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SNAP trait profiles as valid indicators of personality pathology in a non-clinical sample

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ABSTRACT

This study investigated whether profiles of traits included in the Schedule for Nonadaptive and Adaptive Personality (SNAP; Clark, 1993) model of personality were valid indicators of different personality pathologies in a non-clinical sample. We obtained self-reports of SNAP traits for 117 university students and self- and informant-reports of normal personality traits. SNAP trait profiles representing Borderline, Schizotypal, Avoidant, and Obsessive–Compulsive personality characteristics predictably related to normal traits that are considered most relevant to each respective personality pathology. Exploratory analyses showed that relationships among normal traits differed across groups of individuals with different levels of personality pathology. These findings suggest that SNAP profile scales have validity for representing specific personality pathologies on a continuum, and that the configuration of normal traits may be relevant to personality pathology.

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1. Introduction

Over the past two decades, advocates of the categorical model of personality disorders (PDs) described in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV; American Psychiatric Association, 2000) and proponents of dimensional models of PDs have been locked in an increasingly vigorous debate. The validity of the categorical model has been called into question by high levels of comorbidity among categories and symptom heterogeneity within categories (Clark, 1999). Dimensional models address these limitations and provide the added advantages of greater diagnostic flexibility and increased descriptive information (Widiger & Simonsen, 2005). Dimensional models are thus gaining support and are likely to be implemented to some extent within DSM-V (Clark, 2007). However, a challenge still facing dimensional models is they have trouble distinguishing among theoretically distinct personality pathologies (Morey, Gunderson, Quigley, & Lyons, 2000). That is, many PDs share elevations on the same pattern of normal personality traits, calling into question the discriminant validity of dimensional models of PDs.

Existing research attempting to identify dimensions that may uniquely define certain PDs suggests that the Schedule for Nonadaptive and Adaptive Personality (SNAP; Clark, 1993; Harlan & Clark, 1999) may be particularly useful in this regard. The SNAP was designed to assess PD characteristics using a bottom-up strat-

egy. It consists of 15 primary traits in both the normal and abnormal range of personality that are grouped into three higher-order categories: Negative Temperament comprises the lower-order traits of Mistrust, Manipulation, Aggression, Self-Harm, Eccentric Perceptions, Dependency, and Negative Temperament; Positive Temperament comprises Exhibitionism, Entitlement, Detachment (reverse-scored), and Positive Temperament; and Disinhibition includes Impulsivity, Propriety (reverse-scored), Workaholism (reverse-scored), and Disinhibition.

Morey et al. (2003) found that different combinations of SNAP traits distinguished patients with Borderline (BPD), Schizotypal (SPD), Avoidant (APD), and Obsessive–Compulsive PD (OCPD) (a) from each other, (b) from patients with depression but no PDs, and (c) from a non-clinical group. Regarding unique trait elevations, BPD was characterized by high Negative Temperament, Self-Harm, and Aggression; SPD was defined by Mistrust, Eccentric Perceptions, and Detachment; APD was characterized by Detachment, low Workaholism, low Exhibitionism, low Entitlement, and low Positive Temperament; and OCPD was distinguished by Workaholism, Positive Temperament, low Negative Temperament, and low Disinhibition. An important implication of Morey et al. is that specific pathologies may be measured dimensionally by the combinations of SNAP traits that are elevated in each PD. For example, BPD may be measured by elevations on a composite of Negative Temperament, Self-Harm, and Aggression. However, the findings from this study alone do not warrant this conclusion because Morey et al. made a categorical distinction between individuals with and without PDs. The categorical distinction is inconsistent

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with the theoretical position of dimensional models that personality pathology lies on a continuum with normality.

For dimensional representations of specific personality pathologies to be valid, individuals with elevated levels of personality pathology that do not meet threshold criteria for a PD should have personality characteristics similar to those who do meet the diagnostic threshold.

In this study, we tested whether profiles representing different personality pathologies defined by SNAP traits are meaningfully associated with normal personality characteristics that are typically elevated in individuals with diagnoses of each PD. Discriminant validity is tested by examining whether these profiles have relatively weak relationships with characteristics of normal personality that are typically not (or are only weakly) related to each PD.

As most research relating PDs to normal personality has been conducted within the context of the Big-Five (Goldberg, 1990) and Five-Factor Model (Costa & McCrae, 1992) taxonomies, we chose traits from these models to validate SNAP profiles. These models identify five similar higher-order dimensions (names in parentheses are associated with the Big-Five model): Extraversion (Surgency), Agreeableness, Conscientiousness, Neuroticism (Emotional Stability – reversed), and Openness (Intellect). For the sake of clarity, we refer to dimensions by their FFM names.

The magnitude of relationships between PDs and normal trait constructs varies widely across studies; thus, we rely on the results of a recent meta-analysis of relationships between PDs and normal traits (Saulsman & Page, 2004) to inform our evaluation of validity. The following correlations reached at least a medium effect size (Cohen, 1988) in non-clinical samples in the Saulsman and Page (2004) meta-analysis: BPD was positively related to Neuroticism; SPD was negatively related to Extraversion; APD was associated positively with Neuroticism and negatively with Extraversion; and OCPD was positively correlated with Conscientiousness. The validity of our profile scales will be evaluated on the basis of whether their correlations with FFM traits (1) replicate these moderate relationships, and (2) show null relationships to factors with which they were weakly related.

By investigating which dimensions of normal personality are related to profiles of abnormal traits, the current study has the potential to add to the already considerable literature showing that personality pathologies are associated with normal personality dimensions (Widiger & Simonsen, 2005). In contrast, little research has examined the question of whether the configuration of normal personality is related to personality pathology. An exception is the literature on FFM profiles of PDs (Lynam & Widiger, 2001). In this research, expert clinicians were asked to imagine a prototypical patient with each PD and rate that patient across all 30 lower-order FFM facets. The composite of clinician ratings for each PD was used to generate a consensus profile of FFM facet levels for each prototypical PD. Intraclass correlations between individual participants' scores and the consensus FFM profile for each PD provide an index of how closely a participant's profile approximates the prototype.

The rationale behind the trait profile approach is that most behavior that is diagnostic of personality pathology is not trait-specific, but rather a complex combination of acts that emerge from the manifestation of multiple traits. It is difficult to describe the diverse behaviors typifying personality pathology without invoking a heterogeneous set of descriptors. To concretize this point, consider that to muster a passable portrayal of just the first DSM-IV criterion for BPD – frantic efforts to avoid real or imagined abandonment – involves references to *at least* the adjectives “insecure” (relevant to Neuroticism) and “affiliative” (Agreeableness) in tandem. Moreover, one might characterize this criterion as reflecting a functional relationship between these traits, such that for those with BPD, individual differences in Neuroticism are height-

ened when interpersonal situations relevant to affiliation are salient.

The profile approach suggests that above and beyond the effects of mean trait levels, it is a person's patterning of or interrelationship among traits that results in difficulties in functioning. The second aim of the current study is to examine whether the relationships among normal personality traits differ between groups of individuals with varying degrees of personality pathology. Specifically, we compare the correlation matrices of Multidimensional Personality Questionnaire (Tellegen, 1982) traits for groups designated as “low” and “high” on the SNAP profiles validated in the first aim of the study. The MPQ contains 11 scales which can be grouped into three higher-order factors: Positive Emotionality consists of Well-Being, Social Potency, Achievement, and Social Closeness; Negative Emotionality includes Stress Reaction, Alienation, and Aggression; Constraint consists of Harm Avoidance, Control, and Traditionalism. Due to the exploratory nature of this analysis, we first present the omnibus analysis of whether the entire correlation matrix differs between groups with high and low levels of personality pathology. If the entire matrices differ, this would suggest there are different relationships among specific MPQ traits between groups (whereas null results would suggest each trait relates to every other trait in the same manner across groups). We then examine whether correlations between specific MPQ traits differ between groups; in order to minimize Type I error rate, only MPQ higher-order factors were included in this analysis.

2. Method

2.1. Participants

Participants were 117 undergraduates attending Northwestern University who received course credit for their participation (46 men, 71 women); they had a mean age of 18.8 (SD = 0.95). Participants completed various inventories assessing abnormal and normal personality characteristics. Each participant was asked to identify an informant who could accurately report on their personality; 61 participants gave consent for us to contact an informant in order to obtain collateral reports of personality. We attempted to contact each informant twice by phone; 41 provided data (19 did not respond, 1 declined to participate). Informants were financially compensated.

2.2. Measures

2.2.1. SNAP personality pathology composite scales

Participants completed the Schedule for Nonadaptive and Adaptive Personality Self-Description Rating Form, SNAP-SRF (Harlan & Clark, 1999), which contains 33 paragraph descriptors assessing 15 traits of the SNAP model of PDs (see introduction). Participants rated themselves on a 1–6 scale with respect to how much they resemble the high or low end of each descriptor. The Borderline composite comprises Negative Temperament, Self-Harm, and Aggression; the Schizotypal composite comprises Mistrust, Eccentric Perceptions, and Detachment; the Avoidant composite comprises Detachment, Workaholism (reversed), Exhibitionism (reversed), Entitlement (reversed), and Positive Temperament (reversed); and the Obsessive–Compulsive composite comprises Workaholism, Positive Temperament, Negative Temperament (reversed), and Disinhibition (reversed). Cronbach's Alpha reliabilities calculated from the SNAP scale correlations for each respective composite are presented in Table 1. The relatively low reliabilities are a limitation of this study; however, the magnitude of reliabili-

Table 1
Descriptive statistics and Cronbach's Alpha coefficients for composite PD scales, self- and informant-reported Big-5 traits, and self-reported MPQ traits.

| SNAP-SRF Composite Scales (n = 116) | M | SD | α |
|--|------|------|----------|
| Borderline | 2.51 | 0.59 | .41 |
| Schizotypal | 2.59 | 0.76 | .53 |
| Avoidant | 3.18 | 0.46 | .42 |
| Obsessive–Compulsive | 4.19 | 0.52 | .32 |
| <i>Big Five Mini-Markers: Self-Report Scales (n = 117)</i> | | | |
| Neuroticism | 4.61 | 1.21 | .81 |
| Extraversion | 5.50 | 1.48 | .89 |
| Openness | 6.51 | 1.05 | .81 |
| Agreeableness | 7.07 | 1.06 | .85 |
| Conscientiousness | 6.04 | 1.28 | .82 |
| <i>Big Five Mini-Markers: Peer-Report Scales (n = 41)</i> | | | |
| Neuroticism | 3.84 | 1.49 | .86 |
| Extraversion | 6.53 | 1.23 | .81 |
| Openness | 6.20 | 1.26 | .87 |
| Agreeableness | 7.20 | 1.48 | .92 |
| Conscientiousness | 6.03 | 1.53 | .88 |
| <i>NEO-FFI Self-Report Scales (n = 66)</i> | | | |
| Neuroticism | 2.87 | 0.64 | .86 |
| Extraversion | 3.45 | 0.52 | .79 |
| Openness | 3.36 | 0.52 | .73 |
| Agreeableness | 3.66 | 0.51 | .75 |
| Conscientiousness | 3.48 | 0.55 | .84 |
| <i>NEO-FFI Peer-Report Scales (n = 20)</i> | | | |
| Neuroticism | 2.30 | 0.66 | .89 |
| Extraversion | 3.77 | 0.52 | .80 |
| Openness | 3.27 | 0.44 | .64 |
| Agreeableness | 3.42 | 0.73 | .83 |
| Conscientiousness | 3.93 | 0.55 | .93 |
| <i>MPQ-BF Scales (n = 114)</i> | | | |
| Well-Being | .80 | .21 | .82 |
| Social Potency | .54 | .27 | .84 |
| Achievement | .66 | .24 | .77 |
| Social Closeness | .78 | .20 | .75 |
| Stress Response | .41 | .27 | .85 |
| Alienation | .16 | .17 | .69 |
| Aggression | .21 | .22 | .82 |
| Constraint | .72 | .26 | .86 |
| Harm Avoidance | .59 | .26 | .78 |
| Traditionalism | .46 | .24 | .78 |
| Absorption | .59 | .23 | .68 |

Note. "M" = mean item score. MPQ items were measured on true–false scales – numbers indicate the percentage of items endorsed for each trait, after reversing. "SD" = standard deviation of the mean. " α " = Cronbach's Alpha coefficient.

ties was similar to past research employing the SNAP-SRF (Harlan & Clark, 1999).

2.2.2. Big-Five/Five-Factor model traits

The Big Five Mini-Markers (Saucier, 1994) is a 40-item scale that assesses each factor with eight adjectives on a 1–9 scale; higher numbers indicate the adjective is more descriptive of the participant. A subset of participants ($n = 66$) completed the NEO – Five Factor Inventory (NEO-FFI; Costa & McCrae, 1992), a 60-item scale assessing each factor with 12 sentence-descriptors on a 1 to 5 scale; higher numbers indicate the sentence is more descriptive of the participant. Informant-reports of Mini-Markers were obtained for 41 participants, and informant-reports on the NEO-FFI were obtained for 20 participants. Informant assessments contained the same content as self-reports but instructed the informant to describe the participant's personality rather than their own. Cronbach's Alphas were generally high for both self- and informant-reports (Table 1).

2.2.3. MPQ

Participants completed the Multidimensional Personality Questionnaire-Brief Form, MPQ-BF (Patrick, Curtin, & Tellegen, 2002), a 155-item true–false scale assessing the 11 traits and three higher-

order factors of Tellegen's (1982) personality model (described above). Cronbach's Alphas for primary traits ranged from .68 to .86 (Table 1).

3. Results

3.1. Descriptive statistics

Table 1 presents descriptive statistics for SNAP composites, self- and informant-reported Big-5/FFM, and self-reported MPQ scales. Scales for each instrument had similar standard deviations; this was important because it reduced the likelihood that divergent relationships between SNAP scales and normal personality traits would emerge simply due to different levels of variation within scales. Different numbers of participants completed each assessment; thus, the magnitude of correlations between SNAP composites and normal personality scales that will be considered reliable varies across measures.

3.2. Partial correlations between SNAP composites and normal personality characteristics

In order to evaluate convergent and discriminant validity of the SNAP composites, we examined partial correlations between each composite and each normal personality scale, partialling out the effects of the other composites (e.g., the partial correlation between Borderline pathology and Extraversion may be interpreted as the unique association between Borderline characteristics and Extraversion above and beyond the effects of Schizotypal, Avoidant, and Obsessive–Compulsive characteristics.) Table 2 shows partial correlations between SNAP composites and each normal personality characteristic and zero-order correlations among SNAP composites. The moderate intercorrelations between SNAP composites reinforce the importance of the partial correlation analysis.

We evaluated the validity of SNAP composites by the extent to which our results replicated previous research showing that BPD is related to Neuroticism, SPD to Extraversion (negatively), APD to Neuroticism and Extraversion (negatively), and OCPD to Conscientiousness (Saulsman & Page, 2004). For Borderline and Obsessive–Compulsive characteristics, we replicated these findings for all four normal personality instruments. Schizotypal characteristics were significantly negatively related to Extraversion for NEO-FFI self-reports and Mini Marker peer reports, and while not significant, associations between Schizotypal characteristics and Extraversion in NEO-FFI peer reports and Mini-Markers self-reports were in the predicted direction. Avoidant characteristics were significantly negatively related to Extraversion for all personality measures except NEO-FFI peer reports, for which the effect size was moderate and in the predicted direction. However, Avoidant characteristics were unrelated to Neuroticism for three measures; it was only negatively related to Mini Marker Neuroticism. The only other relationships between SNAP composites and normal personality characteristics to replicate across instruments were those between the Borderline composite and Extraversion (positively), and between the Obsessive–Compulsive composite and Agreeableness (positively) in both self-report inventories. Thus, with the exception of the lack of a relationship between the Avoidant composite and Neuroticism (discussed below), the results provide rather strong evidence of both the convergent and discriminant validity of SNAP composites in a non-clinical sample, and suggest that unique associations between each composite of interest and particular traits are not driven by covariation among personality pathologies.

Table 2
Zero-order Correlations between SNAP Composite Scales, and Partial Correlations of SNAP Composites with self- and informant-reported Big-5 traits.

| | Borderline | Schizotypal | Avoidant | Obsessive–Compulsive |
|--|------------|-------------|----------|----------------------|
| <i>SNAP-SRF PD Scales (n = 117)</i> | | | | |
| Borderline | | | | |
| Schizotypal | .24** | | | |
| Avoidant | .03 | .37*** | | |
| Obsessive–Compulsive | –.42*** | –.24** | –.56*** | |
| <i>NEO-FFI Self-Report Scales (n = 66)</i> | | | | |
| Neuroticism | .47*** | –.05 | –.09 | –.02 |
| Extraversion | –.22 | –.43*** | –.43*** | .05 |
| Openness | –.01 | –.11 | –.07 | .11 |
| Agreeableness | –.15 | –.24 | .24 | .41*** |
| Conscientiousness | .07 | .06 | .00 | .36** |
| <i>NEO-FFI Peer-Report Scales (n = 20)</i> | | | | |
| Neuroticism | .45* | –.14 | .30 | .41 |
| Extraversion | .58** | –.30 | –.43 | .07 |
| Openness | –.44* | .29 | –.43 | –.42 |
| Agreeableness | –.41 | –.07 | –.19 | .28 |
| Conscientiousness | –.21 | –.40 | .36 | .66** |
| <i>Big Five Mini-Markers: Self-Report Scales (n = 117)</i> | | | | |
| Neuroticism | .41*** | –.20* | –.32*** | –.30*** |
| Extraversion | –.02 | –.17 | –.45*** | –.09 |
| Openness | –.06 | .10 | –.22** | .10 |
| Agreeableness | –.09 | –.18 | .20* | .37*** |
| Conscientiousness | –.02 | –.04 | .15 | .37*** |
| <i>Big Five Mini-Markers: Peer-Report Scales (n = 41)</i> | | | | |
| Neuroticism | .45** | –.01 | .12 | .40** |
| Extraversion | .32* | –.33* | –.31* | –.40** |
| Openness | –.13 | .00 | –.18 | –.20 |
| Agreeableness | –.04 | –.31* | –.12 | –.21 |
| Conscientiousness | .24 | –.23 | .27 | .54*** |

* = $p < .05$.
** = $p < .01$.
*** = $p < .001$.

3.3. Do groups defined by low and high levels of personality pathology have different configurations of normal personality traits?

Based on a tertile split, participants were categorized as having “low”, “moderate”, or “high” levels of each SNAP profile composite. Although artificial, splitting participants into groups was necessary to explore whether the relationships between normal traits differ for individuals with different levels of personality pathology. We excluded the moderate group for three reasons. First, including only low and high groups increases sampling variance, and therefore power to detect group differences. Second, comparisons between low and high groups are more readily interpretable than comparisons between either of those groups and the moderate group. Third, including the moderate group would make for more comparisons, increasing the chance of Type I errors.

We thus analyzed eight participant groups: one low and high group for four composites (the mean number of participants per group was 38). There was participant overlap across groups; that is, an individual in the low Borderline group may also be in one or more other low groups. Therefore, it was important to control for this overlap when computing correlation matrices for each group. To clarify, we present an example of how one of the correlation matrices was computed and then generalize to the others. For the low Borderline group, we computed the correlation matrix for MPQ traits partialling out Schizotypal, Avoidant, and Obsessive–Compulsive composites. This matrix reflects how MPQ traits are related to each other in the low Borderline group, controlling for the effects of other abnormal characteristics. The other seven correlation matrices were computed in the same fashion.

We compared the correlation matrices between low and high groups using the Jennrich (1970) test of equality of two correlation matrices computed over independent sub-samples. For an $(n \times n)$ -dimensional correlation matrix, the test statistic is distributed as χ^2 with $n(n - 1)/2$ degrees of freedom. Each comparison produced a significant χ^2 ($df = 55$), indicating that the relationships among traits differ across groups with high and low levels of personality pathology; Borderline ($\chi^2 = 92.97, p = .001$), Schizotypal ($\chi^2 = 80.50, p = .014$), Avoidant ($\chi^2 = 81.92, p = .011$), and Obsessive–Compulsive ($\chi^2 = 92.97, p < .001$).

A threat to the validity of finding differences between correlation matrices is that the MPQ data may have been characterized by an atypical overall correlational structure, which would call into question the interpretation that subgroups have different correlational structures. Arguing against this, parallel analysis of MPQ data and examination of a scree plot suggested extracting three factors; factors that emerged from a principal axis factor analysis closely matched the theoretical structure of the MPQ (results available upon request).

3.4. Do correlations between higher-order MPQ factors differ between groups with different levels of personality pathology?

The finding that MPQ correlation matrices differed between high and low personality pathology groups suggests that higher-order factors of the MPQ may relate to each other differently across groups. To explore this, we created scales representing higher-order MPQ factors. The Positive Emotionality factor was computed by summing Well-Being, Social Potency, Achievement, and Social Closeness; Negative Emotionality was computed by summing Stress Reaction, Alienation, and Aggression; and Constraint was computed by summing Harm Avoidance, Control, and Traditionalism. We computed partial correlations between higher-order factors for each high and low group and tested whether the magnitude of correlations between factors differed across groups. Results showed that correlation between Positive Emotionality and Constraint was significantly more positive in the high ($r = .51$) than in the low ($r = -.06$) Borderline group ($r_{diff} = .57, p = .009$), and that the correlation between Positive Emotionality and Negative Emotionality was more positive in the high ($r = .28$) than in the low ($r = -.29$) Schizotypal group ($r_{diff} = .57, p = .011$).

4. Discussion

Differentiating between personality pathologies has been a longstanding challenge facing dimensional models of PDs. Results from Morey et al. (2003), combined with the findings from the current study, provide preliminary evidence that SNAP traits show particular promise in this regard. Morey et al. showed that multiple unique elevations on SNAP traits differentiated among BPD, SPD, APD, and OCPD diagnoses in a clinical sample. That study was limited in that it did not test a prediction inherent in dimensional models of PDs, namely that individuals with elevated levels of personality pathology not meeting threshold criteria for a PD diagnosis should have personality characteristics similar to those meeting the diagnostic threshold. The current study confirmed this prediction by showing that SNAP profiles reflecting putatively distinct personality pathologies in a non-clinical sample behaved similarly to PD diagnoses. The Borderline profile was consistently related to Neuroticism, Schizotypal and Avoidant profiles were negatively related to Extraversion, and the Obsessive–Compulsive profile was related to Conscientiousness. An additional strength of these findings is the use of both self- and peer-reports, which reduces the possibility that our findings resulted from methodological artifacts.

These findings suggest that combinations of SNAP traits may be used to represent specific personality pathologies on a continuum.

Although the pattern of relationships that emerged between SNAP profiles and normal personality traits almost exactly mirrored our expectations, the finding that Avoidant characteristics did not relate positively to Neuroticism was unexpected given that this relationship has been found in previous research (Saulsman & Page, 2004). This finding may be explained by the fact that SNAP traits uniquely defining Avoidant characteristics (Detachment, low Workaholism, low Exhibitionism, low Entitlement, and low Positive Temperament) do not overlap with SNAP traits reflecting Neuroticism. Thus, it is possible that the relationships between APD and Neuroticism observed in past research were due primarily to the overlap between APD and other PDs. This possibility awaits future research.

We also did not predict the relationship between Borderline characteristics and peer-reported Extraversion, or those between Obsessive–Compulsive characteristics and self-reported Agreeableness and peer-reported Neuroticism. These findings are in line with research suggesting that informant-reports of personality pathology may yield different information than self-reports (Oltmanns & Turkheimer, 2009). Indeed, in the current study, there were a number of results that diverged between self and peer reports. It is important to exercise caution in interpreting these differences because they were not the focus of the study and the number of reports differed across self and peer reports. However, perhaps the most notable difference between self and peer results is that Obsessive–Compulsive characteristics were likely to be correlated with only the desirable poles of self-reported traits, but with the undesirable poles of peer-reported normal traits. This suggests that individuals with higher levels of Obsessive–Compulsive characteristics may see themselves more positively than their peers see them.

Findings emerging from the FFM profile approach to PDs attest to the importance of going beyond investigations of mean level associations between normal personality traits and PDs to examining whether the *relationships* between normal traits explain personality pathology. This study supports the notion that relationships among normal traits differ between groups that differ in levels of personality pathology. MPQ trait correlation matrices for groups with relatively high levels of personality pathology differed from matrices for individuals with fewer pathological characteristics. Exploratory analyses revealed that differences in overall MPQ matrices for Borderline and Schizotypal groups were due in part to divergent relationships between higher-order MPQ factors.

Positive Emotionality and Constraint were highly correlated in the high Borderline group and uncorrelated in the low Borderline group; this suggests that individuals with elevated Borderline pathology who are relatively more impulsive and less behaviorally restrained also experience relatively lower positive emotions/extraversion. Although this analysis was exploratory, it makes intuitive sense that behavioral control relates to positivity in a group of individuals whose impairment theoretically arises from deficits in control (Nigg, Silk, Stavro, & Miller, 2005). Within groups of individuals with high levels of Schizotypal characteristics, the correlation between Positive Emotionality and Negative Emotionality was relatively more positive than for low SPD individuals. Taken in the context of research showing that individuals with SPD have a limited capacity to experience both positive and negative emotions (Waldeck & Miller, 2000), this suggests that the tendency to experience emotion in general (regardless of valence) may be represented on a continuum in individuals with high levels of Schizotypal characteristics (i.e., individuals with Schizotypal pathology who experience more positive emotions also experience more negative emotions).

Limitations of this study suggest avenues for future research. We did not obtain PD diagnoses; thus, future research may further

validate SNAP profile scales by examining whether profiles are more strongly related to their respective PD diagnoses than other PD diagnoses. The relatively small number of informant-reports limited the precision of estimates obtained using this method; additionally, potential differences between the characteristics of the participants providing informant reports and those not providing informant reports may have biased results obtained using this method. Future studies will benefit from obtaining informant reports for a greater percentage of participants. The overall sample size of this study yielded relatively small groups of individuals with different levels of personality pathology, which prevented the use of formal factor analytic techniques. Future studies could obtain large samples and explore whether and how the factor structure of groups of individuals with different levels of personality pathology differ. Additionally, this study evaluated only four of the ten putatively distinct categories of personality pathology; future studies should attempt to distinguish other PDs from each other, Axis I disorders, and normal samples. This study converges with Morey et al. (2003) to provide evidence for the validity of SNAP profile scales in representing specific personality pathologies on a continuum, and it converges with the FFM profile approach to PDs in suggesting that the configuration of normal personality traits (above and beyond mean levels of traits considered in isolation) is important for understanding manifestations of abnormal personality.

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