 inpatients by correlating their SASB-coded case formulations with the prototypes (Critchfield et al., 2015).

Benjamin's model has been recognized as a therapeutic framework that dialogues

with research on personality and interpersonal dynamics, creating bridges between research and practice (Frances, 2003). The PDs structural/taxonomic constructs offered by the model are rooted in relatively pragmatic concerns of the clinician for tracking interpersonal histories and their implications for interactive processes in the present. Within the model, then, the clinical implications of each of the PD interpersonal profiles are clear. For example, for each PD Benjamin (1996/2003) delineates prototypic wishes and fears that motivate problematic behavior and prototypic transference dynamics that might interfere with the therapy. In different clinical contexts, the PD conceptualizations and etiological hypotheses have been informally confirmed and found useful (Benjamin, 1996/2003). This speaks about the potential of the model for contributing in the development of a PD system that is clinically useful.

The model also has the potential to address some of the taxonomic problems that current categorical models face, one of those being the high comorbidity among PDs. High comorbidity among PDs questions the nature of these disorders and impedes appropriate case conceptualization and treatment. Comorbidity is in fact one of the major reasons why the current diagnostic system is being challenged. Benjamin (1996/2003), argues, however, that high comorbidity is not necessarily a taxonomic problem. To explain this point she recurs to medicine, where there is a clear difference between comorbidity of symptoms and comorbidity of disorders. Medicine deals with the issue of comorbidity of symptoms all the time. High fevers and joint pain, for example, are symptoms present in many different medical conditions. This comorbidity does not hinder differential diagnosis if we know the mechanisms behind the emergence of those symptoms. The same happens in the case of personality disorders.

According to Benjamin (1996/2003), much of the overlapping among PDs is the result of overlapping among specific classes of PD symptoms that have interpersonal linkage. This should not be a problem for the diagnostic system or impede differential diagnosis if we understand the mechanisms behind those symptoms. For example, although anger is present in different DSM Cluster B disorders, we know that the interpersonal and intrapsychic context in each case is different (Benjamin, 1996/2003). Anger in BPD is triggered by feelings of abandonment or neglect, and is uncontrollably executed to attain some type of attention from the caregiver. In the case of ASP, on the other hand, anger behaviors are more controlled and functional, and are triggered by a need to maintain some sense of control or distance. If we take into account the interpersonal context, then, the comorbidity between BPD and ASP that responds to the overlap between anger symptoms becomes conceptually meaningful. A clinician well versed in the interpersonal contexts of these symptoms should not have problems differentiating between these PDs and delineating treatment plans that adjust to the client's needs.

Comorbidity of symptoms, therefore, does not necessarily illustrate boundary problems within the diagnostic system if we have a theoretical model that can make sense of such comorbidity and, therefore, guide clinical practice. Benjamin (1996/2003) attempts to offer such an explanatory theory by delineating the prototypic attachment history and psychological mechanisms that would lead to specific interpersonal and intrapsychic maladaptive patterns in adulthood. Although different pieces of Benjamin's model have been validated in several studies, to our knowledge no study has focused on the underlying personality disorders taxonomic framework present in Benjamin's model.

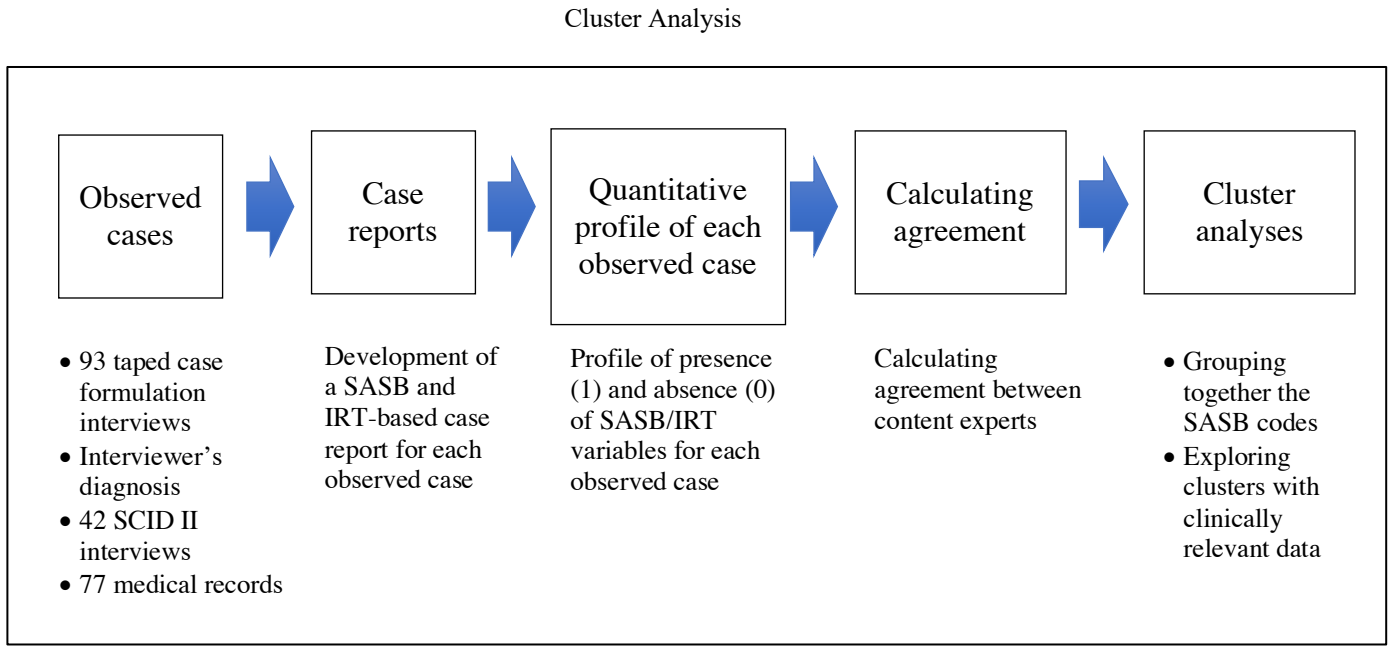
An empirical contribution made by this study, then, is to build on existing validity evidence and explore the underlying taxonomic framework invoked by Benjamin's model. This study will have two different goals: to explore whether the SASB-defined interpersonal and intrapsychic patterns grouped together via cluster analysis make sense theoretically and to test whether Benjamin's conceptualization of PDs comorbidity could be operationalized and predict observed patterns of comorbidity. Our expectation is that these explorations will help build bridges between IRT's clinical applications of theory and the current dialogues in the field regarding the conceptualization and diagnosis of PDs.

Chapter III: Methods

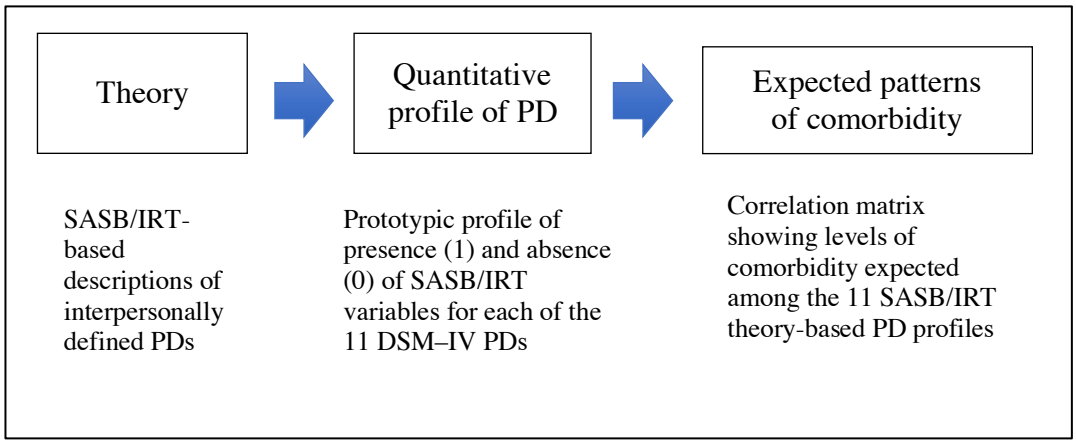
The current study contained two primary aims that together focus on exploring the underlying personality disorders taxonomic framework present in Benjamin's model. Two research questions guide this investigation: 1) are there meaningful groupings of patients based on their interpersonal profiles, as measured by the SASB model? and 2) Do observed patterns of PD comorbidity conform to predictions of Benjamin's theory? The following diagram (Figure 2) illustrates the different facets of the study, and the data collection and analysis procedures utilized in each section. The first facet is exploratory and based on interpersonal features present in the referred sample. The second facet attempts to address Benjamin's model in a more confirmatory way by comparing predicted and observed patterns of comorbidity.

Figure 2

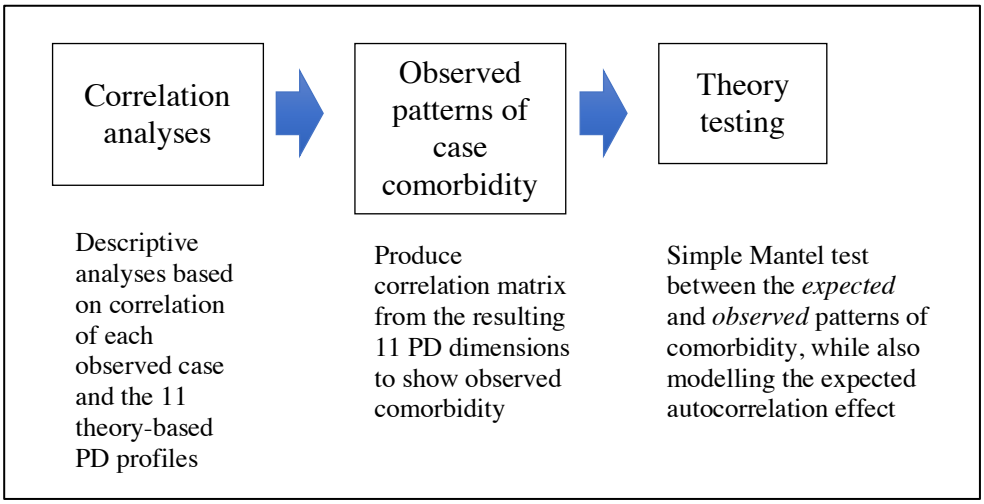
Facets of the Study



Expected Patterns of Comorbidity



Association Between Expected and Observed Patterns of Comorbidity



Data Source and Procedures

The current study utilizes archived clinical data that have been used to examine the reliability and validity of the IRT case formulation method (Critchfield et al., 2015, 2017), and are part of ongoing work to establish efficacy and mechanisms of change in IRT applied with severe and complex cases. The current work represents one facet of the broader study design and places emphasis on the conceptual and diagnostic infrastructure for understanding patient patterns that are targeted in IRT treatment. A primary goal is to test theory that bridges interpersonal and DSM-diagnostic frameworks as articulated most clearly by Benjamin (1996/2003), and that have been followed up in limited prior research as noted in an earlier section. The archived data come from four, related sources: 1) the IRT case formulation interviews conducted to 93 patients referred to the IRT clinic at the University of Utah Neuropsychiatric Institute for further assessment given treatment resistance and/or presence of personality disorders; 2) Interviewer's PD diagnosis based on the case formulation interview that emphasizes the few (usually one) most salient diagnoses to focus treatment, 3) the SCID II DSM IV Personality Disorders interview conducted with 42 of the 93 patients and providing a comprehensive inspection of all potential PDs and features, and 4) medical records received at the moment of the referral for 77 of the 93 patients.

Clinical interview data were collected utilizing the interview method for constructing an IRT case formulation as described by Benjamin, 2006 (Critchfield et al., 2015, 2019). The IRT case formulation interview is a semi-structured interview that typically lasts 90 minutes. The goal of this interview is to elicit the patient's perspective about their presenting concerns and to identify the links between current symptoms and

patterns in the interpersonal history (Critchfield et al., 2015). In order to do so, the case formulation interview covered the following IRT and SASB key themes: 1. Current symptoms, 2. Important attachment figures, 3. Copy processes associated with key figures, and 4. Interpersonal and intrapsychic dynamics as described by the SASB dimensions of focus (i.e., transitive, intransitive, and introject), affiliation, and interdependence (Benjamin, 2003/2006). The majority of interviews were conducted by Dr. Lorna Benjamin (n = 91) and some by Dr. Ken Critchfield (n = 2), content and clinical experts in SASB/IRT. The 93 interviews were recorded and a written case report (Figure 3) was developed for each case. The case reports kept track of the following SASB/IRT elements: a) important attachment figures, b) types of copy processes observed, c) copied behaviors described in SASB terms, and d) specific presenting problems linked with the copy processes. Based on the case formulation method, the interviewer also included a DSM-IV personality disorder diagnosis[9] for most of the cases.

[9] A more detailed description of the diagnosis of personality disorders based on Benjamin's theory can be found in Benjamin, 1996/2003.

Figure 3

Sample of the SASB/IRT-based case report for a case formulation interview, with emphasis on the copy process components

Important Attachment Figure Copied	Type of Copy Process	Behaviors Copied (in SASB Terms)	Presenting Problems
Mother	Introjection of	**Blame** as *Self-blame* **Attack** as *Self-Attack* **Ignore** as *Self-ignore*	Depression marked by overwhelm, self-harm, attending to others' needs at expense of the self.
	Recapitulation of	Me to others: **Protect**, <u>Submit</u>	

Note: Adapted from Critchfield et al., 2015.

A subset of participants (n = 42) were also interviewed utilizing The Structured Clinical Interview for DSM IV Personality Disorders (SCID II; Gibbon et al., 1997). The SCID II is a semistructured interview that is based on the PD diagnoses of the DSM IV. For each PD, participants are asked a series of questions using a scale that goes from 1 to 3, 1 indicating that the criterion has not been met, 2 indicating that the criterion is subthreshold, and 3 indicating that the criterion has been met. The SCID II interview was administered by trained graduate students and mental health professionals working with the IRT research and training clinic, usually within a week after the IRT formulation interview. Prior work with this sample has noted very different processes invoked by each interview style, particularly that clients who are more reactant to control (e.g., PAG) tended to be less forthcoming or omit examples during the more structured SCID interview, including features and patterns that had previously been endorsed with narrative detail in the IRT formulation interview (Dillinger et al., 2005).

Medical records provided at the time of referral were written by a member of the psychiatric hospital treatment team (only 77 of the 93 are available for present research purposes given language and IRB approval dates for the multi-year protocol under which the original data were collected). Medical records contained demographic information (e.g., gender, age, race) and other relevant clinical information (e.g., diagnoses, previous hospitalizations, number of suicide attempts). IRB permissions from University of Utah Neuropsychiatric Institute were obtained and all participants signed an informed consent for recording the interview and for educational and research use of the therapy tapes before the interview started. An IRB permission from James Madison University has been obtained for further use and analysis of these data for the current study.

Participants

As noted previously, archived data from a total of ninety-three adults from an inpatient psychiatric hospital were utilized for this study. The patients were characterized by the CORDS acronym: Comorbid, Often Rehospitalized, Dysfunction, and Suicidal. Patients were referred to the IRT clinic due to complexity of their symptomatic presentation, expected involvement of PD, and/or failure to respond to prior treatment attempts.

Data analysis

Data for this study are specific to the copy process links with key figures. This subset of total information was extracted from each IRT case formulation report and was transformed by SASB/IRT content experts into quantitative data in terms of presence (1) or absence (0) of each salient SASB-based cluster of behavior. The following table

(Table 2) illustrates the codification of the copy process data for one of the cases. Data in the table illustrate the case of a patient for whom symptom-linked interactions with past important others are described as involving Control, Blame, Attack, and Ignore, with a response of Submission. Copied in the present, important others are still experienced as Blaming, Attacking, and Ignoring, but sometimes also Submissive to patient. The patient continues to Submit, but is also Controlling, Blaming, and Ignoring of others. This patient's symptom-linked introjective behavior echoes early attachment relationships, as patient engages in Self-control, Self-blame, Self-attack, and Self-neglect behaviors.

Table 2

Codification of Clinical Case Based on SASB Codes

SASB cluster	Others to me		Me to Others		Me to Me
	Past	Present	Past	Present	Present
Emancipate	0	0	0	0	
Affirm	0	0	0	0	
Active love	0	0	0	0	
Protect	0	0	0	0	
Control	1	0	0	1	
Blame	1	0	1	1	
Attack	1	0	1	0	
Ignore	1	0	1	1	
Separate	0	0	0	0	
Disclose	0	0	0	0	
Reactive love	0	0	0	0	
Trust	0	0	0	0	
Submit	0	1	1	1	
Sulk	0	0	0	0	
Recoil	0	0	0	0	
Wall off	0	0	0	0	
Self-emancipate					0
Self-affirm					0
Active self-love					0
Self-protect					0
Self-control					1
Self-blame					1
Self-attack					1
Self-neglect					1

Note. 1 = Presence and 0 = absence of variables.

Adapted from Critchfield et al., 2015.

Reliability

Inter-rater reliability for use of SASB in the construction of IRT case formulation was reported in a previous study using the same sample (Critchfield et al., 2015). In that

study coders' SASB profiles had an average Pearson *r* of .99 in the case of behaviors that coders agreed were part of the case formulation, and an average profile correlation of .77 when behaviors for which there was disagreement were included. The current study involves use of SASB data at the cluster-by-cluster level, which is more fine-grained than overall profiles. Therefore, inter-rater reliability was additionally measured by using Cohen's weighted kappa, with weights recommended by Benjamin and Cushing (2000) for SASB observational coding studies. A subset of cases (n = 16, 17%) was selected for estimating the level of agreement between coders. Similar to the prior report, the average[10] profile *r* for this reliability sample was very high (r = .94) for behaviors that both coders agreed were codable. An average Pearson *r* of .68 was obtained when codability disagreements are included in the calculation.

For calculating the weighted Cohen's Kappa we followed the instructions provided in the SASB observational coding manual for calculation of inter-rater reliability with SASB data (Benjamin & Cushing, 2000). The weighted kappa was very high (k_w = .94) for application of SASB codes to material that both coders agreed were codable. An acceptable level of reliability (k_w = .60) was obtained when codability disagreements are included. These numbers are consistent with reliability estimates of content coding of case material in the published literature around case formulation in general, as well as for SASB data in particular. The level of agreement for data used in the current analyses is deemed acceptable for exploratory work. Disagreements were mostly in terms whether one of the coders considered that a specific behavior was

[10] Fisher's *r*-to-*z* transformation was used for averaging.

described sufficiently clearly to be coded or not (as distinguished from disagreements about the type of behavior it might be).

Cluster Analysis of Symptom-Linked, Interpersonal Copy Process Patterns

Hierarchical cluster analyses were conducted to explore for common themes in the interpersonally-defined, copy process-based formulation profiles. Interviewer's PD diagnoses, interpersonal PD prototypes, SCID-II PD diagnoses (n = 42), and other relevant medical information (n = 77) aided in interpretation of the clusters.

Measuring Association Between Expected and Observed Patterns of Comorbidity

Benjamin's conceptualization of PDs were further explored by studying patterns of comorbidity among the disorders expectable based on degrees of interpersonal feature overlap. As a basis for this analysis we utilized quantitative profiles of the 11 PD categories from the DSM IV that have been developed based on Benjamin's (1996/2003) theory in the context of a previous study (Critchfield et al., 2015). In that study, each of Benjamin's PD prototype patterns were transformed into binary quantitative data. Data were coded in terms of expected presence (i.e., =1) and absence (i.e., =0) of SASB clusters regarding a) prototypic baseline positions of each PD in the present (Table 3) and b) prototypic copy process-based links to the learning history (Table 4). Table 5 illustrates the transformation of Benjamin's total theory (i.e., including developmental history linked to copy process) into quantitative data for one of the PD prototypes, OCPD.

Table 3

Prototypic SASB Codes (for the Present) for Each Personality Disorder

	PAR	SZT	SZD	ASP	BPD	HIS	NAR	AVD	DPD	OCPD	PAG
Transitive Focus											
Emancipate		X									
Affirm											
Active love				X	X						
Protect											
Control	X	X		X	X	X	X			X	
Blame	X			X	X	X	X	X		X	X
Attack	X			X	X		X				
Ignore			X	X			X			X	
Intransitive Focus											
Separate	X			X			X				X
Disclose											
Reactive love						X					
Trust					X	X			X		
Submit		X							X	X	X
Sulk								X	X		X
Recoil	X	X						X			
Wall off	X	X	X	X		X		X		X	X
Introject											
Self-emancipate											
Self-affirm											
Active self-love							X				
Self-protect				X	X						
Self-control	X	X						X		X	
Self-blame							X	X	X	X	
Self-attack					X	X					X
Self-neglect		X	X	X	X		X			X	

Note: Adapted from Benjamin, 1996/2003, p. 386.

PAR: Paranoid; SZT: Schizotypal; SZD: Schizoid; ASP: Antisocial; BPD: Borderline; HIS: Histrionic; NAR: Narcissistic; AVD: Avoidant; DPD: Dependent; OCPD: Obsessive Compulsive; and PAG: Passive Aggressive Personality Disorder.

Table 4

SASB-Based Translation of Benjamin's Prototypical Histories with Attachment Figures for Each DSM-IV PDs

	PAR	SZT	SZD	ASP	BPD	HIS	NAR	AVD	DEP	OCPD	PAG
Transitive Focus											
Emancipate											
Affirm											
Active love				X	X	X	X				
Protect				X	X	X	X		X		
Control	X	X	X	X				X	X	X	X
Blame	X	X		X	X		X	X	X	X	X
Attack	X	X		X	X						X
Ignore		X	X	X	X	X	X	X		X	X
Intransitive Focus											
Separate		X									
Disclose											
Reactive love											
Trust					X						
Submit		X		X		X	X				
Sulk											
Recoil											
Wall off			X				X			X	

Note. Adapted from Benjamin, 1996/2003.

Table 5

Sample Codification of the OCPD Prototype Based on SASB/IRT Codes

SASB cluster	Others to Me		Me to Others		Me to Me
	Past	Present	Past	Present	Present
Emancipate	0	0	0	0	
Affirm	0	0	0	0	
Active love	0	0	0	0	
Protect	0	0	0	0	
Control	1	0	0	1	
Blame	1	0	0	1	
Attack	0	0	0	0	
Ignore	1	0	0	1	
Separate	0	0	0	0	
Disclose	0	0	0	0	
Reactive love	0	0	0	0	
Trust	0	0	0	0	
Submit	0	0	0	1	
Sulk	0	0	0	0	
Recoil	0	0	0	0	
Wall off	1	0	0	1	
Self-emancipate					0
Self-affirm					0
Active self-love					0
Self-protect					0
Self-control					1
Self-blame					1
Self-attack					0
Self-neglect					1

Note: 1 = Presence and 0 = absence of features as being core to the prototype.

Adapted from Critchfield et al., 2015.

Pearson's φ[11] coefficients were calculated[12] among the 11 DSM-IV SASB/IRT-based PD prototypes to assess the degree of theory-predicted feature overlap (i.e., comorbidity of interpersonal features) based on each prototype's interpersonal

[11] Pearson's *r* applied to binary data is called a Phi coefficient (φ).
[12] Φ is strictly used in a descriptive way, as a measure of similarity, not for inferential hypothesis testing.

configuration of 1's and 0's. This produces an asymmetric matrix of 55 unique comparisons among each of the PDs.

Separately, a parallel matrix based on empirically observed patterns within each case report was generated using the following procedure. Phi (φ) coefficients were calculated for each of the 93 SASB/IRT-coded observed cases compared with each of the 11 DSM-IV SASB/IRT-based PD prototypes in order to see the level of association between each observed case and the predicted SASB/IRT-based PD prototypes. Thus, 11 separate correlations were available for each case to descriptively index the degree of overlap between each individual's profile and the 11 prototypes. For example, the patterns of 1's and 0's generated from the case formulation of the first case in the database were compared with each of the PD prototypes, producing the following values: PAR = 0.40, SZT = 0.25, SZD = 0.27, ASP = 0.32, BPD = 0.16, HIS = -0.07, NAR = 0.32, AVD = 0.25, DEP = 0.18, OCPD = 0.30, PAG = 0.60. Thus, these values indicate the level of association between the CF of the first case with the PD prototypes, showing, for example, that this CF is more strongly associated with PAG than with HIS.

The empirical database thus consisted of 93 rows/cases with 11 columns/variables reflecting the degree of matching or similarity between each patient and the various PDs. These 11 columns were then correlated at the aggregate level to produce a matrix paralleling the one produced from the 11 theory-defined prototypes considered alone. This will be referred to as the empirically-derived matrix.

Matrices from theory-expected and empirically-derived comorbidity data were then compared directly using a statistical test of the correlation between two matrices. The test utilized for comparing these matrices was the simple Mantel test, also known as

the Generalized Regression Approach (Mantel, 1967) or Mantel and Valand's nonparametric MANOVA technique (Mantel & Valand, 1970). The simple Mantel test is straightforward and consists of a Pearson's correlation between the values in each matrix. Estimates of the probability of the resulting degree of association is assessed using bootstrapping procedure to produce a reference distribution that does not rely on the assumption of independence of objects (Bonnet & Van de Peer, 2002).

In the current data, a certain amount of "autocorrelation" (i.e., the effect of the result of shared methods variance) was expected simply from use of Benjamin's theoretical prototypes as a measurement anchor for the individual cases as well as for determining theory-expected overlap between each PD. To address this, a separate (from the standard Mantel procedure) bootstrapping procedure was undertaken and involved generation of a large number ($N = 500$) of random permutations of 1's and 0's in the originating grid of interpersonal PDs. With each permutation, a new "theory" matrix was generated and compared with the actual case data to generate a reference distribution involving the same method-based autocorrelation effect, but under conditions of differently defined "theories." The PD theory permutations were randomly-generated maintaining the same proportion of 1's and 0's that would be present on each of the 11 theory-based PD grids. The resulting distribution of permuted matrix-based correlations was used to judge the degree to which the SASB/IRT theory produced a match to observed cases that exceeds thresholds of chance.

Chapter IV: Results

Sample Characteristics

Table 6 provides demographic information from the sample. The average age of the participants at time of referral was 34.7 years and ages ranged from 18 to 65. The majority were Caucasian (95%) and female (75%).

Table 6

Demographics of Study Participants

		Total $N = 93$ % (n)
Gender		
	Female	75.3 (70)
	Male	24.7 (23)
Race		
	Caucasian	94.6 (88)
	Hispanic	4.3 (4)
	African American	1.1 (1)
	Asian	0
	Not listed	0
Age		
	18 - 25	21.5 (20)
	26 - 35	37.6 (35)
	36 - 45	23.7 (22)
	46 - 55	12.9 (12)
	56 - 65	4.3 (4)

Based on the patient's medical record received at the time of the CF interview (Table 7), patients had an average of four hospitalizations (with a range of 1 to 45) and two suicide attempts (with a range of 0 to 13) prior to admission. The majority of patients were diagnosed with a Mood disorder, including Major Depressive Disorder (79%) and

Bipolar disorder (18%). Other diagnoses with substantial presence were Generalized Anxiety Disorder (31%), Substance Abuse (25%), and Post-Traumatic Stress Disorder (13%).

Table 7

Mental Health Information Obtained from Medical Records

	n = 77
DSM IV Diagnoses	%
Mood Disorders	98.7
Anxiety Disorders	59.7
Substance-Related Disorders	24.7
Eating Disorders	11.7
Attention-Deficit Related Disorders	2.6
Other	7.8
	M (*SD*)
Hospitalizations	3.90 (5.55)
Suicide Attempts	2.10 (2.27)

Note. Percentages refer to % of patients with at least one DSM IV disorder in each category.

Ninety-six percent of patients met criteria for at least one personality disorder diagnosis, as assessed by the IRT case formulation interviewer (Table 8). The IRT interviewer's task was to determine the primary PD/s that applied to the case, rather than a comprehensive inspecting of all possible comorbid features. The majority were diagnosed with Obsessive Compulsive (OCPD; 39%) and Passive Aggressive (PAG; 26%) personality disorders. Meanwhile, based on the information provided by the 42 SCID II interviews (which comprehensively assesses all DSM features for all PDs), all 42

patients met criteria for at least one personality disorder, OCPD being again the most common (55%), followed by Avoidant (36%), Passive Aggressive and Borderline (24% each) personality disorders. Patients who met criteria for more than one personality disorder, met criteria for at least one of the previous four PDs.

Table 8

Frequencies of Personality Disorder Diagnoses

	Interviewer's Diagnoses Total $N = 93$ % (n)	SCID II Diagnoses Total $n = 42$ % (n)
Paranoid Personality Disorder	0	7.1 (3)
Schizoid Personality Disorder	0	9.5 (4)
Schizotypal Personality Disorder	0	4.8 (2)
Antisocial Personality Disorder	0	4.9 (2)
Borderline Personality Disorder	1.1 (1)	23.8 (10)
Histrionic Personality Disorder	2.2 (2)	2.4 (1)
Narcissistic Personality Disorder	2.2 (2)	4.8 (2)
Avoidant Personality Disorder	4.3 (4)	35.7 (15)
Dependent Personality Disorder	5.4 (5)	7.1 (3)
Obsessive Compulsive Personality Disorder	38.7 (36)	54.8 (23)
Passive Aggressive Personality Disorder	25.8 (24)	23.8 (10)

Overview of SASB Data

SASB cluster percentages for the total sample have been reported previously by Critchfield and colleagues (2015) and are shown in Table 9. Data have been organized following the five different domains of interpersonal experience contained in the CF summary grids. The domains are (1) How others treated me in the past; (2) How I treated others in the past; (3) How others treat me in the present; (4) How I treat others in the present; and (5) How I treat myself in the present. As expected, the total sample shows a

high base rate of hostility in early relationships that has repeated in various forms in adulthood. All of the individuals reported being exposed in the past to some form of hostile message from an important person in their life. These key relationships were almost always characterized by perception of neglect, criticism, control, and/or abuse. In terms of how people are treated in the present, there is a shared lack of friendliness towards others and a tendency to react to interpersonal pain either by submitting to others or walling off. In terms of the impact on the self-concept, the sample illustrate a shared unhealthy self-concept that carries significant self-blame, neglects her own needs, and, in many cases, has been unable to develop a friendly differentiation from others.

Table 9

Percent of Cases With SASB-Coded Patterns in a Symptom-Linked Copy Process

	How others treated me	How I treated others	How others treat me	How I treat others	How I treat myself
Transitive Focus					
Emancipate	2.2	0	0	1.1	
Affirm	3.2	0	5.4	1.1	
Active love	3.2	0	4.3	1.1	
Protect	22.6	32.3	15.1	49.5	
Control	69.9	8.6	34.4	31.2	
Blame	89.2	4.3	52.7	41.9	
Attack	62.4	5.4	31.2	22.6	
Ignore	97.8	4.3	64.5	28	
Intransitive Focus					
Separate	1.1	25.8	0	37.6	
Disclose	0	0	0	0	
Reactive love	0	1.1	0	2.2	
Trust	8.6	19.4	5.4	25.8	
Submit	3.2	52.7	4.3	55.9	
Sulk	2.2	9.7	0	13.4	
Recoil	1.1	14	0	18.3	
Wall off	17.2	38.7	3.2	52.7	
Introject					
Self-Emancipate					5.4
Self-Affirm					5.4
Self-Love					3.2
Self-Protect					4.3
Self-Control					57
Self-Blame					81.7
Self-Attack					61.3
Self-Neglect					91.4

Note. Total $N = 93$.

Adapted from Critchfield et al., 2015.

The total sample was also explored through the lenses of Benjamin's SASB-based PD definitions. The average phi coefficients illustrate the average associations between the 93 SASB profiles and the 11 interpersonally-defined PDs (Table 10). The values are a

form of correlation coefficient, so higher values indicate that more cases were more strongly associated with those PD categories. Lower values indicate weaker association with those PD categories. Thus, similar to interviewer-assigned and SCID diagnoses, there is a stronger presence of SASB-based copy process profiles that align with OCPD, PAG, and AVD (plus elevations among those patterns that share interpersonal features), indicating that there is a stronger presence of the relevant interpersonal patterns in the sample. By contrast, HIS patterns were less characteristic of the sample. The average phi coefficients for each PD are all positive and in a similar range. This observation is consistent with expected overlap of PD patterns, based on shared interpersonal features.

Table 10

Average Phi Correlation for All Study Patients Using Benjamin's SASB-Based Personality Disorder Definitions

	M (*SD*)
Paranoid	0.27 (0.15)
Schizotypal	0.33 (0.13)
Schizoid	0.29 (0.14)
Antisocial	0.25 (0.11)
Borderline	0.23 (0.11)
Histrionic	0.06 (0.13)
Narcissistic	0.25 (0.10)
Avoidant	0.35 (0.16)
Dependent	0.24 (0.16)
Obsessive Compulsive	0.43 (0.18)
Passive Aggressive	0.39 (0.16)

Note. Total $N = 93$.

Cluster Analysis

Cluster analyses were conducted to see what groupings emerged based on the SASB-based formulation profiles. Hierarchical cluster analysis was applied using Ward's method on squared Euclidian distances among SASB variables to derive the number of clusters that best characterize the data. The appropriate number of clusters was selected based on observing the dendrogram (Figure 4) and choosing roughly equal size clusters for ease of interpretation. A 5-cluster solution was determined best in terms of its coherence and representation of meaningful patterns within each grouping. Solutions with two, four, and six clusters were also evaluated and the 5-cluster solution showed to be the most parsimonious and clinically relevant. Of these five, cluster one included 16 cases, cluster two 16 cases, cluster three 25 cases, cluster four 19 cases, and cluster five 17 cases.

To investigate empirical cluster differences five sets of chi-square analyses were conducted with the internal variables (i.e., the SASB-based set of 1's and 0's for each case) separately for each of the five different domains of interpersonal experience contained in the CF summary grids. The domains are (1) How others treated me in the past; (2) How I treated others in the past; (3) How others treat me in the present; (4) How I treat others in the present; and (5) How I treat myself in the present. Tables 11, 12, 13, 14, and 15 illustrate the percentages of cases in each of the five clusters that present the SASB codes in each of these five domains and the significant differences[13] based on the chi-square analysis.

[13] As recommended by Field (2009), Fisher's exact test for computing the probability of the chi-square statistic was utilized as the assumption of expected frequencies in each cell being greater than 5 was violated in some of the analyses, resulting in a slightly more conservative test overall.

Figure 4

Dendrogram

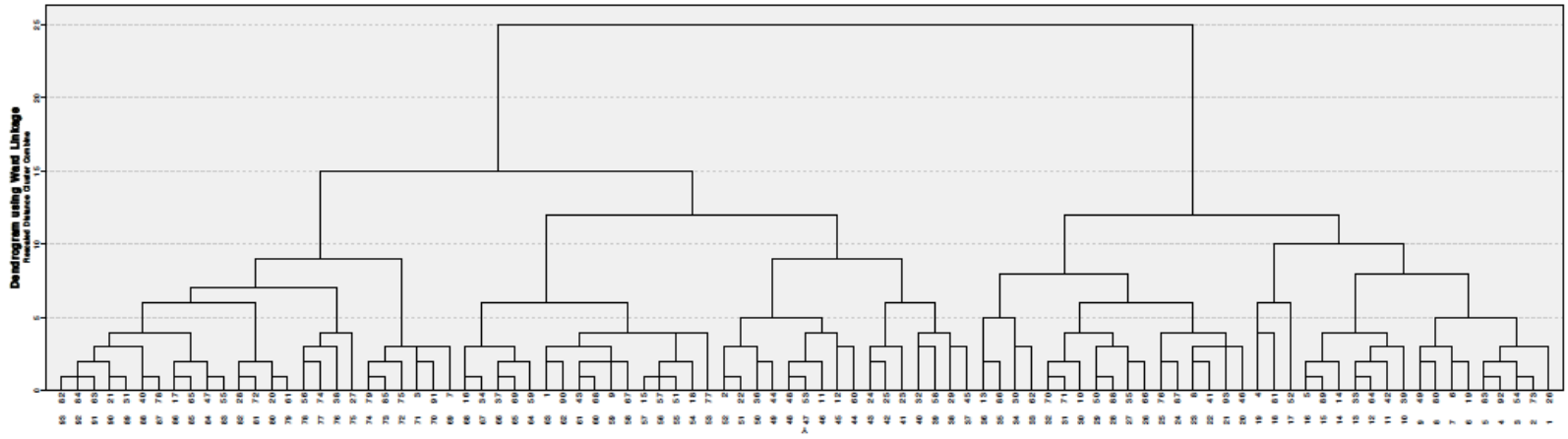


Table 11

How Others Treated Me in the Past: Percentage of Cases that Involve Each SASB Code in a Symptom-Linked Copy Process

	Empirical Cluster 1	Empirical Cluster 2	Empirical Cluster 3	Empirical Cluster 4	Empirical Cluster 5	Chi-Square Fisher's Exact Test
	n = 16	*n* = 16	*n* = 25	*n* = 19	*n* = 17	
Transitive Focus						
Emancipate	6.3	0	0	0	5.9	3.59
Affirm	6.3	0	0	10.5	0	4.23
Active love	0	6.3	0	10.5	0	4.23
Protect	12.5	25	12	42.1	23.5	6.25
Control	100	43.8	92	15.8	94.1	48.33*
Blame	93.8	87.5	100	68.4	94.1	10.25*
Attack	62.5	87.5	68	52.6	41.2	8.73
Ignore	100	100	100	94.7	94.1	2.25
Intransitive Focus						
Separate	0	0	0	0	5.9	4.21
Disclose	0	0	0	0	0	-
Reactive love	0	0	0	0	0	-
Trust	0	18.8	12	5.3	5.9	3.81
Submit	0	6.3	4	5.3	0	2.18
Sulk	0	0	0	5.3	5.9	3.25
Recoil	6.3	0	0	0	0	4.33
Wall off	18.8	18.8	24	5.3	17.6	2.98

Note. Total $N = 93$. "-" indicates insufficient between-group variability to conduct chi-square analysis.

* $p < 0.05$.

Table 12

How I Treated Others in the Past: Percentage of Cases that Involve Each SASB Code in a Symptom-Linked Copy Process

	Empirical Cluster 1	Empirical Cluster 2	Empirical Cluster 3	Empirical Cluster 4	Empirical Cluster 5	Chi-Square Fisher's Exact Test
	n = 16	*n* = 16	*n* = 25	*n* = 19	*n* = 17	
Transitive Focus						
Emancipate	0	0	0	0	0	-
Affirm	0	0	0	0	0	-
Active love	0	0	0	0	0	-
Protect	56.3	68.8	24	10.5	11.8	21.09*
Control	0	6.3	0	10.5	29.4	10.22*
Blame	0	6.3	0	5.3	11.8	3.92
Attack	0	0	0	10.5	17.6	6.76*
Ignore	0	12.5	0	0	11.8	5.77
Intransitive Focus						
Separate	0	18.8	56	10.5	29.4	19.72*
Disclose	0	0	0	0	0	-
Reactive love	0	0	0	5.3	0	3.99
Trust	6.3	50	8	31.6	5.9	14.97*
Submit	81.3	76.5	80	10.5	0	57.59*
Sulk	0	25	12	5.3	5.9	5.52
Recoil	0	50	0	21.1	5.9	20.98*
Wall off	18.8	56.3	44	31.6	41.2	5.47

Note. Total $N = 93$. "-" indicates insufficient between-group variability to conduct chi-square analysis.

* $p < 0.05$.

Table 13

How Others Treat me in the Present: Percentage of Cases that Involve Each SASB Code in a Symptom-Linked Copy Process

	Empirical Cluster 1	Empirical Cluster 2	Empirical Cluster 3	Empirical Cluster 4	Empirical Cluster 5	Chi-Square Fisher's Exact Test
	n = 16	*n* = 16	*n* = 25	*n* = 19	*n* = 17	
Transitive Focus						
Emancipate	0	0	0	0	0	-
Affirm	0	0	4	21.1	0	7.12*
Active love	0	6.3	4	10.5	0	2.91
Protect	6.3	18.8	8	31.6	11.8	5.49
Control	25	18.8	84	5.3	17.6	37.94*
Blame	56.3	87.5	76	31.6	5.9	33.35*
Attack	37.5	75	32	10.5	5.9	22.65*
Ignore	37.5	81.3	84	68.4	41.2	14.92*
Intransitive Focus						
Separate	0	0	0	0	0	-
Disclose	0	0	0	0	0	-
Reactive love	0	0	0	0	0	-
Trust	0	6.3	8	10.5	0	2.85
Submit	6.3	6.3	0	5.3	5.9	2.53
Sulk	0	0	0	0	0	-
Recoil	0	0	0	0	0	-
Wall off	6.3	0	8	0	0	3.1

Note. Total $N = 93$. "-" indicates insufficient between-group variability to conduct chi-square analysis.

* $p < 0.05$.

Table 14

How I Treat Others in the Present: Percentage of Cases that Involve Each SASB Code in a Symptom-Linked Copy Process

	Empirical Cluster 1	Empirical Cluster 2	Empirical Cluster 3	Empirical Cluster 4	Empirical Cluster 5	Chi-Square Fisher's Exact Test
	n = 16	*n* = 16	*n* = 25	*n* = 19	*n* = 17	
Transitive Focus						
Emancipate	6.3	0	0	0	0	4.33
Affirm	0	0	0	5.3	0	3.99
Active love	0	0	0	0	5.9	4.21
Protect	87.5	75	24	36.8	41.2	21.95*
Control	62.5	25	12	10.5	58.8	20.88*
Blame	31.3	50	56	10.5	58.8	13.48*
Attack	0	18.8	36	26.3	23.5	8.35
Ignore	43.8	31.3	16	5.3	52.9	14.06*
Intransitive Focus						
Separate	6.3	31.3	68	21.1	47.1	19.87*
Disclose	0	0	0	0	0	-
Reactive love	0	0	0	5.3	5.9	3.25
Trust	6.3	56.3	12	36.8	23.5	13.82*
Submit	87.5	81.3	84	15.8	5.9	50.35*
Sulk	0	25	20	5.3	17.6	6.39
Recoil	6.3	62.5	0	21.1	11.8	24.36*
Wall off	25	56.3	72	47.4	52.9	8.93

Note. Total $N = 93$. "-" indicates insufficient between-group variability to conduct chi-square analysis.

* $p < 0.05$.

Table 15

How I Treat Myself in the Present: Percentage of Cases that Involve Each SASB Code in a Symptom-Linked Copy Process

	Empirical Cluster 1	Empirical Cluster 2	Empirical Cluster 3	Empirical Cluster 4	Empirical Cluster 1	Chi-Square Fisher's Exact Test
	n = 16	*n* = 16	*n* = 25	*n* = 19	*n* = 17	
Self-Emancipate	0	6.3	8	0	11.8	3.31
Self-Affirm	6.3	6.3	0	15.8	0	5.24
Self-Love	0	0	0	15.8	0	6.30*
Self-Protect	12.5	6.3	0	5.3	0	4.17
Self-Control	93.8	37.5	56	15.8	88.2	32.68*
Self-Blame	81.3	93.8	84	68.4	82.4	3.68
Self-Attack	68.8	81.3	60	57.9	41.2	5.96
Self-Neglect	100	100	96	78.9	82.4	7.49*

Note. Total $N = 93$.

* $p < 0.05$.

Chi-square results were further analyzed conducting a *z* score test to evaluate what specific clusters were statistically significantly different. Thus, *z* score tests provided information about the patterns of statistically significant higher and lower proportions of observed cases for each SASB code (Tables 16, 17, 18, 19, and 20).

Table 16

How Others Treated Me in the Past: Patterns of Significant High and Low Proportions that Distinguish Cluster Analytic Groups by SASB Model Position

	Empirical Clusters				
	1	2	3	4	5
	n = 16	*n* = 16	*n* = 25	*n* = 19	*n* = 17
Transitive Focus					
Emancipate					
Affirm					
Active love					
Protect			(-)	(+)	
Control	+	-	+	-	+
Blame			+	-	
Attack		(+)		(-)	(-)
Ignore					
Intransitive Focus					
Separate					
Disclose					
Reactive love					
Trust					
Submit					
Sulk					
Recoil					
Wall off					

Note. + and - indicate statistically significantly higher and lower proportion of observed cases, respectively, based on post-hoc *z* score test of statistical significance at $p < .05$. ( ) indicates trends in data that did not reach threshold of statistical significance in the chi-square test.

Table 17

How I Treated Others in the Past: Patterns of Significant High and Low Proportions that Distinguish Cluster Analytic Groups by SASB Model Position

	Empirical Clusters				
	1	2	3	4	5
	n = 16	*n* = 16	*n* = 25	*n* = 19	*n* = 17
Transitive Focus					
Emancipate					
Affirm					
Active love					
Protect	+	+	-	-	-
Control	-		-		+
Blame					
Attack			-		+
Ignore					
Intransitive Focus					
Separate	-		+		
Disclose					
Reactive love					
Trust	-	+			-
Submit	+	+	+	-	-
Sulk	(-)	(+)			
Recoil		+	-		
Wall off	(-)	(+)			

Note. + and - indicate statistically significantly higher and lower proportion of observed cases, respectively, based on post-hoc *z* score test of statistical significance at $p < .05$. ( ) indicates trends in data that did not reach threshold of statistical significance in the chi-square test.

Table 18

How Others Treat Me in the Present: Patterns of Significant High and Low Proportions that Distinguish Cluster Analytic Groups by SASB Model Position

	Empirical Clusters				
	1	2	3	4	5
	n = 16	*n* = 16	*n* = 25	*n* = 19	*n* = 17
Transitive Focus					
Emancipate					
Affirm				+	-
Active love					
Protect			(-)	(+)	
Control	-	-	+	-	-
Blame	+	++			-
Attack	+	++	+		-
Ignore	-	+	+		-
Intransitive Focus					
Separate					
Disclose					
Reactive love					
Trust					
Submit					
Sulk					
Recoil					
Wall off					

Note. ++, + and - indicate statistically significantly higher and lower proportion of observed cases, respectively, based on post-hoc *z* score test of statistical significance at $p < .05$. ( ) indicates trends in data that did not reach threshold of statistical significance in the chi-square test.

Table 19

How I Treat Others in the Present: Patterns of Significant High and Low Proportions that Distinguish Cluster Analytic Groups by SASB Model Position

	Empirical Clusters				
	1	2	3	4	5
	n = 16	*n* = 16	*n* = 25	*n* = 19	*n* = 17
Transitive Focus					
Emancipate					
Affirm					
Active love					
Protect	+	+	-	-	-
Control	+	-	-	-	+
Blame				-	+
Attack	(-)		(+)	(+)	(+)
Ignore				-	+
Intransitive Focus					
Separate	-		+		
Disclose					
Reactive love					
Trust	-	+			
Submit	+	+	+	-	-
Sulk	(-)	(+)			
Recoil		++	-	+	
Wall off	(-)		(+)		

Note. ++, + and - indicate statistically significantly higher and lower proportion of observed cases, respectively, based on post-hoc *z* score test of statistical significance at $p < .05$. ( ) indicates trends in data that did not reach threshold of statistical significance in the chi-square test.

Table 20

How I Treat Myself in the Present: Patterns of Significant High and Low Proportions that Distinguish Cluster Analytic Groups by SASB Model Position

	Empirical Clusters				
	1	2	3	4	5
	n = 16	*n* = 16	*n* = 25	*n* = 19	*n* = 17
Self-Emancipate					
Self-Affirm			(-)	(+)	
Self-Love			-	+	
Self-Protect					
Self-Control	++		+	-	++
Self-Blame					
Self-Attack		(+)			(-)
Self-Neglect					

Note. ++, + and – indicate statistically significantly higher and lower proportion of observed cases, respectively, based on post-hoc *z* score test of statistical significance at $p < .05$. ( ) indicates trends in data that did not reach threshold of statistical significance in the chi-square test.

Characterization of Each Group[14]

Based on the results of the cluster and chi-square analyses and post-hoc tests of group differences we can provide a characterization of the groupings. One initial general observation is that the first major distinction in the clustering algorithm seems to have centered on the question of whether or not the patient Submitted to others. Thus, groups one, two, and three have a higher proportion of people who Submit, compared to groups four and five. Among those who Submit, groups were further differentiated based on

[14] The word "group" or "grouping" will be used rather than "cluster" when describing the results from the cluster analyses to avoid confusion with the DSM clusters and the SASB-based interpersonal clusters.

whether they also Separated from others or not. Thus, group three has a higher proportion of people reporting Separating from others, compared to groups one and two. Below the group differences are described in more detail.

Group One (n = 16). Compared to groupings two and four, group one presents a statistically significantly higher proportion of cases (Table 11) who reported a history of being controlled by important others. This is paired with greater rates of control (62.5%) and protect (87.5%) directed toward others in the present, both codes having a statistically significantly higher proportion of cases (Table 14) than in other groups. Separate and Trust positions on the SASB model are significantly lower in this group compared to others, while rates of submit (87.5%) are high (Table 14). Self-concepts in group one tend to involve self-control (93.8%) coupled with a neglect of one's own needs—observed across almost all the groupings. The first group thus appears to be distinguished by considerable interdependence or enmeshment with others and can be characterized as a "controlling and submissive" group of patients.

Group Two (n = 16). Groups two and four had a significantly lower proportion of individuals reporting being controlled by important others in the past or present, and group two had a significantly higher proportion of individuals reporting being attacked by important people in their past. These patterns are accompanied by protecting others (75%), submitting (81.3%) to others, trusting them (56.3%), but also recoiling from them (62.5%). The two last codes are significantly more present in this group than in the other ones and suggest a complex blend of both relying on and even taking care of others, while also fearing them. The self-treatment involves self-blame (94%), and neglect of own needs (100%). Self-attack (81%), showed a trend (p = .20) toward having a higher

proportion of this code in this grouping. This profile suggests a group of patients who were exposed to more direct forms of hostility and aggression with important others in the past, while in adulthood their problems are associated with a fearful and submissive stance, protecting and trusting others while channeling the aggression towards their own self. This group is characterized as "fearfully enmeshed".

Group Three (*n* = 25). This group presents a significantly higher proportion of individuals who reported being blamed and controlled. In the present, individuals in this group seem to distance themselves from others by separating (68%) and walling-off (72%), while also having higher rates of the interpersonal opposite by also submitting to others (84%). As happens with other groups, a high proportion of the individuals in group three engages in self-blame (84%) and self-neglect (96%), and more than half of them engage in self-attack (60%). The central theme of this group appears to be a conflict between enmeshment and distance with others, similar to the prototypic conflict described by Benjamin for passive-aggressive PD, and could be characterized as "separating and submitting".

Group Four (*n* = 19). Compared to other groups, participants pertaining to group four have reported more instances of warmth in their histories that were in some way linked to problem patterns, including being protected (42.1%) and affirmed (21.1%) by important others in the past. Similarly, as a whole they have lower rates of problems involving being controlled (15.8%), blamed (68.4%) and attacked (52.6%) by important people in their life. Almost half of the individuals in this group reported reacting to others by walling-off (47.4%), and relatively low rates of protecting others (36.8%). This group also includes a higher number of individuals whose problems include attacking others

(26%) or fearfully recoiling from them (21.1%), but lower number of individuals who control (10.5%), blame (10.5%), or ignore (5.3%) others. In terms of the impact in the self-concept, although this group also shows self-neglect (79%), self-blame (68%), and self-attack (58%), it presents the lowest occurrence of self-control (15.8%) and the highest occurrence (albeit still at low absolute rates) of self-affirmation (15.8%) and self-love (15.8%).

There are a combination of positive (i.e., less people exposed to direct aggression and more experienced protection and affirmation) and negative (i.e., almost all reported being ignored and two thirds reported being blamed) interpersonal patterns observed in group four. A primary conflict appears to be along the horizontal axis of the SASB model, seeming to suggest a conflict between experiencing others as warm/affiliative or hostile/rejecting. This group also appears to be less saturated with enmeshed themes of control and submission than other groups tending to neglect rather than control themselves, and being able to lash out aggressively in some cases. The group thus seems to involve a complex mix of features characteristic of DSM-IV Cluster B disorders (BPD, HIS, and NAR) as well as AVD. The dendrogram suggests possible presence of a small subcluster within this group containing histories involving experience of love and affirmation that more clearly overlap histrionic and narcissistic PD patterns, a feature that will be returned to in the discussion. This group is characterized as “Combined”.

Group Five (n = 17). Compared to other groupings, more people in this group reported being controlled (94.1%) and fewer reported being attacked (41%) by important people in the past. In the present, more than half of the individuals in this group try to control (58.8%), blame (58.8%), ignore (52.9%) others or wall off (52.9%). An

important, statistically significant, difference from group one, also characterized by control, is that in this group a good proportion of these individuals tend to separate (47.1%, compared to only 6.3% in group one) from others and a rather small number of them tend to submit (5.9%, compared to 87.5% in group one). Individuals in this group tend to blame themselves (82%) and ignore their needs (82%). More significantly, compared to other groupings, both group one and five present a significantly higher proportion of individuals who restrict themselves (88%). Based on this information, group five is characterized in a manner similar to group one, except that submission is not present. Instead, this group tends to keep tight control over self and others, keep distant, and are less often exploited/attacked by others as those in the first group. They can be characterized as the "controlling and distant" group.

Evaluation of Cluster Analysis Results Relative to Benjamin's SASB-Based PD Definitions. A One-Way ANOVA was conducted using each of the 11 interpersonally-defined PD correlations (consisting of phi correlations between each case and each prototype, as summarized in Table 10) to see what differences exist between groups when seen through the lens of PD patterns (with expected overlap as a function of interpersonal comorbidity for each definition). One-Way ANOVA results were further analyzed conducting post hoc tests using Fisher's Least Square Difference (LSD) to evaluate the specific patterns of statistically significant difference among the groups (Table 21).

Table 21

Differences Among Empirical Clusters in Their Level of Association to the SASB-Based Personality Disorders

	Empirical Clusters					One-Way ANOVA
	1	2	3	4	5	
	n = 16	*n* = 16	*n* = 25	*n* = 19	*n* = 17	*F*
Paranoid	0.34$_{b}$	0.36$_{b}$	0.42$_{b,c}$	0.24$_{a}$	0.55$_{c}$	9.54*
Schizotypal	0.52$_{a}$	0.41$_{b,c}$	0.44$_{a,b}$	0.38$_{c}$	0.53$_{a,b}$	7.32*
Schizoid	0.42$_{b}$	0.30$_{a}$	0.41$_{b}$	0.35$_{a}$	0.53$_{b}$	4.68*
Antisocial	0.35$_{a}$	0.25$_{b}$	0.31$_{a,c}$	0.35$_{b,c}$	0.53$_{d}$	10.44*
Borderline	0.26$_{a,c}$	0.42$_{b}$	0.25$_{a}$	0.46$_{b,c}$	0.24$_{a}$	5.81*
Histrionic	0$_{a,c}$	0.10$_{a,b}$	0$_{c}$	0.26$_{d}$	0.16$_{b,d}$	7.26*
Narcissistic	0.27	0.29	0.34	0.45	0.40	2.05
Avoidant	0.44$_{a}$	0.44$_{a,b}$	0.49$_{a,c}$	0.41$_{b}$	0.67$_{c}$	6.12*
Dependent	0.33$_{a,b}$	0.39$_{a}$	0.42$_{a}$	0.27$_{b,c}$	0.19$_{c}$	6.17*
Obsessive Compulsive	0.69$_{a}$	0.47$_{b}$	0.60$_{a}$	0.42$_{b}$	0.78$_{a}$	14.92*
Passive Aggressive	0.46$_{a}$	0.49$_{a}$	0.71$_{b}$	0.47$_{c}$	0.53$_{a}$	14.88*

Note. Total $N = 93$.

* $p < .01$. a,b,c,d illustrate patterns of statistical difference among clusters ($p < .05$) from the LSD post hoc test.

Groups were found to differ among each other in terms of their level of association to the SASB-based personality disorders in 10 out of the 11 PDs categories. If we pay attention to the patterns of elevations, one initial general observation is that some groups have more distinctive profiles than others. Groups one, three, and five have a clear elevation in the OCPD diagnosis, for example. In addition to that elevation, group three also has a clear elevation for PAG and group five also seems to be strongly associated with AVD. Groups two and four seem to have more mixed features.

We can describe in more detail the results from this analysis by paying attention to the interpersonal features characteristic of these PDs according to Benjamin's model. Thus, as expected given the interpersonal analysis presented earlier, compared to other groupings, group one showed a higher level of OCPD, plus a mixture of disorders that share interpersonal features related to problematic distance and submission (i.e., SZT, SZD, and DEP). Compared to other groupings, group two showed a higher level of PDs that illustrate problematic enmeshment, submissiveness, and willingness to depend on others (i.e., BPD and DEP). Group three, on the other hand, compared to other groups showed a higher level of PDs that illustrate the PAG paradox: a mixture of submissiveness and avoidance (i.e., PAG, OCPD, DEP, PARA, and SZD). Group four, compared to other groups, showed a higher level of PDs that share problematic love messages (i.e., BPD and HIS) and that do not involve submissiveness as a key component. Finally, group five showed a higher level of OCPD plus PDs that illustrate interpersonal features related to avoidance and separation (i.e., AVD, PARA, SZD, ASP, and SZT).

External Variables

To further understand and contextualize the cluster analytic results, differences were investigated analyzing relevant clinical information other than SASB-based case formulation variables. Chi-square analyses and One-way ANOVAS were conducted with the following external variables: (1) interviewer's diagnoses; (2) SCID II PD diagnosis (n = 42); and (3) medical records' (n = 77) data on number of hospitalizations, suicide attempts, and mental health diagnoses.

Interviewer's Diagnosis. The results of the chi-square analyses[15] indicate that there was a significant association between groups and PD diagnosis, as assessed by the Interviewer, χ^2 (32) = 63.91, p = 001. The z test analysis indicates where specifically those differences are (Table 22). Thus, compared to other groups, group one ("Controlling and submissive") was found to have a significantly higher proportion of individuals diagnosed with OCPD (68.8%) and a significantly lower proportion of individuals diagnosed with PAG (0%). Group three ("Fearfully enmeshed") was found to have a significantly higher proportion of PAG (52%) diagnoses and a significantly lower proportion of OCPD (24%) and AVD (0%) diagnoses. Group four ("Combined") had a significantly higher proportion of AVD (15.8%) and DEP (21.1%) diagnoses and a significantly lower proportion of OCPD (10.5%). Finally, group five ("Controlling and distant") had a significantly higher proportion of OCPD (64.7%) diagnoses and a significantly lower proportion of DEP (0%) diagnoses.

[15] We are reporting the results of the Pearson chi-square analysis as the SPSS statistical package could not compute the Fisher's Exact Test due to insufficient memory.

Table 22

Percentage of Interviewer's Personality Disorder Diagnoses in Each Empirical Cluster

	Empirical Clusters				
	1	2	3	4	5
	n = 16	*n* = 16	*n* = 25	*n* = 19	*n* = 17
Borderline	0	0	4	0	0
Histrionic	0	0	0	5.3	5.9
Narcissistic	0	0	0	10.5	0
Avoidant	0	6.3	0	15.8	0
Dependent	0	0	4	21.1	0
Obsessive Compulsive	68.8	37.5	24	10.5	64.7
Passive Aggressive	0	25	52	21.1	17.6
Not otherwise specified	25	25	16	5.3	11.8
No Diagnosis	6.3	6.3	0	10.5	0

Note. Total *N* = 93.

SCID II PD diagnosis. The results of the chi-square analyses indicate that there was a significant association between group and only one PD, OCPD (Table 23). The *z* test provides more detailed information about how groups differed from each other. Thus, compared to groups two, three, and four, group one is considered to have a significantly higher proportion of OCPD (100%). Interestingly, no statistical differences were found between groups one and five, the two groups that most overlapped with an OCPD pattern per Benjamin's theory. From the perspective of the DSM-based SCID evaluation, group five showed an elevated, but intermediate degree of OCPD features.

Table 23

Percentage of SCID II Personality Disorder Diagnoses in Each Empirical Cluster

	Empirical Clusters					Chi-Square Fisher's Test
	1	2	3	4	5	
	n = 7	*n* = 8	*n* = 11	*n* = 7	*n* = 9	
Paranoid	0	12.5	0	14.3	11.1	2.92
Schizoid	0	12.5	9.1	14.3	11.1	1.64
Schizotypal	0	12.5	0	14.3	0	3.66
Antisocial	0	12.5	10	0	0	2.83
Borderline	28.6	25	9.1	42.9	22.2	3.04
Histrionic	0	0	0	0	11.1	3.95
Narcissistic	14.3	12.5	0	0	0	3.66
Avoidant	28.6	37.5	36.4	57.1	22.2	2.32
Dependent	0	0	9.1	28.6	0	4.48
Obsessive Compulsive	100	50	36.4	28.6	66.7	10.01*
Passive Aggressive	28.6	12.5	27.3	28.6	22.2	1.15

Note. Total $n = 42$.

* $p < 0.05$.

Medical Records. Medical records provide information regarding number of previous psychiatric hospitalizations, number of previous suicide attempts, and Axis I mental health diagnoses. Two One-way ANOVA[16] tests were conducted to see whether groups differed in terms of the average number of previous hospitalizations or of previous suicide attempts (Table 24). Results from the ANOVA tests show that groups do not significantly differ based on these clinical variables (all p's > .05).

[16] As recommended by Field (2009), the Games-Howell Post hoc procedure was utilized because clusters sizes are different and data are not normally distributed.

Table 24

Comparing Empirical Clusters Based on Hospitalizations and Suicide Attempts

	Empirical Clusters					One-Way ANOVA
	1	2	3	4	5	
	N = 12	*N* = 13	*N* = 23	*N* = 15	*N* = 14	*F*
Hospitalizations						
M (*SD*)	3.17 (3.95)	4.00 (2.31)	5.65 (9.25)	2.73 (1.58)	2.86 (2.48)	0.91
Suicide attempts						
M (*SD*)	2.25 (2.49)	2.00 (1.87)	2.91 (2.95)	1.27 (1.39)	1.64 (1.60)	1.44

Note. Total *n* = 77.

Medical records also provided information regarding the patients' Axis I diagnoses. Diagnoses were categorized in six different categories: mood disorders, anxiety disorders, substance-related disorders, eating disorders, attention deficit disorders, and other disorders or clinical conditions (e.g., adjustment disorder, conversion disorder, psychosis NOS, unresolved grief). Six chi-square analyses were conducted to see if the groups differed in terms of the number of people who were diagnosed with these disorders (Table 25). Results from the chi-square analysis found that groups significantly differed only in terms of number of people categorized here as "Other diagnosis". The *z* score post-hoc test shows that group four has a significantly higher proportion of cases compared to groups two and three. A trend in the data was found for eating disorders ($p = .058$), with group three (conflict between separating and submitting to others) showing a higher proportion of such cases compared to groups two and four.

Table 25

Percentage of Axis I Diagnoses in Each Empirical Cluster

	Empirical Clusters					Chi-Square Fisher's Exact Test
	1	2	3	4	5	
	n = 12	*n* = 13	*n* = 23	*n* = 15	*n* = 14	
Mood Disorders	100	100	100	93.3	100	4.16
Anxiety Disorders	66.7	84.6	52.2	53.3	50	5.02
Substance-Related Disorders	16.7	23.1	8.7	40	35.7	6.61
Eating Disorders	16.7	0	26.1	0	7.1	7.46
Attention-Deficit Related Disorders	0	0	0	6.7	7.1	3.44
Other	8.3	0	0	26.7	7.1	7.88*

Note. Total *n* = 77.

* $p < 0.05$.

Comorbidity Analysis via Mantel Test

Benjamin's conceptualization of PDs was explored by studying the expected patterns of comorbidity among the disorders based on interpersonal features, and comparing them to the observed patterns of comorbidity among the PDs present in the data, also defined by their interpersonal features.

Measuring the Association between Expected and Observed Patterns of Comorbidity

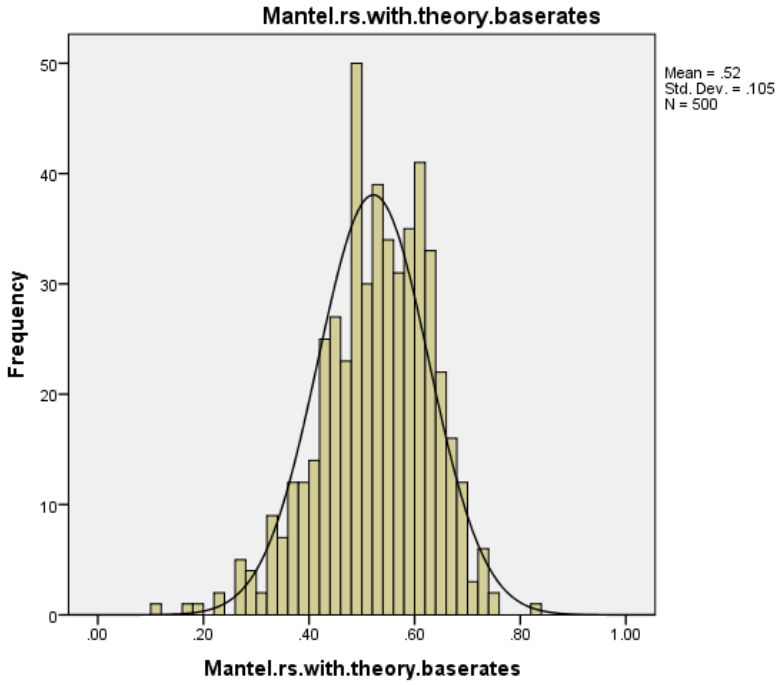
A Simple Mantel test has been conducted to compare matrices representing the expected and observed patterns of comorbidity among PDs. Pearson correlation between the expected and observed correlational matrices was 0.85, which represents 72% of the shared variance between matrices. The Mantel test proceeds by a bootstrapping procedure involving randomly sampled shuffling of values in one matrix, re-computing the

correlation with each shuffling to produce a reference distribution for evaluating the observed value of *r*. This was accomplished using the "zt" software for conducting Mantel tests of symmetric matrices developed by Bonnet and Van de Peer (2002). Using a reference distribution constructed from all possible permutations of the 11 x 11 matrix (i.e., the "exact" procedure) the value of $r = .85$ is expected to occur by chance at $p < .001$.

As described under Method, an additional bootstrapping procedure was conducted to account for the possibility that the method for producing the observed matrix of comorbidities was influenced by the fact that each individual's data are anchored relative to the theory matrix. In order to model and evaluate this potential effect, 500 random samplings of "theory" were developed in the SASB-defined space, with each sampling used to generate another set of expected and observed comorbidity matrices and an associated value of *r.* For developing these statistically-generated alternate PD "theories," the same proportions of 1's and 0's were maintained for each of the PDs. So, for example, if PAR has 12 "1's" then each randomization of the source theory is based on the same proportions so that 12 "1's" would be expected by chance in that grid. Figure 5 illustrates the resulting distribution of 500 correlations comparing 500 comorbidity patterns within randomly-created theories with the comorbidity patterns obtained from the observed cases.

Figure 5

Bootstrap Distribution



The bootstrap distribution shows substantial correlation based only on the method of analysis (i.e., "autocorrelation" effect of the method used to develop each matrix). The average effect is estimated at $r = .52$, which represents 27% of the shared variance between matrices. The minimum value obtained is $r = .11$ and the maximum is $r = .83$. If we use this bootstrap distribution as a reference point to evaluate whether the result from the Mantel test (i.e., $r = .85$) exceeds or not the threshold of chance, we see that the likelihood of this value being sampled by chance is $p < .01$. Thus, Benjamin's specific theory produces a much higher match to observed data than would be expected by chance in this setting. In what follows, a more detailed analysis will be made about the specific expected comorbidity patterns and the similarities and differences found when compared to the empirically-derived correlational matrix.

Expected Patterns of Comorbidity

The correlational matrix (Table 26) illustrates the patterns of overlap among PDs expected by Benjamin's theory, taking into account the past and present interactions with others as defined previously. Thus, based on the theory, it is expected that PDs will correlate more strongly with some disorders than with others. The stronger the association, the higher the overlap among the PDs' interpersonal features, and the higher the probability of these disorders occurring together. The lower the association, the lower the overlap among PDs' interpersonal features, and the lower the probability of these disorders occurring together.

Table 26

Expected Patterns of Comorbidity Based on Benjamin's Theory

	PAR	SZT	SZD	ASP	BPD	HIS	NAR	AVD	DEP	OCPD	PAG
PAR		0.53	0.13	0.41	0.16	0.10	0.16	0.57	-0.02	0.40	0.40
SZT			0.36	0.34	0.17	0.14	0.10	0.51	0.04	0.53	0.35
SZD				0.39	0.00	0.07	0.28	0.31	-0.01	0.67	0.27
ASP					0.38	0.33	0.50	0.22	-0.04	0.41	0.32
BPD						0.44	0.25	0.06	0.20	0.16	0.24
HIS							0.33	0.15	0.08	0.10	0.10
NAR								0.12	0.13	0.41	0.16
AVD									0.23	0.57	0.47
DEP										0.18	0.27
OCPD											0.40

The results showed a total average level of correlation of 0.26, with a *SD* = 0.17. OCPD (0.38), ASP (0.33), and AVD (0.32) are considered to have the highest average levels of correlation. Whereas DEP (0.11) and HIS (0.19) are considered to have the lowest average levels of correlation. These differences illustrate a difference in whether

PDs are expected to share more or less interpersonal features with other disorders. Thus, OCPD and ASP, for example, are considered to share more interpersonal features with other PDs than DEP and HIS.

Stronger associations were observed between OCPD and SZD (0.67), OCPD and AVD (0.57), and between AVD and PAR (0.57). These stronger associations represent that these PDs are expected to be more likely to be diagnosed together given overlap in their prototypic constellation of interpersonal features. The weakest associations were observed between DEP and ASP (-0.04), DEP and PAR (-.0.02), DEP and SZD (-0.01), and between BPD and SZD (0.00). These weak associations represent that these PDs or the constellation of interpersonal features characteristic of those PDs are not expected to be as likely to occur together since they have little overlap in their interpersonal profiles.

Another observation is that disorders differ in terms of whether they are expected to be strongly associated to multiple PDs or not. This means that some PDs are defined as sharing more interpersonal features with more PDs than others. In the comorbidity language this could be translated as some PDs been expected to be more likely to be comorbid than others. Thus, for example, AVD was expected to have a relatively strong correlation (>= 0.45) with four other PDs, and OCPD and SZT were expected to have a relatively strong association with three other PDs, respectively. Other PDs show different patterns. Thus, for example, BPD and HIS were not expected to have relatively strong associations with other PDs. The strongest correlation that these disorders present is actually with each other (0.44). Finally, interestingly, PDs are not expected to correlate more strongly with disorders within their own DSM cluster. An exception of that is seen

in PDs from DSM cluster B (i.e., ASP, BPD, HIS, and NAR), where PDs are expected to correlate more strongly with PDs from its own DSM cluster.

Observed Patterns of Comorbidity

Patterns of comorbidity with empirically-derived data are presented in Table 27. The average total level of correlation observed in the data was 0.16, with a *SD* = 0.34. OCPD (0.32) and AVD (0.32) showed the highest average levels of association, whereas BPD (-0.15), HIS (-0.06), and DEP (0.00) showed the lowest average levels of association. Stronger associations were observed between OCPD and SZD (0.80), OCPD and SZT (0.76), OCPD and AVD (0.74), AVD and SZT (0.74), and AVD and PAR (0.72). These stronger associations represent that these PDs or the constellation of interpersonal features characteristic of these PDs were more likely to occur together. The weakest associations were observed between BPD and SZD (-0.46), followed by BDP and OCPD (-0.45), and BPD and AVD (-0.40). These weak associations represent that these PDs or the constellation of interpersonal features characteristic of those PDs were not as likely to occur together.

Table 27

Patterns of Comorbidity of Clinical Cases When Measured Using Benjamin's Prototypes

	PAR	SZT	SZD	ASP	BPD	HIS	NAR	AVD	DEP	OCPD	PAG
PAR		0.63	0.32	0.53	-0.24	-0.09	0.15	0.72	-0.16	0.52	0.49
SZT			0.63	0.25	-0.26	-0.20	-0.17	0.74	0.04	0.76	0.36
SZD				0.38	-0.46	-0.19	0.16	0.55	-0.01	0.80	0.24
ASP					-0.20	0.10	0.48	0.26	-0.36	0.45	0.11
BPD						0.45	-0.09	-0.40	0.19	-0.45	-0.08
HIS							0.08	-0.06	-0.11	-0.26	-0.32
NAR								0.04	-0.14	0.22	0.05
AVD									0.11	0.74	0.48
DEP										0.12	0.29
OCPD											0.32

Note. Total $N = 93$.

Another general observation is that there are some PDs that were found to have a significant number of strong associations with other PDs. For example, OCPD is relatively strongly associated with five other PDs that share themes of interpersonal distance and/or control, and have pronounced negative correlation with two PDs that involve interpersonal enmeshment and degrees of warmth (i.e., BPD and HIS). Similarly, AVD tends to associate with PDs sharing interpersonal distance, and is weakly or negatively associated with PDs that are more prototypically enmeshed with others (i.e., BPD, HIS, and NAR). Other PDs were found to have fewer strong associations. For example, BPD was only moderately associated with HIS (0.45) and no others. HIS was in turn found to have only weak associations with most other PDs. Consistent with our operationalization of Benjamin's theory, PDs that have more relatively strong associations are also those that share more interpersonal features than those with weak associations.

Interestingly, with the exception of PDs from the DSM cluster B, PDs are not necessarily more strongly correlated among other PDs within the same DSM cluster. Almost all of the PDs from DMS cluster B (i.e., BPD, HIS, and NAR) showed higher overlap among each other than with PDs from other DSM clusters. Another observation related to DSM cluster B PDs is that, on average, these disorders presented the lowest average level of correlation (0.02) with all the other PDs (inside and outside DSM cluster B). PDs from DSM cluster A (i.e., PAR, SZT, and SZD) had an average level of correlation with all the other PDs of 0.27 and PDs from DSM cluster C (i.e., AVD, DEP, OCPD, and PAG) had an average level of correlation of 0.21.

Comparing Expected with Observed Patterns of Comorbidity

In general, there was a similar total average level of correlations within the theory-based and empirically-based correlational matrices, with the empirically-based data showing a slightly weaker average level and a higher level of variability. As expected, OCPD and AVD reported the highest average levels of correlations, however, the expected ASP's high average level of correlation was not observed in the data. Also, as expected, DEP and HIS reported some of the lowest average levels of correlations.

When evaluating the patterns of comorbidity in detail, similar patterns in terms of greater/less degrees of overlap among PDs are observed. Thus, some of the expected stronger associations were also observed in the empirically-derived correlational table (i.e., OCPD and SZD, OCPD and AVD, and AVD and PAR). However, correlational matrices show different patterns in terms of the weak correlations, with the exception of BPD and SZD, which was found to be one of the weakest associations in both matrices. Thus, the expected weakest associations mostly involved DEP, whereas the weakest

associations in the observed data mostly involved BPD. In terms of which PDs have the highest and lowest numbers of strong and weak associations with other PDs, the observed data align with what was predicted by the theory. As expected, AVD and OCPD showed more stronger associations with PDs, and BPD and HIS showed more weaker associations with PDs.

When patterns of overlap are evaluated by disorder it is observed that almost all the PDs from the empirically-derived matrix show stronger associations with the PDs that they were expected to associate the most based on the theory. For example, NAR was expected to have a stronger association with ASP and OCPD; DEP was expected to have a stronger association with PAG; BPD was expected to have a stronger association with HIS, and vice versa; and OCPD was expected to have a stronger association with SZD, AVD, and SZT. These and other patterns were replicated in the observed data. In the case of SZD and ASP, the expected patterns of stronger associations were partly replicated. For example, SZD was expected to have stronger associations with OCPD and ASP, and in the observed data it was found to have stronger associations with OCPD and *SZT*.

When evaluating the results having the DSM clusters in mind, as observed in the theory-derived correlational matrix, empirical PDs are not necessarily more strongly correlated with other PDs within the same DSM cluster. For example, based on the theory, OCPD and AVD were expected to correlate more strongly with PDs within their own DSM cluster (i.e., DSM cluster C) but also with PDs from DSM cluster A. The same pattern was observed in the correlational matrix containing empirical data. One exception observed in both matrices occurs with DMS cluster B, the Dramatic and erratic group.

Thus, BPD, HIS and NAR showed to be more strongly correlated among each other than with other PDs in both correlational matrices.

Although similar patterns of comorbidity are observed between the theory-derived correlational matrix and the matrix with empirical data, there are some differences to note. For example, the total average level of associations in the empirically-derived data was slightly lower than expected compared to theory. When analyzing the levels of associations of each PDs with all the other PDs, PDs that pertain to DSM cluster B showed a significantly lower average level of association in the observed data (average r = 0.02) than expected (average r = 0.24). DSM cluster A and C PDs, on the other hand, had similar values. Also, the empirically-derived correlational matrix showed a higher number of negative correlations. The theory-derived correlational matrix predicted three negative associations: DEP and PAR, DEP and SZD, and DEP and ASP. The observed data did report a negative correlation between DEP and SZD, and between DEP and ASP, however it also reported 18 more negative correlations. There are some patterns to note. In the observed data, almost all of the correlations involving BPD, almost all of the correlations involving HIS, and half of the correlations involving DEP were negative.

Finally, other localized discrepancies between theory-based and observed data matrices are worth noting. Some PDs were expected to have stronger correlations but the observed data showed weaker correlations, and vice versa. For example, BPD and ASP were expected to have a higher correlation (r = .38) than the one obtained in the observed data (r = -0.20). SZT and SZD, on the other hand, were expected to have a weaker correlation (r = 0.36) than the one obtained in the observed data (r = 0.63).

Chapter V: Discussion

This study aimed at building on existing validity evidence and to explore aspects of the underlying personality disorders taxonomic framework invoked by Benjamin's interpersonal model. This study had two different goals related to the overall aims: (1) to explore a taxonomic framework based only on the SASB-defined interpersonal and intrapsychic patterns via cluster analysis, and (2) to test whether Benjamin's conceptualization of DSM-IV PDs comorbidity (based on overlapping interpersonal patterns) could be operationalized and find correspondence in patterns of comorbidity observed in the archived IRT study sample. Although the analyses conducted in this study were exploratory in nature and limited by the sample characteristics, findings confirm several expectations of theory, and also provide a foundation for further research. The following sections will discuss the general findings of the cluster analysis and comorbidity study, clinical implications, as well as limitations and areas that remain to be explored.

Cluster Analysis

The research question that guided this analysis was whether there were meaningful groupings of patients based on their interpersonal profiles, as measured by the SASB model. In doing so, the interpersonal domain was taken as the basic source material, separate from concerns about PD definitions in the DSM or other literatures. A 5-cluster solution appeared to contain clinically distinctive groupings of patients based on their interpersonal features. Shared features among groups illustrated common key aspects within the individuals' developmental learning history and their impact on the

self-concept. Before focusing on the differences among the groups and the clinical implications, this section will briefly describe these common features.

Shared Features Among Groups

Commonalities among the interpersonal histories and experiences of patients in each group include a shared attachment history that represents a perceived lack of a secure base and absence of loving caregivers who were attuned to their needs and who would encourage the development of a healthy autonomy. Also, data for this study were derived from copy process analysis linking presenting problems with repeated interpersonal experiences. Therefore, not surprisingly, both self-treatment and important people in their life now are experienced in a similar way as situations reported in the past. All groups illustrate a lack of friendliness towards others and a tendency, in many of the participants, to react to interpersonal pain by engaging in patterns of problematic enmeshment and/or problematic distance. In terms of how they treat themselves, shared codes among groups involve self-blame and neglect of own needs.

Group Differences

Differences among the groups suggest the importance of interpersonal patterns and themes with clear relevance for case formulation and intervention. They also seem to align with characterizations of the sample in general as having high degrees of OCPD, PAG, and AVD diagnoses. Given the higher presence of these PDs, it is not surprising that the first major distinctions among the individuals seem to center on the question of whether the patient submitted to others or not and separated from others or not, key interpersonal dynamics in those PDs. Thus, groups one (i.e., Controlling and submissive),

two (i.e., Fearfully enmeshed), and three (i.e., Separating and submitting) have higher proportions of people who submit, compared to groups four (i.e., Combined) and five (i.e., Controlling and distant). Among those who submit, groups were further differentiated based on whether they also separated or not. Thus, group three showed a higher proportion of people who reported separating, compared to groups one and two. Below the group differences are described in more detail.

The Controlling and Submissive Group. This group clusters patients who tend to protect and control others, but also submit to others and—almost half of them—ignore others' needs. All of them neglect their own needs, almost all restrict themselves, and a significant number of them reported also blaming and attacking themselves. When they were younger, all of them were controlled and ignored, and the majority of them were also blamed and attacked by important people in their life. They also used to submit to others and more than half of them reported protecting others. Given this pattern it is not surprising that this group would be more strongly associated with OCPD, according to the interviewer's diagnosis, to the IRT-driven PD categories, and to the SCID II.

The Controlling and Distant Group. A similar story is observed in this group. Significant control in the attachment history and in interpersonal and intrapsychic dynamics in the present also characterize this group. This group was also associated with the OCPD diagnosis according to the interviewer's diagnosis, to the IRT-driven PD categories, and based on a trend in the SCID II. These two particular OCPD groups showed differences that have important clinical implications. The Controlling and submissive group was characterized by being protectors and submitting to others in the past and present. The Controlling and distant group, on the other hand, was characterized

as having a good percentage of people who were controlling when younger and to distance themselves from others both in the past and in the present. Although the behavioral profiles in the present would indicate OCPD traits in both groupings, the interpersonal framework seems to distinguish them in meaningful ways. Groups seem to be capturing different ways to deal with control: some submit to that control whereas others distance themselves from it.

The Fearfully Enmeshed Group. This group has a different interpersonal profile. During childhood they were more exposed to direct forms of aggression, and responded by being submissive, recoiling, and protecting others. In the present, they continue to be exposed to attack and continue to submit and protect others, and at least half of them continues to trust others. Almost all of them reported neglecting their own needs and blaming themselves. They have probably internalized much of the attack received, as this group reported higher proportions of people engaging in self-attacking behaviors. There were no significant results in the case of the interviewer's diagnosis or the SCID II. The IRT-based PDs analysis, however, showed that this group had a statistically significantly higher association with DEP and BPD, compared to some of the other groups. Overall, a complex pattern of personality comorbidity is present, precluding the association of this group with any single DSM-IV PD and suggesting that the SASB-based summary characterized by both trusting in and recoiling from others may be more helpful, as captured in the phrase "fearfully enmeshed".

The Separating and Submitting Group. This group includes individuals who have an internal conflict between enmeshment and separation from others. At a younger age they were controlled, blamed, ignored, and attacked by important people. They would

respond submitting and some of them walling off or separating. In the present, people continue to control and/or ignore them and they seem to respond with opposite dynamics, either submitting or walling-off and separating from others. A high proportion of them engage in self-blame, self-neglect and more than half of them in self-attack. These dynamics resemble patterns present in the PAG personality disorder, as described within Benjamin's model, especially the simultaneous presence of the interpersonal opposites of submit and separate. Interestingly, according to the interviewer there was a significantly higher proportion of PAG diagnoses in this group and, according to the IRT-based PDs, this group was more strongly correlated with PAG.

The Combined Group. This group presents more mixed interpersonal features from overlapping PD profiles. Almost all of the individuals in this group reported being ignored by important people in their life and more than two thirds were blamed. Interestingly, not many of them were controlled and almost half of them even reported being protected. Some of these interpersonal dynamics are still maintained in the present. Two thirds reported being ignored in the present and one third reported being blamed. Again, they do not experience being controlled and a small—but considerable—number of them reported being affirmed and even loved. As young kids and as adults, at least a third of them reported trusting others but also walling off.

According to the interviewer's diagnosis, this group has higher rates of AVD and DEP and lower rates of OCPD. According to the SCID II, this group also showed lower rates of OCPD. According to the IRT-based PDs analysis, on the other hand, this group had a significantly higher number of individuals with HIS and BPD diagnoses. The Combined group also showed a higher percentage of people in the "other" category for

Axis I disorders with “miscellaneous diagnoses”, including conversion disorder, adjustment disorder, and psychosis NOS. Given these patterns it is possible that this group is a group with relatively heterogenous interpersonal patterns. The group did show, however, some patterns that might indicate the presence of a subgroup. A small—but distinctive—subgroup reported complex hostile messages that paired direct aggression and/or neglect with protection, love and/or affirmation, such that “loving” behaviors experienced from attachment figures were entangled with current problems.

Interpretation of Findings and Clinical Implications

The patterns of commonalities and differences among groups described above largely align with the theory. Based on the model, personality disorders are considered somewhat stable constellations of maladaptive ways of relating with others and with the self (Benjamin, 1996/2003). In that sense, it is expected that patients in this sample will all show in the present maladaptive dynamics with others and with themselves. As observed in the data, these interpersonal dynamics are expected to represent a particular version of patterns of hostile control, submission and/or separation from others. The intrapsychic dynamics, on the other hand, are also expected to represent a particular version of patterns of hostility directed towards the self, in the form of self-restriction, direct aggression, and/or neglect of own needs.

Based on attachment theory, Benjamin’s model also considers current problematic behavior as a result of “attachment gone awry” (Benjamin, 2003/2006, p. v). Throughout development we imitate and internalize rules and values observed in important caregivers. As we grow older, loyalty to those caregivers is translated into adherence to those values and ways of relating with others and with our self. When we have been

exposed to caregivers who carry unhealthy messages around how to relate with others and with our self, the loyalty and internalization of those ways of being might result into maladaptive patterns of affect, behavior, and cognition. If we were ignored and neglected, it is very likely that we will grow to ignore and neglect others in our life and / or ourselves. In the case of individuals diagnosed with personality disorders, Benjamin's model predicts that these individuals most likely were exposed to maladaptive attachment relationships, as it was indeed observed in the empirical data. All groups shared reported interpersonal histories that illustrate insecure attachments characterized by the presence of hostile interpersonal messages.

The model also proposes a prototypical attachment history for each personality disorder demonstrating relational features in the history and current functioning that overlap across categories/prototypes (Table 4). Thus, the characteristic maladaptive interpersonal and intrapsychic patterns observed in each PD is hypothesized to have its own prototypic learning history with attachment figures that carried a parallel set of maladaptive messages and modeling. Group differences illustrate these prototypical interpersonal learning histories. For example, given that the sample is mostly characterized by individuals with OCPD, PAG, and AVD, it is not surprising that almost all of the individuals reported some presence of neglect in their histories (i.e., SASB code Ignore) that repeats in the present in some form, a key interpersonal dynamic in all of these PDs. Similarly, almost all of the individuals within the groups that more clearly illustrated OCPD (i.e., one and five) and PAG (i.e., three) dynamics reported being controlled by an important person in their past, as defined by the theory. Data also suggest that group four has a subcluster of individuals illustrating the DSM cluster B type

of PDs, most likely NAR, BPD, and HIS. This DSM cluster is characterized by disorders with problematic love messages. It is expected that individuals with these diagnoses were exposed to confusing love messages from important people in their life. Group four's trend shows those patterns, as it grouped more individuals reporting affirmation, active love, and protection from important people in their past.

Interpersonal characterization of group differences also helps to capture clinically relevant profiles. For example, groups one and five were characterized by higher proportions of people reporting being controlled by important people in their life in the past and by controlling others in the present. Almost all individuals in groups one and five also reported being blamed and ignored by important people in their life, although these were not statistically significant differences as almost the entire sample had high rates of these SASB codes. Both groups were also strongly associated with the OCPD diagnosis. From a DSM and trait-based point of view, the OCPD profile involves perfectionism, excessive focus on work and productivity, difficulty enjoying life through leisure activities or hobbies, rigidity, difficulty delegating tasks, among other behaviors. In the SASB language, OCPD patients are described as exerting control to others (Control) and to themselves (Self-control) ignoring others' (Ignore) and their own needs (Self-neglect). They have adopted impossible-to-meet standards and values (Submit plus Wall-off) in different areas of their life that keep everybody around them (Blame) and themselves in a lose-lose battle. No matter how hard (Self-control) they work—at the cost of their relationships or even their own health—they can't live up to their expectations. This of course keeps them stuck in a vicious cycle fed by self-criticism and blame (Self-blame).

Although both groups seem to fit the OCPD profile, there are important differences between these groups that have clinical implications. Group one reported being protectors and submitting to others both in the past and in the present. Group five shows the opposite profile. They used to be controlling kids and in the present they are more likely to create distance from others. Thus, group one seems to illustrate a more enmeshed profile whereas group five seems to illustrate a more distant profile.

Differences between groups could potentially be indicating subgroups within the OCPD diagnosis. These groups seem to be capturing different ways to deal with control: a) some seem to have learned to submit to that control, putting themselves at risk of being abused by deferring and being protectors and attuned to others' needs; b) whereas others seem to have learned to distance themselves from the controlling people, protecting themselves from the abuse through creating distance. An attachment-based interpersonal case formulation suggests different developmental learning histories for each subgroup. For example, it might be the case that one subgroup includes individuals who had to adopt a parental role at a very young age, restricting themselves and taking care of others at their own expense, and recapitulate these roles in the present. It is possible that another subgroup, on the other hand, includes those who identify with the controlling, strict, and invalidating caregiver, and have grown to become now a controlling, rigid and invalidating person with others and with themselves.

Again, although both groups would be characterized by the DSM as OCPD, the differences are key in the clinical work as they indicate different motivators for the maladaptive patterns and different ways to adapt in the present. To our knowledge, research utilizing DSM criteria has not found identifiable subgroups within OCPD

(Samuels & Costa, 2012). However, when studying DSM III criteria, gender differences were found in "lack of generosity in giving", men being twice as likely than women to meet this criterion (Ekselius et al., 1996). Interestingly, within the SASB language, generosity in giving would be described as *Protect*, and extremes of this trait—that would put the individual at risk of being abused—would be described as *Submit*, two of the codes that distinguished the Controlling and submissive group from the Controlling and distant group. More research is needed though to replicate and confirm presence of these subgroups.

SASB-based interpersonal features have also shown to group together in ways that are recognizable using clinical profiles found in the literature. The Fearfully enmeshed group, for example, could be seen as representing some features from the preoccupied insecure attachment style described by Bartholomew and Horowitz (1991). In the current study this group presented higher levels of protection of others and trust, while at the same time fearing others and submitting to their demands. This aligns with Bartholomew and Horowitz's (1991) description of the preoccupied attachment style. Individuals with this style of relating are described as having a sense of unworthiness, valuing others, relying on others, trusting others, using others as secure base, caregiving, and striving for self-acceptance. Thus, both groups seem to share features that illustrate enmeshment dynamics, both depending on others but also taking care of others.

Some of the dynamics representative of the Fearfully enmeshed group also seem characteristic of the Anxious and fearful DSM cluster. The profile from this group shows a complex blend of both relying on and even taking care of others, while also fearing them. This suggests a fearful and submissive stance, protecting and trusting others while

channeling the aggression received from others towards their own self. Submissiveness, eagerness to take care of others, and interpersonal fear are present in people with Dependent Personality Disorder (from the Anxious and fearful DSM cluster), for example, putting them at risk of being abused and attacked. Interestingly, group two had a significantly higher association to DEP, compared to other groups. The current sample did not have many individuals diagnosed with DEP, though, so a bigger sample would be needed to see if people with these diagnoses would fall into this group.

Groups three and four also show interpersonal dynamics identified in DSM profiles. For example, the conflict between opposites described in group three, the Separating and submitting group, aligns with the prototypic conflict described by Benjamin for passive-aggressive PD. This disorder is characterized by an attachment history where individuals were exposed to unfair demands for performance (i.e., they were controlled and ignored at the same time) and blamed for signs of autonomy. In the present, individuals diagnosed with PAG wish to be protected but see authority figures as continuing to be unfair and neglectful. Their fear towards showing clear signs of independence leads them to have indirect forms of hostility, submitting to others' demands but also separating by resisting to perform as requested. Some of the interpersonal features present in group three align with this profile. Interestingly, group three was found to be associated with PAG.

In group four, the Combined group, almost half of the individuals reported being protected, some reported being affirmed and loved, and some reported engaging in self-affirmation and self-love. Given that individuals from the study were all severely mentally ill adults hospitalized in a psychiatric center not responding to treatment it does

not make much sense to characterize group four as a “healthier” group. More importantly, data for this study come from keeping track of copy processes linked to current symptoms. In other words, coded behaviors are all problematic behaviors. In that sense, these “more positive” behaviors were likely coupled with negative messages, representing problematic love models.

PD diagnoses that more clearly illustrate confusing love messages pertain to the DSM cluster B, the Dramatic and Erratic group. Prototypical childhood experiences of individuals diagnosed with NAR, for example, involve caregivers who are indulgently loving. Their adoration for the child prevented the child from recognizing the needs of others and included a hidden expectation and pressure for performance. As an adult, a NAR expects and continues to need this unconditional love and recognition. When she cannot have it—when she faces reality—she feels profoundly empty and degrades herself. Similar problematic love messages are observed with HIS, where love is tied to expectations to perform. Interestingly, group four includes the only two individuals diagnosed with NAR and one of the two individuals diagnosed with HIS, as measured by the interviewer. Thus, it seems that group four includes a subcluster with interpersonal patterns characteristic of the DSM’s Dramatic and erratic group.

Comorbidity Analysis

The research question that guided this analysis was whether the observed patterns of personality disorders comorbidity conform to predictions of Benjamin’s theory. Results show that patterns of comorbidity among observed cases correlate significantly with the expected patterns of comorbidity, even after controlling for expected base rates of correlation due to the measurement procedure. The arrangement of interpersonal

features according to Benjamin's theory appeared to perform much better than random permutations of alternative possible theories. Thus, Benjamin's interpersonal conceptualization of PDs and their patterns of overlap seems to capture constellations of interpersonal features observed in clinical contexts. This provides evidence to support the validity of Benjamin's conceptualization of PDs from an attachment-based standpoint using underlying interpersonal dimensions, especially with regard to a bridge to DSM-based categorical conceptions of PD.

Expected Patterns Replicated in the Observed Data

When evaluating the patterns of comorbidity in detail, similar patterns in terms of greater/less degrees of overlap among PDs are observed. Thus, some of the expected stronger associations were also observed in the empirically-derived correlational table (i.e., OCPD and SZD, OCPD and AVD, and AVD and PAR). In terms of which PDs have the highest and lowest numbers of strong and weak associations with other PDs, the observed data align with what was predicted by the theory. As expected, AVD and OCPD showed stronger associations with PDs, and BPD and HIS showed weaker associations with PDs.

When patterns of overlap are evaluated by disorder it is observed that almost all the PDs in the empirically-derived matrix show stronger associations with PDs sharing interpersonal features than those that do not, based on the theory. Thus, for example, as expected, NAR had a stronger association with ASP and OCPD. Based on Benjamin's model, many features are shared between these particular PDs. In the SASB language, the baseline positions in the present of NAR and ASP, for example, share different types of hostile control, including Control, Blame and Attack. They are also characterized by

rejecting others' needs (Ignore), expecting their submission (Submit), and being comfortable being alone (Separate). Their prototypical attachment histories share the codes of Active love, Protect, Blame, and Ignore, although these codes have somewhat different meanings. For example, Active love plus Ignore in a prototypical NAR illustrates receiving unconditional love and adoration that is not appropriate for developmental context, which is different from the type of neglectful parenting faced by the future ASP. Some of the differences between these disorders revolve around what they wish and fear in their interpersonal dynamics. They both fear being controlled, however NAR is terrified of being rejected and ignored and actually hopes to be nurtured (Active love plus Protect), whereas the ASP does not really care what others think about her and wishes to be left free (Emancipate).

Another example was observed in the association between BPD and HIS. As expected, BPD showed a stronger association with HIS, and vice versa. Benjamin's model suggests that these disorders share many interpersonal features. In the SASB language, prototypical positions in the present for BPD and HIS share features related to attempting to control (Control) others demanding nurturance (i.e., wish for Protect) and blaming (Blame) them when they experience rejection (i.e., fear of Ignore). Shared features in their prototypical attachment histories are Active love, Protect, and Ignore. Understanding the difference between BPD and HIS requires seeing more deeply the interpersonal context of the behaviors. For example, although both would engage in Self-attack, BPD's self-attack is usually triggered by internal pain and targets the own self as a form of punishment, whereas HIS's self-attack tends to be an attempt to coerce caregivers, and therefore targets others.

Other observed patterns that replicated what was expected by the theory include OCPD's stronger association with SZD, AVD, and SZT, and AVD's stronger association with PAR, OCPD, and SZT. In Benjamin's model these disorders share many interpersonal features, most notably the tendency to wall-off. The prototypical baseline positions of OCPD and AVD, for example, share Blame, Wall-off, Self-control, and Self-blame. Their shared fear of rejection from others (or, more precisely in the case of OCPD, being considered imperfect), motivates them to restrain or restrict themselves to avoid making mistakes. A sense of being flawed always stays with them, no matter how hard they try. The way they try to adapt and deal with these fears illustrate the differences between these prototypical profiles. Ultimately, OCPD wishes to have Control, whereas AVD wishes to be loved (Active Love). The prototypical OCPD, thus, will attempt to control (Control) others and herself (Self-control) and submit (Submit) to those who she respects, whereas the AVD is more likely to fear (Recoil) others and withdraw (Wall-off).

Some weak correlations expected by the theory were also observed in the empirically-derived correlational matrix. Weak or negative correlations represent disorders that are unlikely to occur together (i.e., be comorbid) or for the features of one PD to preclude, rule-out, or negatively predict another. Thus, as expected, the correlational matrix with the observed data presented a negative correlation between DEP and SZD, and DEP and ASP. Based on Benjamin's model, these disorders do not actually share many interpersonal features. In their baseline positions in the present, DEP and SZD, for example, do not share any SASB code, and in their developmental history they only share Control. This is not surprising as these disorders are defined as having

opposite interpersonal profiles. SZD is characterized by an extreme social indifference and isolation whereas DEP is characterized by a strong need for social connection. This disparity is further illustrated in the exclusionary criteria also provided in Benjamin's (1996/2003) theory. One exclusionary criterion for SZD is experiencing fear of abandonment, a hallmark of DEP; whereas an exclusionary criterion for DEP is being comfortable with long-term autonomy and independence, a hallmark of SZD. A similar scenario is observed between DEP and ASP. DEP's submissiveness contrasts with ASP's overt interpersonal hostility. This is translated in no shared codes in the baseline position and only some codes shared in the developmental history. Interpersonal features from both PDs are also considered in the exclusionary criteria of the opposite PD.

Finally, when evaluating the results from the standpoint of the DSM clusters, as observed in the theory-derived correlational matrix, empirical PDs are not necessarily more strongly correlated with other PDs within the same DSM cluster. Thus, with the exception of PDs within DSM cluster B (i.e., Dramatic and erratic), PDs from DSM clusters A (i.e., Odd and eccentric) and C (i.e., Fearful and anxious) were not necessarily expected to correlate more strongly among PDs within their own DSM cluster. In the case of PDs within the DMS cluster B—with the exception of ASP—BPD, HIS, and NAR showed to be more strongly correlated among each other than with PDs from other DSM clusters in both correlational matrices. When reviewing Benjamin's model it is clear why this is the case. DSM Cluster B PDs share more interpersonal features than the PDs from other DSM Clusters, both in their prototypical developmental history and in their baseline position in the present. For example, DSM Cluster B PDs are the only ones that were exposed to problematic love messages (i.e., Active love and Protect) from

important others, with the exception of DEP, which was also exposed to problematic Protect. In the present, they all try to Control and Blame others, and three out of the four PDs Attack others and Self-neglect.

Expected Patterns not Replicated in the Observed Data

Although there was a strong correlation between the theory-derived and the empirically-derived correlational matrices and similar patterns of comorbidity were observed between them, there are some differences to note. For example, there were weaker correlations in the observed than the predicted matrices. The total average of correlations in the empirically-derived data was slightly lower than expected. Also, the theory-derived correlational matrix predicted three negative associations (i.e., DEP and PAR, DEP and SZD, and DEP and ASP), whereas the observed reported twenty negative correlations (including DEP and SZD, and DEP and ASP). When analyzing the negative correlations from the empirically-derived data in more detail we observe some patterns. Almost all of the correlations involving BPD, almost all of the correlations involving HIS, and half of the correlations involving DEP were negative. Also, the lowest correlations seem to be mostly concentrated in the DSM cluster B PDs. When analyzing the average levels of associations by DSM cluster, DSM cluster B PDs showed a significantly lower average level of correlation with all the other PDs in the observed data (0.02) than in the expected data (0.24). All the other DSM clusters had similar values.

Finally, some PDs were expected to have stronger correlations but the observed data showed weaker correlations, and vice versa. For example, BPD and ASP were expected to have a higher correlation (0.38) than the one obtained in the observed data (-

0.20). SZT and SZD, on the other hand, were expected to have a weaker correlation (0.36) than observed (0.63).

Overview of Findings of Comorbidity Analysis

Overall results of the comorbidity study show that patterns of comorbidity among observed cases correlate significantly with the expected patterns of comorbidity based on Benjamin's model, even after controlling for expected base rates of correlation due to the measurement procedure. When analyzed in detail, expected patterns of PDs comorbidity were also observed in the empirically-derived data. It is interesting to note that this significant association between expected and observed patterns occurred even though the operationalization of the theory in this study only focused on a subset of elements present in Benjamin's model for parsimonious reasons.

In the current study, Benjamin's (1996/2003) conceptualization of PDs was operationalized by keeping track of presence and absence of baseline interpersonal behaviors and their links to a prototypic attachment history, as measured by the SASB model. The data illustrate problematic behaviors that are symptom-linked and represent copy process patterns. Benjamin's conceptualization of PDs, however, is not limited to copy processes, and other problematic behavioral patterns are also considered. Also, for each PD Benjamin proposes a set of prototypical wishes and fears underlying the baseline behaviors in the present, and exclusionary and necessary criteria. For example, according to the theory, BPD's wish to be nurtured and loved and fear of being abandoned mobilize the individual's problematic behavior. Fear of being abandoned is considered a necessary criterion in order to have the BPD profile, in addition to the need to self-sabotage. The exclusionary criterion, on the other hand, is the presence of sustained comfort with

autonomy. The necessary and exclusionary criteria and the wishes and fears are of course central elements of the theory but are more difficult to operationalize in the current form. Even so, Klein and colleagues (1993) have incorporated them into the WISPI questionnaire's interpretive output. Future studies might include these elements in the quantification of the theory as applied to clinical formulation interviews and see if the patterns of overlap observed here are maintained.

When analyzing in detail the similarities and discrepancies between the patterns of comorbidity between the expected and observed data it is important to keep in mind the characteristics of the sample. The current study had stronger presence of OCPD, PAG, and AVD PDs and a weaker presence of HIS and DEP, and other disorders. Depending on how we assess the symptoms, some PDs were not even present in the sample (e.g., PAR and ASP). This is translated in the fact that, in the case of the high occurring PDs, the data show more consistent interpersonal features that are prototypic of those PD profiles. For the low occurring or absent PDs, the data show a reduced number of the interpersonal features characteristic of those PDs and probably in a comorbid context. This might explain why some of the expected patterns of comorbidity involving low occurring disorders were not observed in the empirically-derived data. In other words, PD categorical overlap was limited to the range of interpersonal features actually present in the sample. This might also explain why the empirically-derived correlational matrix presented more weak correlations that expected and a slightly lower total average level of association. Given that not all PDs were evenly represented in the sample, some interpersonal features were probably not present or were present at a low rate, impacting the associations among PDs containing those features. Additional work with greater

presence of the other disorders would aid in confirming theory via both overlap and distinctiveness of profiles.

Final Reflections, Limitations, and Future Studies

One of the most controversial diagnoses in the mental health field is personality disorder. Personality disorders are considered to be difficult to conceptualize, diagnose, study, and treat. Individuals with PDs are often resistant to treatment and therapists are easily burned-out by working with this clinical population. Substantial efforts in the last decades are attempting to address some of these issues by rethinking the way PDs are diagnosed. Much progress has been made in this research area and empirical findings are expanding our knowledge about these disorders. However, a call in the field points out to the need to develop a more coherent and comprehensive framework of PDs to be able to target the diagnostic problems (Livesley, 2018). In an attempt to develop such a framework, the field has turned its attention to traits-based dimensional models. Traits-based dimensional models have clear advantages. They can reliably capture problematic trait-like behavior characteristic of each PD and compare it to a reference of healthy functioning. Despite these and other advantages, there is some hesitancy in the field regarding whether traits-based dimensional models are truly equipped to serve as the basis for a *clinically* useful PD diagnostic system.

Given the clinical tradition of the interpersonal paradigm for conceptualizing personality, the general goal of this study was to explore the degree to which an interpersonal model could contribute to develop a clinically useful comprehensive diagnostic system of PDs. The purpose of this study is not to promote the development of a diagnostic system solely based on an interpersonal framework. It is broadly accepted in

the field that PDs emerge as the result of the interaction between both genetics and environmental factors (Livesley, 2018). Benjamin (1996/2003) addresses this by referring to Carson's (1991) hardware and software metaphor to illustrate the relationship between nature and nurture. Thus, genetics and temperamental traits (i.e., the hardware) are considered to put severe constraints on experiences and interpersonal and intrapsychic habits (i.e., the software) (Benjamin, 1996/2003). This study focuses on "the software" but aims to stimulate conversations for developing bridges in the literature where possible.

Overall results of the study show that Benjamin's clinically-grounded interpersonal conceptualization of PDs and their patterns of overlap capture constellations of interpersonal features observed in clinical contexts. Benjamin's model allows conceptualization of the somewhat stable maladaptive patterns of ways of being (i.e., personality disorders) and some of the forces that originated them and keep them alive in the present, such that coherent clinically useful guidelines for individualized treatment can be delineated. This provides evidence to support the validity of Benjamin's clinically useful conceptualization of PDs from an attachment-based standpoint using underlying interpersonal dimensions, especially with regard to a bridge to DSM-based categorical conceptions of PD.

Future research might be able to address some of the limitations of the current study. Thus, sample characteristics provided a rather limited representation of the personality disorders present in the clinical population. OCPD, PAG, and AVD were more strongly represented in the data than other personality disorders, and therefore interpersonal features related to these disorders were more clearly present in the results of

the study. Future studies with a broader representation of PDs would be needed to see if current findings are replicated and to extend the exploration including interpersonal features characteristic of other PDs.

Also, the current study operationalized PDs keeping track of problematic behaviors that are symptom-linked and represent copy process patterns. Benjamin's conceptualization of PDs, however, involves other elements that were not included in this study for parsimonious reasons. These elements are, however, key in the case formulation of PDs and therefore in their treatment. For example, Benjamin (1996/2003) suggests that lifelong problematic behavioral patterns are difficult to change if wishes and fears are not addressed. Future research might be able to extend the work from this study by operationalizing Benjamin's PD theory in a more comprehensive way, including wishes and fears, and exclusionary and necessary criteria, among other elements.

Also, the current study uses a particular attachment-base interpersonal theory to conceptualize the nature and structure of PDs with the goal of contributing to develop a comprehensive and clinically useful model to conceptualize and diagnose personality disorders. Future research could focus on extending this work by creating more clear bridges with other relevant voices in the literature. Some authors might argue, for example, that interpersonal models might not be able to capture some features of PDs. For example, in the field, instability is considered a hallmark of BPD, which is mostly manifested in four different domains: emotional, interpersonal, behavioral, and in the sense of self (Hooley et al., 2012). Instability in the sense of self is understood as difficulty having a self-image, an identity, a sense of who one is. Some might argue that interpersonal models are not truly equipped to capture "the self" in non-interpersonal

terms. Benjamin's model might not be equipped, then, to illustrate this hallmark of BPD and, therefore, elements from other models might be needed to accurately conceptualize this diagnostic profile. Future research could focus then on exploring potential gaps from different models, and developing bridges where possible.

Finally, based on attachment theory we know that relationships with important caregivers have an impact on the individual's self-concept and provide a template for future interpersonal behavior. The SASB model captures the attachment history by keeping track of how others treated us in the past (i.e., Focus on other) and other's reactive behavior to their perception of our actions (i.e., Focus on self). However, other interpersonal and intrapsychic dynamics might also have an impact on the patient, such as the way caregivers treated themselves (i.e., caregivers introject) or the way caregivers treated others (not only the patient). For example, loyalty to caregiver's values and ways of being might keep some patients stuck in continue to use alcohol or drugs as a way of dealing with pain (identifying with caregiver's self-neglect). The SASB model is able to capture these dynamics through the copy process language, however, these dynamics are not as clearly delineated in Benjamin's PD prototypes. Future research might focus on extending the current work by evaluating the relevance of capturing more clearly these interpersonal and intrapsychic dynamics for conceptualizing the nature and structure of PDs.

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