

**PERSONALITY TRAITS, TRAITEDNESS, AND DISORDERS: TOWARDS AN
ENHANCED UNDERSTANDING OF TRAIT-DISORDER RELATIONSHIPS**

A Dissertation

by

MEGAN BETH WARNER

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of
DOCTOR OF PHILOSOPHY

August 2005

Major Subject: Psychology

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ABSTRACT

Personality Traits, Traitedness, and Disorders: Towards an Enhanced Understanding of
Trait-Disorder Relationships.

(August 2005)

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Traitedness has been described as the “the degree to which a particular trait structure is approximated in a given person” (Tellegen, p. 28, 1991) and has been hypothesized as one explanation for findings of weak trait-behavior relationships. That is, if traits are differentially applicable to different individuals, then trait-behavior relationships may be moderated based on the strength with which an individual fits with a given trait model. This study used moderated multiple regression to test the moderating effects of four different traitedness indicators to increase the prediction of diagnostic consistency in four personality disorders, and also tested the main effects of traitedness estimates to predict cross-situational consistency of functional impairment. Traitedness estimates performed better in the prediction of increased diagnostic consistency, though there were some isolated findings of traitedness increasing cross-situational consistency of functional impairment.

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INTRODUCTION

The concept of traitedness (also sometimes called trait relevance) is a way to attempt to quantify the degree to which specific traits are consequential in affecting an individual's behaviors, thoughts, and affect (Britt & Sheppard, 1999). Reise and Waller (1993, p. 143) stated that traitedness refers to "the degree to which a person's behavior is consistent with a dimensional trait construct." The development of the idea can be traced back to Allport's suggestion that personality is best studied idiographically, because an individual's traits may not necessarily share the same meaning or relevance to all other individuals. He noted that "though perceived as similar and labeled identically, the trait is never, strictly speaking, in two different human beings exactly the same" (p. 310, 1937).

Though ideas about trait relevance originated in the early theoretical writings of Gordon Allport, they gained their empirical momentum in response to Walter Mischel's pivotal book, *Personality and Assessment* (1968), in which he argued that the correlations between measures of personality and various external criteria were too low (.20 to .30) to have substantial value, and that there was not sufficient evidence to warrant the idea that personality traits were useful in prediction of behavior. In response, it was argued that situational specificity is itself a result of a personality variable (e.g. Alker, 1972) and that perhaps the trait-situation debate should be refocused into an exploration of the hypothesis that only some individuals will show situational consistencies within a specific trait domain, whereas others will not (Bem, 1972).

This dissertation follows the style of the *Journal of Abnormal Psychology*.

Bem and Allen (1974) proposed that the relationship between personality and cross-situational consistency had not been demonstrated because, consistent with what Allport had earlier suggested, “the entire research tradition is predicated upon nomothetic rather than idiographic assumptions about the nature of individual differences” (p. 508). They noted that for a demonstration of cross-situational consistency to occur, the individuals being sampled must a) view what is being assessed in the same way as the researchers (e.g. that the items on a Conscientiousness scale really measure how participants would view Conscientiousness) and b) that the participants are in agreement in how items are scaled (that each participant would view a given Conscientiousness item as indicative of the same thing). In their view, a finding of situational inconsistency does not necessarily imply that individuals are inconsistent, it could also imply that particular participants do not agree with the researchers (as in “a” above), or do not agree among themselves (as in “b” above).

Proponents of the traitedness hypothesis argue that individuals may differ in the degree to which personality traits are relevant or consequential to cross-situational consistency. Behaviors in individuals for whom a trait is less consequential should be more difficult to predict than in individuals for whom a trait is more relevant. If we take Extraversion as an example, we would predict that individuals who score in the above average range, and who are “traited” on Extraversion would act extraverted at a party, a meeting, and on a date. However, an individual who has the same score on the trait, but is less traited, might be extraverted at a party, but less so in a meeting, and perhaps not at all on a date. The second individual may be as responsive to the effects of the situations

as he/she is to their level of the dimension of Extraversion. That is, the situational effects would be greater for the individual for whom a trait is not as relevant (the less traited individual), whereas situational specificity would not have the same effect on the more traited individuals in the same situations. Essentially, traitedness is an individual difference variable which serves to clarify trait-behavior relationships.

Since Bem and Allen (1974) first sought to examine the moderating effect of personality “consistency” (which has since been replaced by the traitedness term), several others have examined traitedness as a moderator of trait-behavior relationships. Traitdness has been thought to moderate a range of relationships; most of the personality literature has been concerned with self and peer-ratings of personality, but other areas have also been explored, including traitedness as a moderator of theoretically related variables (e.g. Conscientiousness about work safety and job performance). More recently, traitedness has been used as a variable to evaluate the degree to which individuals fit with a model of personality by attempting to identify specific individuals whose pattern of responses are not congruent with response patterns on a particular personality dimension (e.g. Reise & Waller, 1993).

Several different ways of measuring traitedness have been proposed. However, despite the numerous proposed methods, one specific method has not yet emerged from the group as the gold standard. Thus, the most common operationalizations of the construct will be reviewed below; see Table 1 for a brief summary of the studies.

Table 1. Selected Trait-ness Studies and Findings.

<i>Authors</i>	<i>Trait-ness Method</i>	<i>Trait</i>	<i>Relationship Tested</i>	<i>Predicted Effect?</i>
Baumeister & Tice (1988) Study 1	interitem variance	Locus of Control	Practice duration; testing readiness attributional ratings	Yes
Bern & Allen (1974)	Ipsatized variance	Conscientiousness	Trait to Cross-situational variability	Yes
Bern & Allen (1974)	Self rated variability	Conscientiousness	Trait to Cross-situational variability	No
Bern & Allen (1974)	Self rated variability	Friendliness	Trait to Cross-situational variability	Yes
Biesanz & West (2000) Study 1 and 2	Construct Similarity	Neuroticism	Self-other profile consensus; informant profile consensus	No
Biesanz & West (2000) Study 1 and 2	Interitem variability	Across FFM traits	Self-other profile consensus; informant profile consensus	No
Biesanz & West (2000) Study 1 and 2	temporal stability	Across FFM traits	Self-other profile consensus; informant profile consensus	Yes
Biesanz & West (2000) Study 1 and 2	Scalability	Across FFM traits	Self-other profile consensus; informant profile consensus	No
Biesanz, West, & Graziano: Study 1 and Study 2 (1998)	Construct Similarity	Conscientiousness; Extraversion	Self-other ratings of each trait	No
Biesanz, West, & Graziano: Study 1 and Study 2 (1998)	Interitem variability	Conscientiousness; Extraversion	Self-other ratings of each trait	No
Biesanz, West, & Graziano: Study 1 and Study 2 (1998)	Scalability	Conscientiousness; Extraversion	Self-other ratings of each trait	No
Biesanz, West, & Graziano: Study 1 and Study 2 (1998)	Temporal stability of response pattern	Conscientiousness; Extraversion	Self-other ratings of each trait	Yes
Chaplin (1991)	Construct Similarity, Ipsatized variance, Scalability,	Across eight traits related to the FFM	Self-other ratings of traits	Equivocal
Lanning (1988)	Scalability	Friendliness; Conscientiousness	Situation-Behavior inventory to aggregate trait measures	Equivocal
Reise & Waller (1993)	Z _L scalability statistic	Traits on the MPQ	No test of moderating effect of Z _L	Did not test

Types of Trait-Relatedness Variables

Self-rating of Trait-Relatedness/Consistency

As noted above, Bem and Allen (1974) were the first to empirically investigate the idea that an individual's mean score on a trait dimension may not be useful if that particular individual is not cross-situationally consistent on a given trait. The first method they used to quantify an individual's degree of trait-relevance was to ask individuals to assess their own variability on a trait. Participants responded to questions in which they first rated their global level of the trait (friendliness and Conscientiousness) as well as how variable they were on these traits across situations. For example, the variability question for the friendliness trait was phrased "How much do you vary from one situation to another in how friendly and outgoing you are?" (p. 512). Individuals rated their variability on a seven-point Likert scale, with responses ranging from "not at all" to "extremely". In addition, participants, their mothers, their fathers, and a peer completed the Cross-Situational Behavior Survey (CSBS). In addition to the global trait items, the CSBS asks about the traits of friendliness and Conscientiousness in specific situations (e.g. "How carefully do you double-check your term papers for typing or spelling errors?"). Thus, the self, peer, mother, and father ratings provided four measures of cross-situational behaviors for each trait. Measures of behaviors hypothesized to relate to the trait variables were also collected. These included two behavioral observations to assess friendliness in different situations (observation of the participants in groups and in the waiting area), and three variables used to assess behaviors related to Conscientiousness (timeliness of returning

evaluations, amount of class reading completed, and participant neatness). In total, there were six behavioral friendliness variables (the two above plus the CSBS ratings from self, each parent, and a peer) and seven Conscientiousness variables (the three listed above, plus the four total CSBS ratings).

Participants were assigned as high or low-variability based on whether they fell above or below the median variability score of the same-sex subjects who shared the same score (from the global self-rating) on the trait. This strategy was used to partial out any possible relationship between trait level and self-rated variability response. Cross-situational consistency was assessed by first standardizing the behavioral variables, and then averaging the standard deviations of the friendliness (six total) and Conscientiousness (seven total) variables for each subject. The two standard deviations were used as a measure of an individual's situational variability for each trait; larger standard deviations were interpreted as greater cross-situational variability.

Participants who reported that they were less variable in friendliness across situations displayed significantly less variability across situations. The authors also demonstrated that self-rated variability was a significant moderator of the relationship between the six friendliness behavioral variables and the Eysenck Personality Inventory (Eysenck & Eysenck, 1968) such that the Inventory was more predictive of behavior for the lower variability, or more consistent individuals. Bem and Allen (1974) did not replicate this result for the trait of Conscientiousness. They suggested that this may have been due to a significantly weaker relationship between the global self-rating of Conscientiousness and the CSBS items which measured behaviors hypothesized to relate

to Conscientiousness than had been found with the global friendliness measure and the CSBS items measuring friendliness behaviors. If individuals were not in agreement with the researchers' ideas about behaviors which reflect Conscientiousness, then the global rating of Conscientiousness they provided would not demonstrate a strong relationship between behaviors that the researchers believed reflected Conscientiousness (which were assessed via the CSBS). They suggested that the trait term, Conscientiousness, "is more likely to denote different equivalence classes of behaviors for different individuals than is the trait term 'friendliness'". (p. 515). Thus, they attempted to try a different method, the ipsatized variance index, to test the relationship of trait consistency and behavioral consistency. The ipsatized variance index will be discussed in more detail below.

Criticisms of self-ratings of consistency include the effects of a social desirability bias; reported consistency on a trait may reflect socially desirable responding (Rushton, Jackson, & Paunonen, 1981; Baumeister & Tice, 1988). For example, the response that one is consistently honest is clearly a socially desirable response (Rushton et al., 1981). Accuracy can also be compromised by the hedonic bias, which is the principle that individuals will attribute successes to their dispositions and failures to external sources. One of the explanations for the hedonic bias is "ego enhancement"; that is, it is beneficial to the self-concept to minimize feelings of failure (ego-defensive), and maximize feelings of success (ego-enhancement; Weiner, 1990). Individuals asked to provide ratings of cross-situational consistency on traits may compromise their accuracy in a (perhaps unconscious) effort to protect their own image of themselves as consistent.

A substantial criticism which also relates to most other operationalizations of traitedness is the potential confound between ratings of consistency/variability of behaviors relevant to a trait, and the level of that trait. This methodological issue as it applies to the various traitedness indicators will be discussed in more detail below, but research has demonstrated that self-ratings of consistency are significantly compromised by this effect. Bem and Allen (1974) did not find a relationship between their participants' level of friendliness and their degree of cross-situational variability, but this was due to that fact that the designation of high/low variability was based on matching the participants on their trait score before assigning them to high/low variability groups. Rushton et al. (1981) first investigated the relationship between trait extremity and self-ratings of consistency in response to a paper by Kenrick and Stringfield (1980). In their paper, Kenrick and Stringfield (1980) suggested that individuals show stronger relationships between self-peer ratings of personality on those traits which participants' rate as their most consistent trait, and this effect is enhanced if those traits on which individuals are most consistent are also publicly observable. In their response to the paper, Rushton et al. (1981) investigated the empirical relationship between ratings of consistency and ratings of extremity, and found that the majority of the personality adjectives they studied showed a significant relationship. Further, Paunonen and Jackson (1985) demonstrated that this relationship, for the majority of the traits they evaluated, was curvilinear. That is, individuals scoring at the extremes in the high and low ends of a trait scale tend to report less variability in their relevant behaviors. This was also demonstrated in the relationship between peer ratings of personality and

variability for all traits that were investigated, suggesting that peer impressions of variability on a trait will also be confounded by their impression of trait level. At this point, self-ratings of cross-situational personality consistency are fraught with too many limitations to be considered a reliable method of traitedness assessment. Most other traitedness indicators rely solely on the individuals' response patterns and do not require that individuals be capable of rating themselves on consistency; these indicators will be discussed below.

Ipsatized Variance/Interitem Variance

Using self-rated variability as an index of personality consistency, Bem and Allen found a relationship between self-rated variability on the trait of friendliness, and cross-situational consistency on behaviors related to friendliness. However, they did not find this same effect with the trait of Conscientiousness. As noted above, they suggested that this may have been due to differences in how they and their study participants viewed behaviors reflective of the trait. As a result, the authors attempted to define participant variability using a different measure, using the variability in the pattern of an individual's responses as an indicator of trait variability. They attempted to assign high and low variability as a function of the individual's variability of responses to items on the Conscientiousness scale. Specifically, after calculating the individual's variance around their own item score mean across the 23 Likert-scaled items measuring Conscientiousness, they divided this number by the variance across all items of the questionnaire. In an effort to partial out the effects of the score on the trait dimension from the variability, they created two matched groups where individuals were matched

by score, and then ranked them high or low variability based on whether or not this ipsatized variance was above or below their matched counterpart. Measuring variability in this way yielded similar findings as had been found for friendliness; traited (low variance) individuals were less variable across situations than were higher variability individuals. Bem and Allen (1974) reported that their study demonstrated that some individuals can be predicted from traits, whereas others are predicted better by situational factors. They also noted the importance of using the individual's own phenomenology when classifying traits and situations.

Objections have been raised about the ipsatized variance approach, particularly in reference to the "ipsatizing" process. Paunonen and Jackson (1985) suggested that dividing variability of responses to a trait scale by the variability of responses across several trait scales is a theoretically baseless confound. They provided an example of two individuals answering equally consistently on the trait scale of interest, yet differently in the trait scales of the denominator. Though the individuals would be similarly consistent on the trait of interest, demonstration of this would be impossible as their denominators (the variance of their scores on the other trait scales) would differ. Baumeister and Tice (1988) shared these concerns and suggested the interitem variance of the trait scale of interest be used, but not divided by the interitem variance of additional trait scales. They suggested that "consistent responses are one hallmark of being traited" (p. 581) and proposed that low variance demonstrates consistency of responses. Therefore, the individuals with low interitem variance would be considered traited on that dimension. High variance, on the other hand, would suggest that the

individual was not responding in a consistent manner to the items, indicating untraitedness.

Baumeister and Tice (1988) proposed the metatrait hypothesis, which suggests that different personalities are constructed by different traits. This is consistent with the concept of traitedness. Both of these ideas share the notion that specific trait dimensions are not equally applicable to all individuals. Using interitem variance as a means to classify subjects as traited/untraited, Baumeister and Tice (1988) examined whether the two groups would differ in the effects of the trait locus of control (LOC) on duration of practice for a skill-based task, time before stating readiness to be tested on the task, and attributions to luck about task performance. Participants who were traited on Locus of Control demonstrated a significant correlation with duration of practice (in contrast to a nonsignificant relationship in the untraited group), a significant relationship between being internal LOC and readiness for the test for traited individuals (but a nonsignificant trend in the opposite direction for the untraited group), and a correlation between LOC and attributions to chance in the traited group (but no correlation in the untraited group). They argued that using metatraits improves the accuracy of nomothetic trait hypotheses about the effects of traits and behaviors.

Construct similarity

In an unpublished manuscript, Chaplin and Locklear (1989) first discussed the concept of “construct similarity” as an index of traitedness. The premise of construct similarity is tied to the idea originally put forth by Bem and Allen (1974) when they discussed the importance of shared meaning of behaviors thought to be related to a trait.

If individuals disagree (amongst themselves or with an experimenter) about the meaning of a trait term, and, correspondingly, the behaviors which would define a trait, then the ability to predict those behaviors by a trait will be impaired. Construct similarity was designed as an index of traitedness which could differentiate individuals whose interpretation of a trait is comparable to a group of others, from individuals whose interpretation is idiosyncratic, or inconsistent relative to the group. Construct similarity is measured by correlating individual ratings on a group of items measuring a trait with the mean ratings provided by the remainder of the sample on the same items (Chaplin, 1991). The more the individual scales the items similarly to the rest of the sample, the greater the correlation. An advantage of construct similarity is that, because it is concerned mainly with patterns of participant and sample ratings and not by mean scores and variances, it should demonstrate less confounding with trait level than other traitedness indices which take sample means and variances into account (e.g. ipsatized and interitem variance).

Chaplin (1991) tested the effects of four moderator variables on the relationship between self and other ratings of eight trait constructs (Activity level, Assertiveness, Friendliness, Sensitivity, Conscientiousness, honesty, emotional stability, and Cultural sophistication). The moderator variables that were tested included the ipsatized variance index, the variance index, Lanning's scalability index, and construct similarity. Moderated multiple regression was used to evaluate the effects of the moderator. The criterion was the composite of peer personality ratings, the predictor, entered in the first step, was the composite of self ratings. The second step in the equation entered self

ratings and the moderator, and the third step entered self-ratings, the moderator, and the interaction of self-ratings by the moderator. The third step was important in this equation because if there was a significant increment in variance predicted by the third step, this suggests a moderating effect of the traitedness variable. Chaplin (1991) also examined the partial correlations between the interaction and other-rating of personality; this partial correlation indicated the direction of the moderating effect, positive correlations meaning greater predictability.

The average partial correlations of the interaction of self-ratings by the traitedness variables across all eight traits were examined, as were the individual values of the partial correlations between each trait and each traitedness variable. Construct similarity demonstrated the strongest moderating effect across the eight traits (partial correlation = .11) compared to the other traitedness variables (average scalability partial correlation: .09; ipsatized variance: .08, and variance index = .05) though none of these were substantial. In fact, of the 32 total values (4 moderators x 8 traits), only 5 were statistically significant. Three of these were for the trait Conscientiousness by the scalability, ipsatized variance index, and variance index measures of traitedness, and two were for Emotional stability by the traitedness operationalizations of scalability and ipsatized variance index.

Based on these results and the other studies which have examined the traitedness idea, Chaplin (1991) suggested that, in general, improvements in personality prediction based on moderator effects will be small at best. However, he stated that “even very small effect sizes may be important in the context of theory testing...small effects must

be obtained in the context of a well-articulated theory, and their detection will require sensitive measures and analyses” (p. 169). The importance of a large enough sample size to have power to detect effects, as well as established predictor-criterion relationships were both listed as ways to improve the detection of a moderating effect. Chaplin (1991) noted that weak predictor-criterion relationships were the impetus for the most of the research on personality moderators, yet moderators could be of little use given that the relationships were weak to start with. He suggested that the importance of the strength of established predictor-criterion relationships may have explained why, in his study, three of the traitedness variables which moderated the self-other personality ratings were for Conscientiousness, which demonstrates the highest self-other correlations.

Scalability

An examination of individual differences in scalability was proposed as a new way to investigate the moderating effects of consistency of a trait on prediction of behavior. Lanning (1988) suggested that individuals are scalable to the extent that their behaviors in response to evocative situations parallel other people’s behaviors in the same situations. That is, if an individual is scalable, then his/her manifestation of a trait and the behaviors that are elicited in various situations that are presumably related to that trait correspond to the normative group. An individual is unscalable if normative conceptions of a trait (and situational responses) do not correspond with his/her own pattern of behaviors. An example that Lanning (1988) provided was for the trait “affiliation”. Typically, people will be less affiliative in a library, more affiliative at an

open house, and even more so at a party. If an individual reports that he/she is more affiliative in a library than at a party, this indicates that situations which usually evoke the opposite pattern in most others evoke something different in this individual. For this particular individual, a different trait may do a better job in explaining his/her behaviors in the library and at the party. Lanning's measure of scalability attempted to quantify the correspondence between changes in situational evocativeness and changes in behavioral level. Specifically, the equation postulates that the "expected value of the level of behavior is equal to the sum of the person average (elevation X_i) and the situation average (elevation X_j) less the grand mean. A person is scalable to the extent that, over situations, behavior (elevation X_{ij}) corresponds to these expected values ($X_j + X_i - X..$)." That is:

$$\text{Scalability}_i = -\sum |X_{ij} - (X_j + X_i - X..)|$$

Scalability estimates were based on responses from the Situation-Behavior Inventory (Lanning, 1986), which was designed to assess scalability and elevation of five traits: Achievement, Conscientiousness, Friendliness, Irritability, and Self-consciousness. Lanning (1988) first tested the linear and quadratic relationships of scalability and trait elevation. Linear relationships between scalability and the traits friendliness, irritability, and self-consciousness were substantial (.63, -.70, and -.64, respectively), whereas relationships between scalability and the other two traits were weaker (.26 for achievement and .02 for Conscientiousness). Lanning noted that the greater relationships would serve to attenuate the possibility of finding an independent contribution of scalability when predicting validation measures of a trait.

Prediction of composite achievement measures by peer adjective ratings was significantly moderated by scalability for women, and approached statistical significance for the moderator effect of the SBI Achievement inventory for women. The prediction of composite Conscientiousness measures from the SBI Conscientiousness Inventory was significantly moderated by scalability for men. The prediction of aggregate measures of Self-consciousness by responses on the SBI Self-Consciousness scale was also significantly moderated by scalability for both men and women. All of the moderator effects of scalability were in the hypothesized direction indicating increased scalability improved prediction of validation trait measures. However, only three of the moderator effects were statistically significant, out of a total of 24 equations. Although an interesting and novel test of person-fit to personality measurements, scalability as an index of traitedness ultimately appeared rather limited in terms of its ability to moderate the prediction of personality indices. Since its introduction, more sophisticated indices of differences in response profiles have been developed, and attention will thus be directed towards the most promising measure of scalability used in this study, a measure of person-fit based in Item Response Theory (IRT).

Item Response Theory

Item response theory (IRT) is a model of measurement that significantly addresses certain limitations of classical test theory, the most important of which is that classical test theory approaches can not separate the characteristics of examinees from the characteristics of items when measuring ability; items are judged easy or difficult based on the performance of the sample, and examinees are judged to have high or low

ability based on their performance on items on the test (Hambleton, Swaminathan, & Rogers, 1991). Whereas classical test theory determines ability based on a sum of item scores, IRT is concerned with performance on the specific items of a test. The premise underlying IRT is that patterns of responses on a set of items allows the estimation of trait or ability level. The implicit assumption of IRT is that each item does not provide an equivalent measure of a latent trait, but that trait level can be determined by looking at the probability of responses to specific items which are presumed to vary based on underlying trait level.

IRT models derive Item Characteristic Curves (ICC) for specific items on a measure of a trait. Take for example a specific item with a dichotomous response format (e.g. true/false). An ICC shows that at any given trait level, there is a specific probability of responding positively or negatively to that item. Polychotomous items can also be represented in IRT using slightly modified models from those which are based on dichotomous responses, yet the principle is the same. IRT provides probability estimates of item responses given specific trait levels. Once the items in a test have been fit to an IRT model, and item parameters have been estimated, specific examination of individual-fit to the model can take place. Assessment of person-fit to these models is derived from determining the likelihood of an individual's specific response pattern to the items on the test, using a model and item parameters which have already been established. Large likelihoods indicate that a response pattern corresponds with an IRT model, whereas small likelihoods suggest patterns of responding which are inconsistent with an IRT model. The Z_L statistic is a scalability statistic which is a standardized

estimate of the likelihood of response patterns which are consistent with an IRT model. Specifically, the value of Z_L represents “how many standard deviations a response pattern is in likelihood from its expected value” (Reise & Waller, 1993). A Z_L value of 0 would be expected if an individual's responses conform to the typical IRT measurement model, while positive values indicate high levels of scalability, and negative values indicate unscalable response patterns. Reise and Waller (1993) found that low Z_L identified a subset of individuals in their sample whose response patterns were not consistent with the IRT model. They then sought to examine if the Z_L statistic showed specific relationships to individual traits or if scalability was an “across-trait” characteristic. An examination of a correlation matrix of the trait-specific Z_L indices showed small positive correlations which averaged around .05. Thus, they inferred that the variation captured by the Z_L is largely trait specific.

Despite finding that the Z_L appeared to be primarily trait-specific, the authors sought to examine the idea that there may be an overall tendency to respond inconsistently with a measurement model. These authors thus aggregated individual Z_L scores across the eleven traits of the MPQ for each individual. These scores, which they labeled the “across-scales Z_L index”, or ASZ_L , were found to demonstrate positive relationships with the traits of Well-being and Control, and negative relationships with Stress-reaction, Alienation, and Aggression. This indicates that individuals experiencing stress, alienation, and aggression were more likely to show response patterns inconsistent with an IRT model. In addition, the positive relationship between Control and the ASZ_L indicates that individuals who are more impulsive produce more response

patterns which are inconsistent with an IRT model. Reise and Waller (1993) noted that this pattern demonstrates that “across-scale measures of item response pattern scalability are not independent of psychological status” (p. 150). This may be particularly important when considering the utility of this traitedness index in a more disturbed sample. Although the Z_L appears to be a sophisticated way to measure traitedness, Reise and Waller (1993) provided no evidence about its ability to moderate specific trait behavior relationships.

IRT-based person-fit statistics are defined as “indices that estimate the extent to which the responses of any person conform to the Rasch model expectation” (Bond & Fox, 2001). The IRT-based person-fit measure used in this study is called INFIT mean squares. It is based on the standardized squared residual values of a persons estimated response scores. That is, the residuals are the difference between an individual’s actual score and their expected score. If an individual with a high score (and scoring pattern) on Neuroticism was expected to endorse a neuroticism item scoring on the extreme end (e.g. a score of 4 on a Likert scale), and did not (endorsing a 0, or a 1), this would result in a large response residual ($0 - 4 = -4$). Bond and Fox (2001) describe the person fit calculation as follows, “each squared standardized residual value in the response string, say, the residual z_{ni} for each of the items encountered by person n , is weighted by its variance and then summed” (p. 176). To compute the INFIT measure, that total is divided by the total sum of the variances.

Temporal Response Pattern

Biesanz, West, and Graziano (1998; see also Biesanz & West, 2000) proposed a unique kind of measure of traitedness, one that was not based on cross-sectional measures of consistency, but rather on an individual's consistency of item responses over time. They suggested that rather than comparing an individual's response pattern with other individuals, an individual's response pattern should be compared with his/her own response pattern collected at later time points.

Biesanz et al. (1998) compared three traitedness moderators (interitem variability, scalability, and construct similarity), with their proposed moderator variable, temporal response pattern stability, as measures of the moderating relationship of self-peer agreement on the traits of Extraversion and Conscientiousness. Self, peer, and parent ratings were collected from undergraduates, who completed self-ratings of Extraversion and Conscientiousness at three separate time points. To measure temporal stability, first the normative response profile was subtracted from each assessment, and then the pattern of responses within each participant for each trait was correlated with each time point (participant response profile at time 1 with their own response profile at time 2; time 2 with 3, and time 1 with 3). The measure of temporal response pattern stability was computed by averaging the three pairwise correlations. They found that the interaction between temporally stable response patterns and self-reported trait level significantly predicted others ratings for the traits of Extraversion and Conscientiousness. Those that demonstrated higher temporally stable response patterns demonstrated higher self-other agreement than those with lower temporally stable

response patterns. They did not find evidence for similar moderating effects of construct similarity, scalability, or interitem variance.

In order to test the reliability of their results, Biesanz et al. (1998) decided to replicate their study a second time. The moderating effect of temporal response pattern stability was significant for Conscientiousness, and marginally significant ($p < .07$) for Extraversion. The other moderators tested, interitem variability, scalability, and construct similarity, were not significant in moderating self-other agreement for Extraversion or Conscientiousness. These authors suggest that understanding consistency may be a matter of understanding which individuals are consistent with themselves rather than attempting to assess which individuals are consistent when compared to others.

Methodological Issues in Traitedness Assessment

Table 1 demonstrates that different traitedness indicators do not tend to show clear patterns in their strength as moderator variables. A number of methodological issues have been discussed in reference to the traitedness concept that at least partially explains the lack of clear findings in previous traitedness research. A specific set of issues and limitations has been raised in reference to the assessment of traitedness which requires consideration. These include confounds between trait level and traitedness, problems with previous approaches to data analyses, and a lack of convergence among the hypothesized indicators; each of these will be reviewed in turn.

Confound of Trait Level and Traitedness Indicator

With the exception of IRT based methods and temporal response pattern scalability, most traitedness indicators have been criticized on the grounds that they are confounded by trait extremity. This has already been discussed in regards to self-ratings of consistency, which also suffers from additional problems (e.g. a questionable assumption about one's ability to self-assess consistency). However, ipsatized variance index, the interitem variance index, and scalability have also all been demonstrated to be potentially, but not necessarily, confounded by trait level and trait extremity to some degree.

Paunonen and Jackson (1985) found that the ipsatized variance index was significantly correlated with extremity (a mean correlation across several trait dimensions of $-.49$). Relative to the ipsatized index, the non-ipsatized index (interitem variance) did not fare as poorly; looking at several different trait dimensions in their analyses, they reported a mean correlation of the variance index to trait extremity of $-.21$. In exploring this relationship using polynomial regression, they found that the relationship was significantly quadratic in all of personality dimensions tested using the ipsatized variance index, which demonstrated the same curvilinear relationship that had been found for self-ratings of consistency with trait extremity. A polynomial regression investigating the quadratic effect with the non-ipsatized index, however, was significant for only 8 of the 20 traits they tested.

Bem and Allen (1974) attempted to account for trait level in their study by assigning participants to high and low variability groups after matching participants on

their global trait rating. Participants were placed in a high or low variability group based on where they fell in relation to the median for the global level of the trait that they had endorsed. Paunonen and Jackson (1985) attempted to replicate their results with global trait ratings as well as multiple-item measures of the traits for the 20 traits in their study. For the global trait rating, ten dimensions appeared to show higher self-peer convergence for the high self-rated consistency individuals than the low self-rated consistency individuals, but only one of these dimensions was statistically significantly larger for the high variability group. Using multiple item scales for the same dimensions did not yield any better results; there were significant differences between the high and low variability groups on their self-peer correlations for only two traits (Harm avoidance and Autonomy), and of these, only one (Autonomy) was in the predicted direction. Baumeister and Tice (1988) have responded that there may be some conceptual justification in allowing a small amount of overlap between the measurement of trait level and metatraits. They recommended that allowance of this confound is acceptable if metatraits are being used simply to discard untraited subjects. They stated that the extent of the confound should be assessed statistically if one desires to study both traited and untraited groups of a trait.

Traitedness as a Dimension versus Category

In their discussion of metatraits, Baumeister and Tice (1988) proposed that individuals either are or are not traited on a dimension. Individuals who do not possess a trait would not be predicted to show the same effects as individuals who do. In their discussion, they noted that their idea of meta-traits combines qualities of both a

continuum and a category. The categorical element refers to being untraited. According to Baumeister and Tice (1988), if an individual is untraited he/she lacks the trait. They state that “if you lack a certain trait dimension, you do not have varying degrees of that lack” (p.585). The element of a dimension, or a continuum, comes in terms of the presence of trait relevance. If an individual possesses a trait, the trait can vary in its degree of consistency and relevance. Following up on the hypothesis that individuals who do not possess a trait should not demonstrate predictable relationships between self-other ranking of a trait, Biesanz et al. (1998) investigated the idea that individuals with low levels of temporally stable response patterns would not show self-other agreement. An investigation of the slopes of the relationships between self-other agreement on Extraversion and Conscientiousness for low levels of temporally stable response patterns was significantly different in three out of the four tests. Thus, though individuals with higher temporally stable response patterns showed higher agreement, individuals with lower response patterns showed some agreement, which does not support the idea of a taxonic type difference between traited and untraited individuals for the traits of Extraversion and Conscientiousness.

Convergence of Indicators

In order for a measure to be considered a valid index of traitedness, the various operationalizations should demonstrate convergence with previously identified measures of traitedness and discriminant validity from theoretically independent variables. Paunonen and Jackson (1985) noted that given the number of consistency measures thus far proposed, evaluations of convergent and discriminant validity have not yet been

demonstrated. In addition, they noted that there has been a failure to consistently replicate moderator effects with specific traits. Indeed, Chaplin and Goldberg (1985) suggested that had Bem and Allen (1974) noted that each moderator which worked with one trait (e.g. self-rating with friendliness) did not work with the other trait (e.g. self-rating with Conscientiousness), their results might have been viewed as less confirming of their hypotheses about consistency. In an attempt to replicate Bem and Allen's study in a broader range of traits and with a greater range of self-report, other-report, and objective measures, Chaplin and Goldberg (1985) did not find consistently significant effects of three traitedness moderators (self-rated variability, ipsatized variance, and a consistency questionnaire) and, even more troubling for convergent validity, the three moderators they tested showed low convergence; mean correlations between the indices across eight traits tested ranged from $r = -.01$ to $r = .08$.

Alternative Explanations of Traitiedness Findings

In their discussions of the use of interitem variance as a measure of traitiedness, Baumeister and Tice (1988) and Tellegen (1988) noted that several things may impact interitem variance in addition to traitiedness variations. Careless responding may lead to the appearance on inconsistency, as can difficulty in reading or understanding specific items on a measure. Also, error is intrinsic in all systems of measurement (Reise & Waller, 1993). Tellegen (1988) and Britt and Shepperd (1999) both suggested that when using interitem variance as a measure of traitiedness, responses should be standardized. This is because a significant limitation of using raw scores in calculating the interitem variance is that raw item scores can give an inaccurate impression of consistent or

inconsistent responding. Tellegen (1988) suggested that results based on an unstandardized index are uninterpretable. By standardizing the item responses, the means and standard deviations for the items are appropriately accounted for when looking for consistent or inconsistent patterns of responding. Even with the standardization procedure, however, it is still important to assess the possible contaminating influences of reading difficulties, careless responding, and indicators of test invalidity which are independent of the traitedness explanation.

Methodological Limitations

In their review, Paunonen and Jackson (1985) noted that previous explorations of moderators of personality consistency can be criticized on both theoretical and statistical grounds. They note that a) moderator variables which are theoretically thought to be continuous are dichotomized (typically subjected to a median split), when personality variables are typically understood to be dimensional in nature (but for a different view, see Baumeister & Tice, 1988; Baumeister, 1991) b) separate regression equations which by their very nature do not include all of the participants reduces power, whereas inclusion of all individuals would provide greater power, and c) once created, these subgroups are not investigated for significant individual differences (e.g. differences in trait level). They (and others; see Tellegen, Kamp, & Watson, 1982) recommended moderated regression, and a review of their recommendations reveals that it addresses the above three criticisms. First, using moderated multiple regression does not force a dichotomy over a concept which is largely thought to be dimensional in nature. Second, the loss of power by the reduction of subjects is eliminated with the use of the entire

sample. Finally, and perhaps most importantly, the relationship between trait level and traitedness is dealt with statistically within the regression equation.

Using this methodology, Paunonen and Jackson (1985) tested the relationships between self-global rating and peer trait rating looking at self-rated consistency as a moderator, as well as the relationship between the aggregated trait scale and peer trait rating, using ipsatized variance ratio as a moderator. In both cases, results were not consistently supportive of a moderating effect of the traitedness measure. In the analysis of self-rated consistency, 14 out of 20 of the traits were in the predicted direction (increased consistency leading to greater prediction), but only one of these, affiliation, was significant. In the test of the ipsatized variance index, 11 out of 20 were in the predicted direction; harm avoidance was the only one that was statistically significant. The studies that have thus far been reviewed indicate that the effects of hypothesized traitedness moderators appears equivocal.

Normality versus Abnormality

In his response to Mischel's book, Alker (1972) speculated that one possible reason for greater situationally-specific than personality trait-specific effects may lie in the populations typically sampled. He suggested that individuals may vary in a situational-specificity variable. Based on a study by Moos and Daniels (1967, cited in Alker, 1972), he argued that situationally specific effects are greater for a "nearer to 'normal'" population than are found in a more disturbed population, because more normal individuals are more able to adapt to situational changes. What this suggests is that the degree of traitedness may be substantially influenced by the degree of

disturbance of the population, such that a more disturbed population will be less likely to adapt to situations. That is, “traitedness” in these individuals could indicate inflexibility of a type thought to be important indicator of personality pathology. Until this study, research on traitedness has not been completed in a more pathological sample. Studies in a pathological sample may see different implications of traitedness than would be observed in a normal, adaptable sample. The following section reviews the significant ties between personality traits and personality pathology, and presents a method used to test the implications of the concept of traitedness as a moderator of those relationships in a personality disordered sample.

Personality Disorders and Personality Traits

The assumption that maladaptive traits underlie personality disorder is evident in the DSM-IV Axis II section, where it is stated that personality traits are “enduring patterns of perceiving, relating to, and thinking about the environment and oneself that are exhibited in a wide range of social and personal contexts. Only when personality traits are *inflexible* and maladaptive and cause significant functional impairment or subjective distress do they constitute personality disorders” (1994, p. 630). In terms of contemporary classification, this is linked to the introduction of the DSM-III, when a separate Axis, Axis II, was introduced to indicate the qualitatively different aspects of disorders of personality from other, more state-based disorders. However, the idea that traits can lead to illness has a much greater history, and can be traced back as far as Hippocrates and Galen’s ideas about the effects of the four humors on illness (Maher & Maher, 1994).

Numerous empirical studies have examined the relationships between personality traits and personality disorder. The Five Factor Model (FFM), a model which is originated in studies of normal personality, has received considerable attention as it pertains to the personality disorders. The FFM suggests that normal personality traits are comprised of five primary factors, or domains (Neuroticism, Extraversion, Agreeableness, Conscientiousness, and Openness). Each broad domain is made up of six lower-order facets. Generally speaking, individuals who are high on a domain are presumed to be high on the lower-order facets of that domain (McCrae & Costa, 2003). When individuals score in the extreme levels of the domains and facets, they may be at an increased risk for certain personality disorders (Widiger, Trull, Clarkin, Sanderson, & Costa, 2002).

A key element of the FFM model is that it is rooted in the nomothetic tradition. That is, it is presumed to apply to all individuals. In the most recent edition of their book, *Personality and Adulthood*, McCrae and Costa (2003), in reference to their description of the FFM, note that “all of the traits that we are concerned with in this book are found in varying degrees in all people; with distributions that approximate the familiar normal curve”. McCrae and Costa (1997) published an article in *The American Psychologist* demonstrating that the factor structure of the FFM was similar across a diverse range of cultures (American, German, Portuguese, Hebrew, Chinese, Korean, and Japanese). In that paper they suggested that their study may have demonstrated that the structure of personality is universal across cultures. Since 1997, additional studies

have demonstrated replications of the model in additional cultures (for a review, see Chapter V, McCrae & Costa, 2003).

Each of the DSM personality disorders have been described in terms of the FFM (Widiger, Trull, Clarkin, Sanderson, & Costa, 1994; Widiger, Trull, Clarkin, Sanderson, & Costa, 2002). For example, individuals with Schizotypal personality have been hypothesized to be characterized by high levels of self-consciousness and anxiety, (both facets of Neuroticism), low levels of the Extraversion facets warmth, gregariousness, and positive emotions, maladaptively high levels of the Openness facets ideas, actions, and fantasy, and low levels of the Agreeableness facet, trust (Widiger et al., 2002).

When the second edition of *Personality Disorders and the Five-Factor Model of Personality* was published, Widiger and Costa (2002) reported that 56 studies had attempted to elucidate PD symptomatology using the FFM (for a review of these studies, see Widiger & Costa, 2002). The first of the studies to examine the FFM as it relates to PD was by Wiggins and Pincus (1989), who demonstrated the FFM showed strong relationships to conceptions of personality disorder in a sample of university students. Similarly, Costa and McCrae (1990) found that the FFM, measured by the NEO-PI in three separate normal samples showed correlations with personality disorder pathology.

Trull (1992) examined a group of psychiatric outpatients and found that the FFM was useful in conceptualizing the personality disorders. More specific examples from his study include the findings that the trait of neuroticism characterized most of the personality disorders, and that low levels of Extraversion characterized schizoid and Avoidant personality disorders as well as, to a lesser degree, Schizotypal and Obsessive-

Compulsive personality disorders. Low agreeableness also related to Borderline, Schizotypal, and antisocial personality disorders, among others. From their review, Widiger and Costa (2002) suggested that the research they reviewed “indicates strong support for understanding PD symptomatology as maladaptive variants of the personality traits included within the FFM” (p. 80).

Though a number of isolated studies have explored relationships between FFM traits and specific personality disorder diagnoses, there have been five comprehensive examinations that have explored relationships between the five-factor model of personality and several personality disorder diagnoses. Widiger et al. (2002) proposed specific hypothesized relationships between facets of the five-factor model and personality disorders. These hypothesized relationships were derived by reviewing descriptions of the 10 personality disorders in the DSM-IV (APA, 1994) and then translating these descriptions into FFM descriptions of the disorder. These hypothesized relationships can be seen in the first column of Tables 2a and 2b. As another method to assess relationships between FFM traits and PDs, Lynam and Widiger (2001) asked experts in the 10 DSM personality disorders to use the 30 facets of the FFM to rate the prototypic case of each personality disorder. The average interrater correlations ranged from .48 for Schizotypal to .66 for Obsessive-Compulsive personality disorder. The average corrected item-total correlation, which examines agreement between raters’ profiles and the composite profiles, ranged from .66 for Schizotypal to .80 for obsessive compulsive disorder. The second column of Tables 2a and 2b lists the consensus results of the most prototypic traits.

Table 2a. Findings of Five Different Personality Disorder Studies: Five Factor Traits Relevant to Schizotypal and Borderline Personality Disorder.

Trait/facet	Schizotypal Personality Disorder					Decision	Borderline Personality Disorder					Decision
	Widiger et al. 2002	Lynam & Widiger 2001	Trull et al. 2001	Dyce & O'Conner 2002	Morey et al. 2002		Widiger et al. 2002	Lynam & Widiger 2001	Trull et al. 2001	Dyce & O'Conner 2002	Morey et al. 2002	
Neuroticism			✓	✓			✓	✓	✓	✓	✓	✓
N1. Anxiousness	✓	✓	✓	✓		✓	✓	✓	✓			✓
N2. Angry Hostility			✓	✓			✓	✓	✓			✓
N3. Depressiveness			✓	✓			✓	✓	✓			✓
N4. Self-consciousness	✓	✓	✓	✓		✓		✓	✓			
N5. Impulsiveness							✓	✓	✓	✓	✓	✓
N6. Vulnerability			✓	✓			✓	✓	✓			✓
Extraversion	✓	✓										
E1. Warmth	✓	✓	✓	✓		✓			✓			
E2. Gregariousness	✓	✓			✓							
E3. Assertiveness												
E4. Activity												
E5. Excitement Seeking												
E6. Positive Emotion	✓	✓	✓						✓	✓		

Table 2a. Continued.

Trait/facet	Schizotypal Personality Disorder					Decision	Borderline Personality Disorder					Decision
	Widiger et al. 2002	Lynam & Widiger 2001	Trull et al. 2001	Dyce & O'Conner 2002	Morey et al. 2002		Widiger et al. 2002	Lynam & Widiger 2001	Trull et al. 2001	Dyce & O'Conner 2002	Morey et al. 2002	
Openness	✓		✓									
O1. Fantasy	✓		✓									
O2. Aesthetics												
O3. Feelings												
O4. Actions	✓											
O5. Ideas	✓	✓	✓									
O6. Values					✓							
Agreeableness												
A1. Trust	✓		✓	✓	✓	✓	✓		✓	✓		
A2. Straightforwardness												
A3. Altruism												
A4. Compliance												
A5. Modesty												
A6. Tendermindedness												
Conscientiousness												
C1. Competence				✓								
C2. Order		✓										
C3. Dutifulness												
C4. Achievement Striving												
C5. Self-discipline				✓								
C6. Deliberation												

Table 2b. Findings of Five Different Personality Disorder Studies: Five Factor Traits Relevant to Avoidant and Obsessive-Compulsive Personality Disorder.

Trait/facet	Avoidant Personality Disorder						Obsessive-Compulsive Personality Disorder					
	Widiger et al. 2002	Lynam & Widiger 2001	Trull et al. 2001	Dyce & O'Conner 2002	Morey et al. 2002	Decision	Widiger et al. 2002	Lynam & Widiger 2001	Trull et al. 2001	Dyce & O'Conner 2002	Morey et al. 2002	Decision
Neuroticism	✓		✓	✓					✓		✓	
N1. Anxiousness	✓	✓	✓	✓		✓		✓				
N2. Angry Hostility			✓	✓					✓			
N3. Depressiveness	✓		✓	✓					✓		✓	
N4. Self-consciousness	✓	✓	✓	✓	✓	✓			✓		✓	
N5. Impulsiveness		✓						✓		✓		
N6. Vulnerability	✓	✓	✓	✓		✓			✓		✓	
Extraversion	✓	✓	✓	✓	✓	✓					✓	
E1. Warmth			✓	✓								
E2. Gregariousness	✓	✓	✓	✓		✓						
E3. Assertiveness	✓	✓	✓	✓	✓	✓	✓				✓	
E4. Activity			✓								✓	
E5. Excitement Seeking	✓	✓	✓					✓				
E6. Positive Emotion		✓	✓	✓					✓			

Table 2b. Continued.

Trait/facet	Avoidant Personality Disorder					Decision	Obsessive-Compulsive Personality Disorder					Decision
	Widiger et al. 2002	Lynam & Widiger 2001	Trull et al. 2001	Dyce & O'Conner 2002	Morey et al. 2002		Widiger et al. 2002	Lynam & Widiger 2001	Trull et al. 2001	Dyce & O'Conner 2002	Morey et al. 2002	
Openness							✓					
O1. Fantasy												
O2. Aesthetics												
O3. Feelings							✓					
O4. Actions		✓					✓					
O5. Ideas							✓					
O6. Values							✓	✓				
Agreeableness												
A1. Trust			✓	✓								
A2. Straightforwardness												
A3. Altruism												
A4. Compliance					✓		✓					
A5. Modesty		✓			✓							
A6. Tendermindedness												
Conscientiousness							✓	✓	✓	✓	✓	✓
C1. Competence				✓			✓	✓	✓	✓	✓	✓
C2. Order							✓	✓	✓			
C3. Dutifulness							✓	✓	✓	✓	✓	✓
C4. Achievement Striving							✓	✓	✓	✓	✓	✓
C5. Self-discipline				✓				✓	✓			
C6. Deliberation								✓	✓	✓	✓	✓

O'Connor and Dyce (2002) presented results of a study in which they tested the original predictions made by Widiger et al. (1994) in a sample of 614 undergraduates. In addition to completing the NEO-PI-R, which measures domain and facet level scores of the FFM, the sample was administered the MCMI-III, which was used to obtain scores for the 10 personality disorders in the DSM-IV. They found that 63% of the Widiger et al. hypotheses were statistically significant. O'Connor and Dyce then used two different sets of regression analyses to predict personality disorder scores; the first set predicted PD scores from the FFM domains, and the second from the facet level scores. They found that the facet level analyses yielded better discrimination of the PD than had the domain level scores. Correlations which were a moderate effect size or larger are presented in Table 2.

In a sample of individuals diagnosed with specific personality disorders, Morey, Gunderson, Quigley, et al. (2002) tested the predictions that were originally proposed by Widiger et al. (1994) about which facets would be expected to be theoretically related to specific personality disorders. They found that both the domains and the lower-order facets differentiated individuals with personality disorders from a depressed control group as well as individuals with other personality disorders. However, the FFM appeared to do a better job of differentiating individuals with personality disorders from the depressed controls than from other specific personality disorder groups. Certain traits did appear to be uniquely related to individuals with certain personality disorders. For example, individuals with Borderline PD scored higher in overall Neuroticism and the Neuroticism facet, Impulsiveness, than the other personality disorders which were

studied. Specific facets and domain scores which differentiated specific personality disorders by a moderate effect size or greater are noted by a check-mark in Table 2.

Trull, Widiger, and Burr (2001) administered an interview-based measure of the FFM (Structured Interview for the FFM; SIFFM) and the *Personality Diagnostic Questionnaire-Revised* (PDQ-R; Hyler et al., 1990) to a combined undergraduate (n = 187) and outpatient (n = 46) sample to assess the ability of the interview-based measure to predict personality disorder symptomatology. Bivariate correlations between the PDQ and the SIFFM from their study that attained a moderate effect size or greater are presented in Table 2. Cohen stated that the effect size of correlations above .30 is moderate, and above .50 is large.

Looking at Table 2 reveals some interesting patterns of consensus among the five studies. For example, the facets of neuroticism show consistent relationships with Borderline personality disorder, including all five of the examined studies showing the importance of impulsivity in Borderline. Traits which tend to be related to Schizotypal Personality Disorder show consistent relationships in at least one facet in each domain except Conscientiousness. Across the five studies, facets of Neuroticism and Extraversion consistently characterized Avoidant Personality Disorder, whereas Conscientiousness was the only domain with facets that showed consistent relationships to Obsessive-Compulsive Personality Disorder.

In contrast to the patterns of clear agreement, for each personality disorder examined in this study, there is also a significant pattern of disagreement of findings among the studies. For example, looking at the study results for Borderline Personality

Disorder shows that whereas there were consistent findings in the Neuroticism facets, seven facets spanning other facets (e.g. Warmth, Positive Emotions, and Self-Discipline) were found to be significant in at least one but fewer than three of the studies which explored these relationships. In fact, for each disorder there were about as many facets which were found to show consistency across studies (defined by at least 4 out of 5) as there were facets for which there were not consistent relationships across all studies (at least 1, but less than 3 studies establishing the relationship). Though the FFM shows clear and consistent relationships between certain traits and certain disorders, the absence of consistent findings for some of the traits which have been thought to relate to specific disorders is illustrative of particular areas of difficulty in the applicability of the FFM to the study of personality disorders. The following section addresses some of these limitations.

Five-Factor Model of Personality and Personality Disorders: Research Issues

A number of authors have discussed the limitations of the FFM's applicability to personality disorders. These include problems with the model in differentiating personality disorders, problems confirming specific hypothesized relationships between diagnoses and FFM personality traits, and the ability of the model to capture all of the salient aspects of personality disorder pathology. The following section discusses each of these in turn.

Ability of Five Factor Model to Differentiate Among Disorders

Despite numerous studies indicating the potential of the FFM in understanding PDs, criticisms about the efficacy of the model have been raised. First, whereas there is

evidence that individuals with personality disorder can be distinguished from a normal population using the five factors, it is not clear that diagnostic categories are distinguishable by their average domain scores. Using a sample of individuals with personality disorders, Morey, Gunderson, Quigley, and Lyons (2000) demonstrated that individuals with personality disorders could be differentiated from a normal population on the basis of the five domains of the FFM. However, the configurations for the different personality disorders tended to show very similar patterns. All personality disorders tended to be characterized by high Neuroticism, low Extraversion, average Openness, and low Agreeableness and Conscientiousness. Thus, the domains, though able to differentiate a pathological from a normal sample, were less able to differentiate between the disorders.

It has been argued that an examination of the five factors at the facet level provides a more fine grained analysis of personality traits which should lead to better differentiation of personality disorders. Morey et al. (2002) followed up their initial study by testing the predictions suggested by Widiger et al. (1994) about which facets would be expected to be theoretically related to specific personality disorders in a larger sample of individuals with personality disorder. Their findings were similar to their earlier study. Both the domains and the lower-order facets differentiated individuals with personality disorders from a depressed control group as well as individuals with other personality disorders. However, the FFM appeared to do a better job of differentiating individuals with personality disorders from the depressed controls than from other specific personality disorder groups. As they had in the previous study, the

four different disorders studied appeared to share the same general configural patterns of both the domains and the facets. Thus, though this research clearly demonstrated relationships between the FFM and PD, the FFM has not yet demonstrated an ability to clearly differentiate between different disorders. Some have suggested that when evaluating a trait-based model of PD, it is important to remember that the DSM diagnostic categories suffer from significant limitations, including significant overlap between the disorders. Thus, while one explanation for the lack of the ability to differentiate the PDs may lie with the FFM, an important alternative explanation may be that findings reflect the overlap between the disorders, an issue which has been raised as a significant problem with the PD construct.

The addition of examinations of traitedness may serve to clarify some of the limitations in differentiating specific personality disorders using the FFM. It is possible that specific personality disorders are made up of specific patterns of FFM facets, but that individuals with different diagnoses may have a specific pattern of traits which are more relevant to their daily lives and behaviors than individuals with a different diagnosis. For example, consider an individual with Borderline PD, versus an individual with Schizotypal PD. Using the FFM, both individuals may score in the low range of the Extraversion facet warmth. However, being low-warmth may be especially pertinent to the daily functioning of Schizotypal. This individual may avoid interpersonal interactions, may not approach others, and may appear cold and aloof. In contrast, an individual with Borderline may receive the same score, but find that this trait is less consequential to their daily functioning. Adding indicators of traitedness, which would

measure the degree to which the trait impacted cross-situational consistency, may serve to improve differentiation of these disorders. The disorders, though they show the same general pattern when viewed nomothetically, may appear different when a traitedness moderator is added to prediction.

Haigler and Widiger (2001) commented on a different problem with the FFM descriptions of personality disorders. They noted that certain theoretically based predictions about the relationships between traits and disorders had not been confirmed. Examples of these included the relationship between Obsessive-Compulsive personality disorder and the trait of Conscientiousness, and Schizotypal personality disorder with Openness. Haigler and Widiger (2001) suggested that one reason for these findings may have been due to a greater emphasis on the adaptive aspects of Openness and Conscientiousness relative to the maladaptive aspects of these traits. To test this idea, these authors altered the items of the NEO-PI-R such that items judged to be reflecting adaptivity were altered towards maladaptivity, and vice versa. For example, the adaptively judged agreeableness item “I believe that most people are basically well-intentioned” was rewritten to “I tend to be gullible regarding the intentions of others”. Thus, the relative levels of adaptivity to maladaptivity of the original NEO items were reversed. Haigler and Widiger tested the idea that a broader range of maladaptivity would improve hypothesized relationships between the traits and PD. Using a sample of adults in psychotherapy they found that correlations between the five factor domains measured by the original version of the NEO-PI-R and measures of personality disorders were consistent with previous research; correlations between those traits which have not

been demonstrated in earlier research (e.g. Conscientiousness with Obsessive-Compulsive personality disorder) were not confirmed. However, when these measures of personality disorder were correlated with the altered version of the NEO, these hypothesized relationships were confirmed. By representing greater degrees of extremity in the levels of a trait, the FFM was able to capture more personality disorder pathology.

Increasing the degree of extremity in the measure appeared to improve prediction. But, given what we know about the overlap between traitedness indicators and extremity, it is possible that the improvement observed in the Haigler and Widiger (2001) study reflects both the addition of a broader assessment of maladaptivity, as well as capturing traitedness variation. As Bem and Allen (1974) first pointed out, individuals may differ in their perception of what behaviors are relevant to a specific personality trait. By increasing the breadth of the options available to respondents, individuals are given more opportunity to respond to different behaviors which they may consider trait-relevant. For example, revising the items to reflect a wider range of adaptivity/maladaptivity likely led to an increased opportunity for individuals to indicate the extent to which specific traits are consequential in their life.

Ability of the Five Factor Model to capture all of a Personality Disorder Diagnosis

Another question which has been raised about the FFM's applicability to personality disorders is whether the model can capture all salient aspects of a personality disorder diagnosis. Morey and Zanarini (2000) demonstrated that the FFM was significantly related to a diagnosis of Borderline personality disorder, but also found that

the FFM did not capture all valid aspects of the Borderline diagnosis. The variance of the Borderline diagnosis which was not predicted by the FFM was correlated with a variety of other theoretically related variables hypothesized to relate to the Borderline diagnosis, including all content areas of the Revised Diagnostic Interview for Borderlines (DIB-R; Zanarini, Gunderson, Frankenburg, & Chauncey, 1989). These four areas were affect, cognition, impulse action patterns, and interpersonal relations. What these findings suggest is that while the FFM contributes a significant part of understanding of the Borderline diagnosis, there are key elements of the diagnosis which are not represented by the model. It is interesting to note that though there was a significant percentage of the Borderline diagnosis not captured by the FFM, the FFM was a better predictor than the residualized variance of both two and four year outcome, indicating that the personality trait element of the diagnosis is significant in predicting long-term outcome. Thus, a finding that individuals may differ in the degree to which a trait is relevant would lead one to hypothesize that for those individuals more traited on Neuroticism, they should show a stronger relationship to later diagnostic status.

The issue raised by Morey and Zanarini (2000) suggests a difficulty in capturing the full range of information provided by a PD diagnoses. It is important to note that the personality model being tested in all of these examples is understood to be nomothetic. That is, there is an implicit assumption made in all of these studies that the traits under examination fit equally well to all of the people in the sample. Though levels of a trait are clearly important in terms of understanding personality pathology, this aspect of the trait may not be the only relevant piece of the puzzle. It is also possible that the degree

to which this trait is relevant to the individual will also affect the relationship between traits and measures of a disorder. An individual's responses to an assessment measuring PD reflect both behaviors and functioning which should relate to relevant traits. As was mentioned in the discussion of traitedness, measures of traitedness are typically significantly confounded with trait level. Thus, what we may be observing with significant findings is not only the importance of specific traits, but the importance of these traits in individuals for whom the trait is most relevant.

Morey and Zanarini's (2000) findings that the FFM was the best predictor of two and four-year outcome may also reflect, in addition to the role of the specific traits, the importance of traitedness. Presumably, individuals who had stable diagnoses of personality disorders were consistent in terms of their levels of underlying traits as well as the impact of these traits on their lives. If the assumption that traits are the underlying mechanism for the symptoms of personality disorders is true, then individuals most traited on relevant traits (that is, for whom these traits are most relevant) should show the least diagnostic change/greatest diagnostic stability. More specifically, traitedness serves as a means to identify "true" or valid cases of PD from ones which may be less valid. Less valid PD cases would be identified by problems in the applicability of supposedly relevant personality traits to particular disorders; theoretically, individuals for whom these traits are less relevant would not show the same relationship to measures of disorder. Similarly, those most traited on relevant traits should also show the greatest effect of those traits on their functioning, in the direction of these traits being more problematic for these individuals. The union of clinically and statistically significant

nomothetic ideas about the traits and personality disorder, combined with the idiographic principle that individuals may differ in the relevance of different traits, may serve to further clarify the relationships between traits and disorder, especially in terms of how the traits impact diagnostic stability and functioning, two key components of a personality disorder diagnosis..

In this study, the relationship of traitedness of specific, personality disorder-relevant traits to the stability of specific Axis II diagnoses at a later time point were investigated in order to further explore the idea that maladaptive traits, in individuals traited on these traits, are a principal underlying etiological factor in the maintenance of personality disorder. If traits differ in their relevance, or traitedness, in different individuals, then the impact of these traits on personality disorder consistency should also vary. For example, it has been hypothesized that Borderline personality disorder is largely characterized by elevations on the personality trait of Neuroticism. It would be presumed that those individuals who are most traited on Neuroticism would show the least remission of Borderline symptomatology. Traitdness theoretically is designed to predict the relevance of a trait to an individual's functioning; thus, traitedness on neuroticism should predict consistency of Borderline status. To further elucidate the issue of the effects of trait relevance on personality disorder symptomatology, tests of the impact of traitedness of disorder relevant traits on individual cross-situational variability across three different domains of functioning (work, interpersonal, and leisure) were explored. This provided a test of Bem and Allen's (1974) initial

proposition that people who are “traited” on situationally relevant traits will be more cross-situationally consistent than individuals who are less traited.

Thus, the specific aims of this project were to:

- 1) Examine the convergence of the various operationalizations of traitedness
- 2) examine if traitedness of disorder-relevant traits moderates the consistency of personality disorder diagnoses
- 3) test if individuals traited on personality domains which are relevant to a particular disorder show stronger relationships to cross-situational consistency of functioning across three domains of functioning than individuals not traited on relevant domains.

METHOD

Participants

Participants were 668 patients recruited from multiple clinical settings by four different primary study sites: Mclean Hospital (Belmont, MA; 190 patients), Yale Psychiatric Institute (New Haven, CT; 162 patients), New York State Psychiatric Institute (New York, NY; 161 patients), and Brown University (Providence, RI; 155 patients). The largest percentage of patients were from outpatient clinics (43%) and a minority are from inpatient sites (12%). Recruitment was targeted for four of the DSM-IV personality disorders: Avoidant, Borderline, Obsessive-Compulsive, and Schizotypal PD. Major depressive disorder was selected to serve as a psychiatric comparison group. The study was limited to these four personality disorders because they are phenomenologically distinct and are divergent clinically, conceptually, and have different empirical bases. Disorders were selected from each DSM cluster, and also on the basis of results found in prior factor analytic studies. These studies tend to support the three factor structure of Axis II criteria that are reflected by the three clusters, but they also have identified a fourth factor which consists of obsessive personality features consistent with OCPD (e.g. Zimmerman & Coryell, 1989). These studies indicate that Obsessive-Compulsive personality disorder merited inclusion in the study as it may be distinct from other personality disorders in cluster C. Because of potential confounding of the assessment, patients with a history of schizophrenia, organic mental disorder, substance intoxication or withdrawal, or mental retardation were specifically excluded.

The sample was 64% female; 76% of participants were Caucasian, and the average age was 32.7 (s.d. = 8.1).

Measures & Procedures

The primary clinical instrument used to assess diagnoses of personality disorder was the Diagnostic Interview for DSM-IV Personality Disorders (DIPD-IV). The DIPD is a semi-structured clinical interview evaluating the presence of 12 DSM-IV personality disorders. Each criterion is assessed by one or more questions, the answers to which are rated on a three-point scale (0 not present; 1 present but clinically insignificant; 2 definitely present). Traits identified as present must have been present for at least the previous 2 years, and characteristic of the individual in order to count towards diagnoses. Published reliability of the DIPD from studies using the same sample demonstrates that the DIPD demonstrates high interrater (range of kappa = .68 for Borderline to .73 for Avoidant PD) and test-retest reliability (.69 for Borderline personality disorder to .74 for Obsessive-Compulsive personality disorder; Shea, Stout, Gunderson, et al., 2002). The NEO-PI-R (Costa & McCrae, 1992) is a 240 item self-report inventory which assesses the five-factor model of personality. The five domains measured are Neuroticism (N), Extraversion (E), Openness to Experience (O), Agreeableness (A), and Conscientiousness (C). Each domain is defined further by 6 facet scales and items are rated for applicability on a five point Likert scale. The Social Adjustment Scale (SAS-SR) was originally designed as a clinical interview to assess different domains of functioning across three areas, which include work, leisure, and interpersonal functioning (with extended family, marital partner, children, and relationships within the

family unit). The self-report scale was developed to assess these same areas and has demonstrated convergence with the interview measure. Items are scored on a five-point Likert scale, higher scores suggestive of poorer functioning.

Follow-up assessments: Subjects were interviewed at 6 months, one year, two years, and three years following the baseline assessment. The stability of each of the four personality disorders was assessed using a modified version of the DIPD-IV, the DIPD-FA. The DIPD-FA is completed by an interviewer, and the interviewer records the presence or absence of each DSM criterion for each month of the follow-up interval. For example, at the one year assessment, the interviewers asked individuals if they experienced any of the symptoms in each of the six months that had passed. Attempts were made to have the follow-up interviews conducted by the initial interviewer whenever possible. Each criterion was rated (0, 1, or 2, as above) for each month of the intervals between assessments for each DIPD-IV criterion.

Traits selected for use in the analyses

The selection of the traits which are hypothesized to relate to specific personality disorders was based on a review of the five comprehensive studies of the applicability of the FFM on personality disorders mentioned above. Results from these five studies are presented in Tables 2a and 2b; domains and facets for which at least four out of the five studies found significant results with the selected personality disorders will be tested. One study provided hypotheses about which facets related to specific PDs, but did not provide estimates of domain-level relationships. Following upon the logic originally presented by Morey et al. (2000), we aggregated the facet-level predictions into domain

level predictions if a preponderance of the facets for a specific disorder scored in a specific direction. A preponderance was defined by at least three facets elevated in the same direction; if some facets scored in one direction, and one or more in the opposite direction within a particular domain, the difference score would need to be at least three for the domain to be included.

The first set of relationships represented by the first column for each PD in the table are based on the relationships between specific facets and personality disorders that were proposed by Widiger et al. (2002). The second column of facet and domain level relationships is a reproduction of findings reported by Lynam and Widiger (2001) which was based on their expert consensus approach, the third column notes significant personality trait to disorder results reported by Trull et al. in their investigation of the interview based measure of the FFM. Dyce and O'Conner's results of their investigation of trait-disorder relationships is in the fourth column, and the Morey et al. (2002) findings, based on the same sample as will be investigated in this study, are presented in the fifth column of the table. The sixth column for each specific personality disorder reflects which traits were consistently found to relate to each personality disorder; these traits which consistently related to specific PDs will be tested in the proposed study. The traits which were consistently related to each personality disorder across at least four studies are summarized below in Table 3.

Table 3. Summary of Five Factor Model Traits Tested in Regression Equations.

Schizotypal Personality Disorder Traits	Borderline Personality Disorder Traits	Avoidant Personality Disorder Traits	Obsessive-Compulsive Personality Disorder Traits
Anxiousness (N1)	Neuroticism	Anxiousness (N1)	Conscientiousness
Self-Consciousness (N4)	Anxiousness (N1)	Self-Consciousness (N4)	Competence (C1)
Warmth (E1)	Angry Hostility (N2)	Vulnerability (N6)	Dutifulness (C3)
Trust (A1)	Depressiveness (N3)	Extraversion	Achievement Striving (C4)
	Impulsiveness (N5)	Gregariousness (E2)	
	Vulnerability (N6)	Assertiveness (E3)	

Computation of Traitedness Variables

Four different traitedness indicators were explored in this study: interitem variance, construct similarity, temporal response pattern stability, and Infit-Mean Squares, the IRT based measure of person fit. Traitdness estimates were calculated based on those traits that were hypothesized to relate to the four personality disorders, summarized in Table 3. Computations of each of the traitedness estimates are described below.

Interitem Variance

For each trait, interitem variance scores were calculated by averaging the raw item level responses for each participant on each trait scale. After this mean score was calculated for each participant, the variance for each participant was computed based on the variability of the item responses. For example, if participant A answered 8 items on Anxiousness, the item mean was calculated (total Likert response value/8).

Variance around that mean was then computed for each participant for each scale of interest. Following computation of the interitem variance scores for each participant on each trait, the interitem variance values were standardized. Standardization of the

variables served to place all of the traitedness estimates to be placed on the same scale. Interitem variance estimates were re-scaled so that higher scores would indicate higher levels of traitedness.

Construct Similarity

Construct similarity was computed by first calculating the sample's mean response to each raw item score for the NEO-PI-R. Raw scores were used so that participants typical variability in response patterns would be reflected in the calculation on which each participant's construct similarity score would be based. The data were then transposed, and each participant's pattern of raw responses on each trait scale was correlated with the sample mean pattern of responses for the same trait scale. Construct similarity scores are the correlations of the participants pattern of item responses with the group mean pattern of item responses on each trait; larger construct similarity estimates indicate higher traitedness. After the construct similarity estimates were calculated, they were standardized so that all traitedness estimates would be on the same scale.

Temporal Response Pattern Stability

Participants' temporal response pattern stability estimates were calculated by first transposing the data set, and then correlating each participant's pattern of item responses for the relevant scales among three time points. Raw scores of the item responses were used for the computation of the correlations between each time points. Personality data were utilized from the baseline NEO-PI-R (Costa & McCrae, 1992), and the six-month and one-year administration. For example, a participant's responses on the Extraversion

items at baseline were correlated with his/her responses at six months and one year, and six month responses and one year responses were also correlated, a total of three consistency correlations. These three correlations were then averaged to compute each participant's estimate of temporal response pattern stability for each trait of interest, higher correlations indicated higher traitedness estimates. After the correlations between the three time points were averaged, participants' temporal response pattern traitedness estimates were standardized.

Person Fit

Person-fit estimates were computed using WINSTEPS 3.55 (Linacre, 2005). WINSTEPS is Rasch modeling software which allows the calculation of infit-mean square estimates. Raw scores for the specific items from each trait scale of interest were entered into the program in order to obtain the person-fit estimates. After person-fit estimates were calculated, the estimates were standardized. Higher person-fit scores indicated less traitedness, so person-fit estimates were re-scaled such that higher scores indicated better fit.

Dependent Variables

Two year Diagnostic Consistency and Cross-situational Consistency of Functioning

DIPD scores for the personality disorders at the 2 year follow-up are the dependent variable for personality disorder temporal consistency. DIPD scores are based on the number of criteria for the specific diagnoses participants met at the baseline and two-year assessment points. Cross-situational consistency of functioning was based on participants' inter-scale consistency across estimates of functioning in different

situations. The standard deviation around participants' mean total functioning score was computed using the mean scores for the three different areas of functioning (work, interpersonal, and leisure) as the sources of variability. These functioning scales used for the consistency measure and the three separate domains of the Social Adjustment Scale (Weissman & Bothwell, 1974). The three domains of functioning that were used in this study to compute the cross-situational consistency measure were work performance, social and/or leisure activities, and family relationships. Higher scores are associated with poorer functioning. Once the cross-situational index of functioning was computed, it was reverse coded such that the greater the value, the greater the cross-situational consistency in functional impairment.

Analyses

Four-step hierarchical regression analyses were used to test the moderating effects of response consistency, or traitedness, upon trait-consistency relationships in this study. This approach to exploring the moderating influence of traitedness was modeled after suggestions made by Tellegen, Kamp, and Watson (1982), who suggested that the optimal way to remove confounding influences on moderator effects is in the ordering of the predictors in the regression. To achieve this, they noted that it is essential to include in the initial steps the predictors independently (X,Z), followed by the product, or interaction, which is the moderator effect (XZ). A series of regressions were completed in which the baseline personality disorder symptom count was entered as the first step, followed by participant level on different traits relevant to the disorder in question. This is then followed by entry of the traitedness estimate, in the third step,

as well as the interaction of trait level by baseline disorder status. The fourth step is the step of interest for the tests of the traidedness moderating diagnostic consistency, and includes the interaction of traidedness by baseline status as well as the interaction of trait level by traidedness on that trait, to assess if the contribution of these interactions moderates diagnostic consistency of the disorders.

As an example, consider the hypothesized relationship of the trait of Neuroticism to Borderline PD. Because at least four of our five comprehensive studies (and, in fact, five of five) found that Neuroticism and Borderline are significantly related, the moderating effect of our traidedness indicators on the relationship between Neuroticism and later Borderline status was tested. An example of the Tellegen et al. (1982) four-step regression model using 2 year Borderline status as a dependent variable, and traidedness on Neuroticism as a moderator, is presented in Table 4. Individuals who are traided on Neuroticism were hypothesized to show less change in status (due to being “traided”, or more predictable on the trait) than individuals who are not traided on Neuroticism.

Table 4. Example of Hierarchical Regression Analysis Testing Moderator Effect.

Step	
1	Borderline PD at baseline
2	Neuroticism
3	Neuroticism Traidedness, Borderline X Neuroticism
4	Neuroticism Traidedness X Borderline at baseline, Neuroticism Traidedness X Neuroticism

Cross-situational consistency of functioning was tested using the first three steps of the same regression models. Entering baseline status and trait level prior to the main

effect for traidedness removed the confound of trait level from the traidedness estimates, and allowed the assessment of the main effect of traidedness above baseline diagnosis scores and trait level scores in predicting cross-situational consistency of functional impairment. Regression equations were completed using the same set of hypothesized traits discussed earlier that have been demonstrated to be related to each of four the personality disorders. The regressions test the theory that individuals who are more traided on traits relevant to these diagnoses will be more consistent in functional impairment across different areas of functioning

Following upon recommendations made by Friedrich (1982), all of the variables were standardized after the traidedness estimates were calculated and the trait levels and DIPD scores were computed. Interaction terms were then computed based on standardized product terms. Standardizing the variables allows each independent predictor to be interpreted as “the average regression on the criterion on the predictor across the range of the other predictors” (Cohen et al., 2003). Centering also reduces the influence of multicollinearity (Aiken & West, 1991).

RESULTS

Convergence of the Traitedness Variables

In order to assess the extent of similarity of the four operationalizations of traitedness, correlations among the four traitedness indicators were calculated for the five domains on the five factor model. Table 5 presents the bivariate correlations for each pair of traitedness variables on each of the five domains. For example, the first row demonstrates the relationship between the Neuroticism interitem variance and Neuroticism construct similarity traitedness estimates, followed by the relationship between Extraversion interitem variance and Extraversion construct similarity traitedness estimates, and so on. A Bonferroni correction accounting for the number of traitedness indicators explored was used to reduce the risk of Type I error; thus a p value of less than 0.0125 (0.05/4 traitedness indicators) was required to meet the criterion for statistical significance.

Table 5. Bivariate Correlations of Domain-level Traitedness Indicators.

	Neuroticism	Extraversion	Openness	Agreeableness	Conscientiousness
IIV with CS	0.10**	0.04	0.17**	0.03	-0.12**
IIV with TR	0.11**	0.17**	0.26**	0.16**	0.08
IIV with PF	0.72**	0.83**	0.76**	0.83**	0.79**
CS with TR	0.40**	0.33**	0.36**	0.36**	0.31**
CS with PF	0.39**	0.33**	0.26**	0.29**	0.30**
TR with PF	0.15**	0.17**	0.11	0.12	0.10

p < 0.01; IIV = Interitem Variance; CS = Construct Similarity; TR= Temporal Response Pattern Similarity; PF = IRT-based measure of Person Fit.

As can be seen from Table 5, although there was considerable variation in their magnitude, virtually all of correlations were positive, suggesting the traitedness

estimates are measuring something in common. The correlations between interitem variance and construct similarity showed statistically significant positive relationships for the traits Neuroticism and Openness; the sole negative relationship was found between the two estimates of Conscientiousness traitedness. Interitem variance demonstrated a fairly small but consistent pattern of similarity to temporal response pattern similarity, with a statistically significant relationship for four out of the five traits on which the two traitedness estimates were related. Interitem variance showed the strongest relationship to the person-fit measure of traitedness. Interitem variance on all five of the five factor model traits were highly correlated with the matching person fit measure on the same trait. These correlations ranged in size from 0.72 for Neuroticism to 0.83 for Extraversion and Agreeableness.

Though not of the same magnitude, person-fit also showed consistently positive relationships to construct similarity across the five traits on which the traitedness measures were related ($r = 0.26$ to $r = 0.39$, $p < 0.01$). Correlations between temporal response pattern and person-fit traitedness estimates demonstrated some small positive relationships with convergence in the measurement of Neuroticism and Extraversion traitedness, but did not demonstrate statistically significant relationships on the other traitedness domains. Finally, construct similarity and temporal response pattern stability were consistently related on all five of the traits explored, with correlations ranging from $r = 0.31$ to $r = 0.40$, $p < 0.01$.

Relationship between Trait Level and Traitedness Indicators

One of the major critiques of traitedness research is that traitedness indicators have been demonstrated to be correlated with trait extremity and trait level (e.g. Paunonen and Jackson, 1985). Bivariate correlations were computed to explore the extent to which the four traitedness indicators tested in this study were related to trait level and trait extremity. To reduce the risk of Type I error, a Bonferroni correction was used to correct for the number of independent traitedness variables tested, thus a p-value of .0125 ($0.05/4$ traitedness variables) was required to meet the criterion for statistical significance. Trait extremity was measured by calculating the absolute value of participants' Z-scores for the five domains. As mentioned above, traitedness variables have all been scaled such that higher scores indicate higher levels of traitedness; lower scores indicate less traitedness. Results of these analyses can be seen in Table 6.

Table 6. Relationship of Traitedness Indicators with Trait Level and Trait Extremity.

	Trait Level	Trait Extremity
Interitem Variance Traitedness		
Neuroticism	0.06	0.19**
Extraversion	-0.06	0.02
Openness	0.25**	0.04
Agreeableness	0.30**	-0.10**
Conscientiousness	0.01	0.06
Construct Similarity Traitedness		
Neuroticism	0.10**	-0.21**
Extraversion	-0.14**	-0.15**
Openness	0.31**	-0.08
Agreeableness	-0.05	-0.15**
Conscientiousness	0.00	-0.16**
Temporal Response Pattern Stability Traitedness		
Neuroticism	-0.04	-0.10
Extraversion	0.00	0.01
Openness	0.28**	-0.06
Agreeableness	0.14**	-0.05
Conscientiousness	0.02	0.02
Person-fit Traitedness		
Neuroticism	-0.29**	-0.16**
Extraversion	-0.05	-0.26**
Openness	-0.13**	-0.18**
Agreeableness	0.05	-0.25**
Conscientiousness	-0.08	-0.33**

** $p < 0.01$

For three out of four of the traitedness indicators, interitem variance, construct similarity, and temporal response pattern, traitedness estimates were positively correlated with Openness scores, suggesting individuals who are more traited on Openness also tend to have higher levels of Openness.

Interestingly, both the construct similarity traitedness estimates and the IRT based person fit estimates demonstrated consistently negative relationships with trait extremity. Construct similarity was negatively associated with extremity on four of the five domains (Neuroticism, $r = -0.21$, $p < 0.01$; Extraversion, $r = -0.15$, $p < 0.01$;

Agreeableness, $r = -0.15$, $p < 0.01$; and Conscientiousness, $r = -0.16$, $p < .01$), suggesting that individuals scoring in the more extreme ranges of these traits are least traited on these traits.

Like the construct similarity traitedness estimate, the person-fit measure of traitedness was negatively associated with extremity on all of the five domains, suggesting that individuals that had the highest and lowest scores on the domains were the least traited, or the most poorly fitting to the IRT model.

Because of factors associated with regression to the mean in repeated measurement, it is possible that trait extremity could influence the measure of temporal response pattern stability. The non-significant relationships between trait extremity and temporal response pattern stability shown in Table 6 suggest that regression of the mean did not in fact negatively impact the measure of temporal response pattern stability.

Moderating Influence of Traitedness on Personality Disorder Consistency

Borderline Personality Disorder

The results of the hierarchical multiple regression testing the moderating relationship of traitedness on traits relevant to Borderline personality disorder to Borderline personality disorder status at two years are presented in Table 7. Six target traits and their respective traitedness estimates for each of these traits were examined: Neuroticism, Anxiousness, Angry Hostility, Depressiveness, Vulnerability, and Impulsiveness. These traits, and the details of the steps of a series of regression equations, are listed in the first column of Table 7. The rows of the table are divided

into four major sections, one for each trait. Four regression models were completed for each trait, one regression for each of the four traidedness estimates for each trait.

The columns in Table 7 reflect the results of regression analyses for the four different traidedness estimates. Thus, there were 24 total regression equations exploring the moderating relationship of traidedness to Borderline consistency, testing the moderating effects of the four traidedness variables on each of the six relevant traits (1 domain and 5 facets), to examine the consistency of diagnostic status of Borderline PD. The first step of the model tests for the predictive effect of the baseline personality disorder. Entering baseline PD status in the first step effectively partials out the baseline score from the dependent variable, which is 2 year status on the personality disorder. The resulting interpretation of the dependent variable, 2 year PD status, is the extent to which participants maintained their relative placement on the diagnosis as they had at baseline, or if this changed. The trait level predictor is the second step of interest. Entering the trait level removes the potential of a confounding influence of trait level on the entry of the traidedness indicator, which is entered at the third step. Also entered in the third step is the interaction between baseline PD and trait level to account for any incremental variance this effect might add to the model prior to entering the traidedness x baseline PD interaction. Step 4 includes both the traidedness by baseline PD interaction, and the traidedness by trait interaction. Significant effects of the moderating effects of traidedness in predicting personality disorder consistency are found in step 4. It is important to note that the first step for 24 regressions testing the moderating effect of the traidedness indicators of baseline Borderline PD to Borderline PD at 2 years is always

Table 7. Borderline Personality Disorder Consistency: Summary of Hierarchical Regression Analyses Testing Moderating Effects of Trait-ness Estimates.

<i>Borderline PD</i>	Interitem Variance			Construct Similarity			Temp. Res. Pattern Stab.			Person fit		
	Part Corr	R ²	Effect Size f ²	Part Corr	R ²	Effect Size f ²	Part Corr	R ²	Effect Size f ²	Part Corr	R ²	Effect Size f ²
Neuroticism (Neur)												
1. BPD	0.483**	0.353**	0.37	0.478**	0.353**	0.36	0.451**	0.314**	0.30	0.480**	0.353**	0.36
2. Neuroticism	0.074*	0.360*	0.01	0.079*	0.360*	0.01	0.061	0.319	0.01	0.088*	0.360*	0.01
3. Neur. Trait-ness	0.016	0.361	0.00	-0.033	0.361	0.00	0.016	0.320	0.00	0.016	0.361	0.00
BPD x Neur.	-0.024		0.00	-0.013		0.00	-0.034		0.00	0.012		
4. Neur. Trait-ness x BPD baseline	0.073*	0.367 [†]	0.01	0.028	0.362	0.00	0.068	0.327	0.01	0.057 [†]	0.364	0.01
Neur. Trait-ness x Neur level	-0.041		0.00	-0.020		0.00	-0.068		0.01	-0.005		
Anxiousness (N1)												
1. BPD	0.542**	0.359**	0.47	0.539**	0.359**	0.46	0.491**	0.331**	0.37	0.536**	0.359**	0.46
2. N1 level	0.056 [†]	0.365*	0.00	0.083*	0.365*	0.01	0.085*	0.338 [†]	0.01	0.066*	0.365*	0.01
3. N1 Trait-ness	0.010	0.365	0.00	-0.044	0.366	0.00	0.022	0.341	0.00	-0.01	0.365	0.00
BPD x N1 level	-0.021		0.00	0.006		0.00	0.047		0.00	0.01		
4. N1 Trait-ness x BPD at baseline	0.060 [†]	0.369	0.01	-0.023	0.370	0.00	0.066	0.354*	0.01	0.07*	0.370 [†]	0.01
N1 Trait-ness x N1 level	-0.027		0.00	0.065 [†]		0.01	0.062		0.01	0.02		
Angry Hostility (N2)												
1. BPD	0.527**	0.361**	0.44	0.524**	0.361**	0.43	0.529**	0.331**	0.42	0.526**	0.361**	0.44
2. N2 level	0.056 [†]	0.364 [†]	0.00	0.050	0.364 [†]	0.00	0.025	0.331	0.00	0.055 [†]	0.364 [†]	0.00
3. N2 Trait-ness	0.026	0.367	0.00	0.000	0.367	0.00	0.038	0.336	0.00	0.005	0.367	0.00
BPD x N2 level	-0.054		0.00	-0.057 [†]		0.01	-0.054		0.00	-0.057 [†]		
4. N2 Trait-ness x BPD at baseline	0.009	0.369	0.00	-0.019	0.368	0.00	0.014	0.338	0.00	-0.010	0.371	0.00
N2 Trait-ness x N2 level	-0.036		0.00	-0.014		0.00	-0.042		0.00	-0.059 [†]		

Table 7. Continued.

<i>Borderline PD</i>	Interitem Variance			Construct Similarity			Temp. Res. Pattern Stab.			Person fit		
	Part Corr	R ²	Effect Size f ²	Part Corr	R ²	Effect Size f ²	Part Corr	R ²	Effect Size f ²	Part Corr	R ²	Effect Size f ²
Depressiveness (N3)												
1. BPD	0.502**	0.362**	0.40	0.532**	0.362**	0.45	0.510**	0.344**	0.40	0.495**	0.362**	0.39
2. N3 level	0.090**	0.368*	0.01	0.066*	0.368*	0.01	0.091*	0.353*	0.01	0.067*	0.368*	0.01
3. N3 Traitedness	-0.070*	0.371	0.01	0.008	0.368	0.00	-0.005	0.353	0.00	-0.09**	0.373 [†]	0.01
BPD x N3 level	-0.007		0.00	-0.002		0.00	0.016		0.00	-0.002		0.00
4. N3 Traitedness x BPD at baseline	0.040	0.373	0.00	0.037	0.371	0.00	-0.035	0.355	0.00	0.061 [†]	0.377	0.01
N3 Traitedness x N3 level	-0.025		0.00	0.024		0.00	0.002		0.00	-0.023		0.00
Impulsiveness (N5)												
1. BPD	0.573**	0.359**	0.53	0.575**	0.359**	0.52	0.545**	0.326**	0.44	0.573**	0.359**	0.52
2. N5 level	0.013	0.359	0.00	-0.007	0.359	0.00	0.004	0.326	0.00	-0.004	0.359	0.00
3. N5 Traitedness	0.026	0.362	0.00	-0.013	0.361	0.00	-0.020	0.328	0.00	0.027	0.361	0.00
BPD x N5 level	-0.076*		0.01	-0.048		0.00	-0.040		0.00	-0.043		0.00
4. N5 Traitedness x BPD at baseline	0.108**	0.377**	0.02	-0.001	0.361	0.00	0.008	0.329	0.00	0.065*	0.369*	0.01
N5 Traitedness x N5 level	-0.094**		0.01	0.001		0.00	-0.032		0.00	-0.074*		0.01
Vulnerability (N6)												
1. BPD	0.508**	0.356**	0.41	0.518	0.356**	0.42	0.465**	0.306**	0.32	0.515**	0.356**	0.42
2. N6 level	0.067*	0.364**	0.01	0.094**	0.364**	0.01	0.083 [†]	0.313 [†]	0.01	0.086**	0.364**	0.01
3. N6 Traitedness	0.019	0.366	0.00	-0.011	0.365	0.00	0.041	0.314	0.00	0.016	0.365	0.00
BPD x N6 level	-0.016		0.00	-0.017		0.00	-0.008		0.00	-0.001		0.00
4. N6 Traitedness x BPD at baseline	0.064 [†]	0.370	0.01	-0.008	0.366	0.00	0.015	0.316	0.00	0.042	0.369	0.00
N6 Traitedness x N6 level	-0.002		0.00	0.041		0.00	-0.041		0.00	0.039		0.00

[†]p < .10, *p < .05, **p < .01.

baseline Borderline PD. Thus, semipartial correlations, effect sizes, and R^2 values for step 1 throughout the table are approximately the same. Similarly, step 2 is always the trait level for the trait of interest. Since four traitedness indicators are tested for each trait, the value for the predictors at step 2 will also be approximately the same for step 2 in each traitedness indicator section across the row for the trait level predictor.

Occasional variations in the number of participants included in the regression models caused slight variability in the magnitude of the semipartial correlations, effect sizes, and R^2 values for steps of the regression models that would otherwise be assumed to be equal (steps 1 and 2).. For example, 588 participants were included in the interitem variance of Anxiousness regression, the construct similarity of Anxiousness regression, and the person-fit regression, whereas only 355 participants were included in the temporal response pattern stability regression. Temporal response has significantly fewer participants because, since it is a measure of individuals temporal consistency on item responses and required more data collection from participants to calculate the traitedness estimate, there were significantly more missing data.

In the second column of each traitedness section, R^2 values are provided to indicate the amount of variance accounted for by each step of the model, and if statistically significant R^2 change occurred, this is indicated in the table. R^2 values in the first two steps occasionally show minor variations across the traitedness indicator columns; as noted above, this is because there are occasional variations in the number of participants included in the regressions. The R^2 value and the semipartial correlations for the Borderline baseline score, and the trait level score thus show slight differences

for the temporal response pattern stability column. Semipartial (also known as part) correlations for each independent variable and their significance values for each traitedness estimate to indicate the contribution of each of the independent variables in the prediction of variance of the dependent variable, independent of the variance predicted by the other independent variables. Thus, semipartial correlations offer an estimate of the unique variance predicted by the independent variable in the model. For example, the semipartial correlation for the interaction of baseline Borderline PD by interitem traitedness on Anxiousness was statistically significant for the person-fit estimate of traitedness, suggesting this moderator of interest offers unique prediction to two year consistency of Borderline PD. Finally, in the third column is the f^2 measure of effect size, offered as an additional indication of the effect size of the semipartial correlations. The f^2 is an estimate of the proportion of the variance accounted for by the semipartial correlation, relative to unexplained variance in the dependent value (Aiken & West, 1991). It is computed by squaring the semipartial correlation, and dividing this value by the proportion of unexplained variance in the model, which is $1 - R^2$.

Borderline baseline status accounted for a statistically significant proportion of the variance of the consistency of Borderline diagnosis at 2 years in all of the regression models tested ($p < 0.01$), and semipartial correlations of baseline BPD medium to large effect sizes ranging from 0.30 to 0.53.

The main effects for the trait level predictors for Neuroticism, Anxiousness, Depressiveness, and Vulnerability indicated that these four traits offered incremental prediction in predicting Borderline PD status at 2 years over baseline status. The semipartial correlations for these trait level predictors were statistically significant, and ranged from $p < 0.10$ to $p < 0.01$. There was a main effect of traitedness on the trait Depressiveness for the interitem variance and the person-fit estimate, suggesting that the more traited individuals on Depressiveness were less consistent in their Borderline status at two-years. Traitdness on traits relevant to personality disorders was hypothesized to relate to personality disorder consistency; interactions between baseline Borderline symptom counts and traitdness estimates test the extent to which traitdness on traits relevant to Borderline PD moderates the consistency of Borderline diagnostic consistency. In terms of the moderating influence of traitdness on later Borderline status, the semipartial correlations for two of the interactions of Neuroticism traitdness by baseline Borderline status were significant: interitem variance ($r = 0.073$, $p < 0.05$, $f^2 = 0.01$) and person fit ($r = 0.057$, $p < 0.10$, $f^2 = 0.01$). The direction of this effect can be seen in Figure 1; individuals more highly traited on Neuroticism were more consistent in their Borderline status at two years. Additionally, the temporal response pattern traitdness estimate of Neuroticism had an effect size of 0.01, but was not statistically

significant. The interaction of traitedness estimates on Anxiousness by baseline status on Borderline PD were significant for interitem variance ($r = 0.060$, $p < 0.10$, $f^2 = 0.01$) and person fit ($r = 0.07$, $p < 0.05$, $f^2 = 0.01$), and temporal response pattern stability was not statistically significant, but did have an effect size of 0.01.

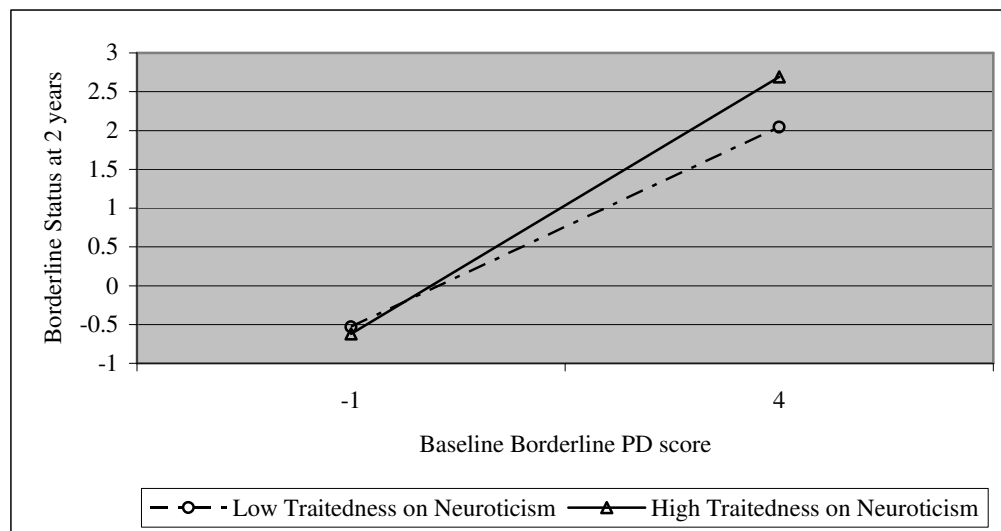


Figure 1. Traitdness on Neuroticism moderating consistency of borderline diagnosis.

The moderating influence of traitdness on Impulsiveness was significant for the interitem variance traitdness estimate ($r = 0.108$, $p < 0.01$, $f^2 = 0.02$), and for the person fit traitdness estimate ($r = 0.065$, $p < 0.05$, $f^2 = 0.01$). Individuals more traited on Impulsiveness were more likely to be consistent on their baseline Borderline status than individuals not traited on Borderline PD (see Figure 2).

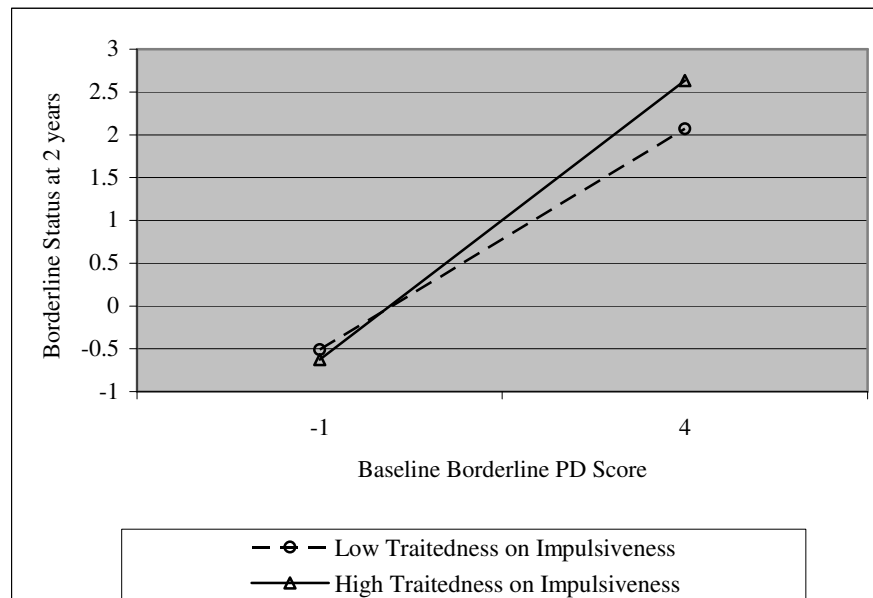


Figure 2. Traitedness on Impulsiveness moderating consistency of borderline diagnosis.

Interestingly, the trait level by traitedness interactions for Impulsiveness were also statistically significant for interitem variance ($r = -0.094$, $p < 0.001$, $f^2 = 0.01$) and for person fit ($r = -0.074$, $p < 0.05$, $f^2 = 0.01$), but in the direction opposite as might be predicted. The interaction for trait level by impulsiveness was more predictive for the less traited group than for the more traited group on impulsiveness (see Figure 3).

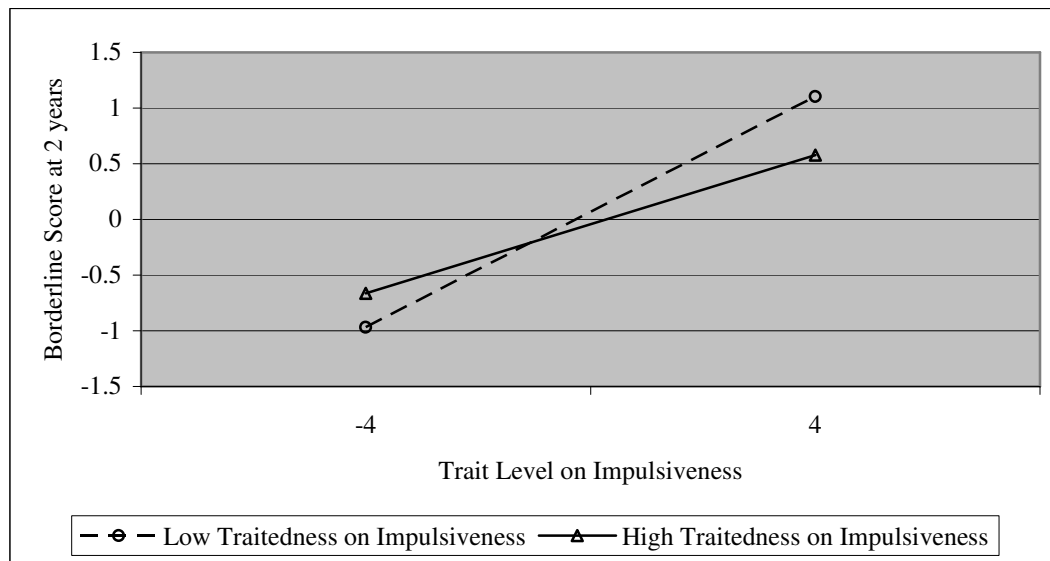


Figure 3. Traitiedness by trait level interaction on Impulsiveness predicting borderline score at two years.

Borderline Personality Disorder Diagnostic Consistency: Zero-order Correlations between Independent and Dependent Variables.

Zero-order correlations between the independent variables entered in the regression were examined to explore the nature of the relationships independent of the relationship with the other independent variables. Table 8 demonstrates the relationship between baseline symptoms, trait levels, and traitiedness estimates with Borderline consistency scores. A Bonferroni correction was used to reduce the risk of Type I error; the criterion to reach statistical significance was reduced to $p < 0.0125$, dividing the standard p value of 0.05 by the four separate traitiedness estimates. Consistency of diagnostic status was computed by calculating if participants met or exceeded the required number of criteria for a diagnosis at baseline and at 2 years, and then if they matched on whether or not they met, or did not meet, the total required criteria at each

time point. For example, if an individual met criteria for Borderline PD criteria at both time points, they were considered consistent, if they did not meet criteria for Borderline PD at both time points, they were considered consistent, and if they differed in meeting/not meeting the criteria at both time points, they were considered inconsistent. This is a different measure than the dependent variable in the regression models testing for consistency of diagnostic status; the regression models allow for a more sophisticated test of consistency because participants baseline status is partialled out in the first step. Regression models test how the independent variables relate in the context of one another with the dependent variable, whereas looking at the bivariate correlations allows exploration of the relationship between the independent and dependent variables without any influence from the other independent variables.

As can be seen from Table 8, there was a strong negative relationship between the Borderline baseline score and consistency of Borderline diagnosis over two years, suggesting the fewer criteria that were met for Borderline PD at baseline in the sample, the more consistent on Borderline diagnostic status, and the more criteria met for Borderline, the less consistent on diagnostic status. This indicates that individuals who were not Borderline at baseline did not develop Borderline PD, whereas individuals with

baseline Borderline PD showed some patterns of diagnostic inconsistency. Individuals with the diagnosis were more likely to show diagnostic change on Borderline PD than individuals without the diagnosis. Viewing the zero-order relationship between Borderline PD and consistency allows for more interpretation of the meaning of baseline score on diagnostic consistency, independent of its performance in the context of the other variables.

Individuals scoring higher on all of the trait levels: Neuroticism, Anxiousness, Angry Hostility, Depressiveness, Impulsiveness, and Vulnerability, were less consistent in their diagnostic status. This is consistent with the idea that individuals who displayed the most Borderline criteria at baseline were also the least consistent on the diagnosis. Individuals with Borderline relevant traits were more likely to show changes on their Borderline status than individuals without high levels of Borderline traits.

Table 8. Borderline Personality Disorder: Zero-order Correlations of Independent Variables and Diagnostic Consistency.

<i>Borderline PD</i>	Consistency of Borderline Status
BPD baseline	-0.517**
Neuroticism	
Level	-0.217**
Interitem Variance Traitedness	0.093*
Construct Similarity Traitedness	0.069
Temporal Response Pattern Traitedness	0.122*
Person Fit Traitedness	0.167
Anxiousness (N1)	
Level	-0.141**
Interitem Variance Traitedness	0.025
Construct Similarity Traitedness	0.055
Temporal Response Pattern Traitedness	0.177**
Person Fit Traitedness	0.086
Angry Hostility (N2)	
Level	-0.248**
Interitem Variance Traitedness	-0.036
Construct Similarity Traitedness	0.146**
Temporal Response Pattern Traitedness	0.141**
Person Fit Traitedness	0.077
Depressiveness (N3)	
Level	-0.158**
Interitem Variance Traitedness	0.036
Construct Similarity Traitedness	0.097**
Temporal Response Pattern Traitedness	-0.026
Person Fit Traitedness	0.146**
Impulsiveness (N5)	
Level	-0.182**
Interitem Variance Traitedness	0.029
Construct Similarity Traitedness	0.007
Temporal Response Pattern Traitedness	0.022
Person Fit Traitedness	0.080
Vulnerability (N6)	
Level	-0.156**
Interitem Variance Traitedness	0.204**
Construct Similarity Traitedness	-0.041
Temporal Response Pattern Traitedness	0.001
Person Fit Traitedness	0.137**

** $p < .01$.

Traitedness indicators generally performed in the direction that would be hypothesized. Relationships between the estimates and consistency were positive, suggesting that greater traitedness was associated with greater consistency. Impulsiveness, interestingly, demonstrated the weakest relationship in this exploration of the independent-dependent variable relationship. This differs from the findings of the regression model testing impulsiveness traitedness as a moderator of Borderline temporal consistency. One possible reason for this difference is that diagnostic consistency was computed differently for the zero-order analyses than the regression, which assessed diagnostic consistency by partialling out baseline scores. Diagnostic consistency in the regression equations is based on participants relative stability of symptom count in the amongst all of the participants, whereas the diagnostic consistency indicator used in this analysis is based on an absolute measure of whether participants matched on meeting or not meeting the criteria at each time point. It is possible that these different measurement strategies may be one explanation for finding an effect in the regression, but not in the above analyses. In addition, the zero-order correlations, viewed independently of the other variables, do not reflect the influence of independent variables functioning in the context of one another in predicting consistency of diagnosis. A suppressor variable has been defined as “one that increases the validity of another variable by its inclusion in a regression equation” (Tzelgov & Henik, 1991) by suppressing variance which is irrelevant to the dependent variable. Thus, another explanation of finding higher semipartial correlations than zero-order effects is that

certain of the independent variables were functioning as suppressor variables in the regression equations.

Schizotypal Personality Disorder

As can be seen from Table 9, Schizotypal personality disorder status at two-years was significantly predicted by the main effect of Schizotypal baseline status. It accounted for a statistically significant proportion of the variance in all of the regression models tested ($p < 0.01$), and demonstrated effect sizes ranging from 0.34 to 0.67; an f^2 value greater than 0.35 is considered a large effect size (Cohen, 1992).

Of the four traits of interest, neither of the Neuroticism facets, Anxiousness and Self-consciousness, demonstrated a statistically significant incremental prediction to consistency of Schizotypal PD scores. Neither trait demonstrated statistically significant semipartial correlations or any effect size magnitude. In contrast, the main effects for the Extraversion facet, Warmth, and Agreeableness facet, Trust, were statistically significant. The addition of Warmth to the models incrementally increased the prediction of the regression models, and the semipartial correlation for Warmth was statistically significant. Finally, the effect size for the Warmth trait ranged from 0.01 to 0.02 with some variability of effect size depending on the final model in which it was entered; Cohen (1988) describes $f^2 = 0.02$ as a small effect size. The main effect of Trust also offered incremental prediction to the Schizotypal consistency models.

There were two significant trait-level by baseline Schizotypal score interactions. Both Warmth and Trust interacted with Schizotypal baseline score to increase prediction of later Schizotypal PD status with effect sizes ranging from $f^2 = 0.01$ to $f^2 = 0.02$ for the

Warmth interaction, and $f^2 = 0.01$ for Trust. Schizotypal individuals with lower scores on Warmth were more likely to retain a diagnosis of Schizotypal than Schizotypal individuals with higher scores on Warmth. Similarly, Schizotypal individuals with lower scores on Trust were more likely to remain temporally consistent than Schizotypal individuals with higher Trust scores.

Results demonstrate that the interaction of traitedness on certain traits by baseline scores on Schizotypal PD appears to moderate the relationship between baseline diagnostic status on Schizotypal PD, and maintaining that status two years later. This effect was found for the interactions including traitedness on the trait Anxiousness, which moderated the relationship between baseline status and later diagnostic status for three out of four traitedness variables: interitem variance, construct similarity, and the IRT-based measure of person-fit. All three of the semi-partial correlations for the interaction terms were significant, the three steps in which the interaction was included yielded a statistically significant R^2 change, and the effect size for each of the three semipartial correlations was 0.01. However, this effect, though consistent across the

Table 9. Schizotypal Personality Disorder Consistency: Summary of Hierarchical Regression Analyses Testing Moderating Effects of Trait-ness Estimates.

Schizotypal PD	Interitem Variance			Construct Similarity			Temp. Res. Pattern Stab.			Person fit		
	Part Corr	R ²	Effect Size f ²	Part Corr	R ²	Effect Size f ²	Part Corr	R ²	Effect Size f ²	Part Corr	R ²	Effect Size f ²
Anxiousness (N1)												
1. STYPD baseline	0.580**	0.386**	0.55	0.581**	0.386**	0.56	0.522**	0.357**	0.43	0.572**	0.386**	0.54
2. N1 level	-0.015	0.386	0.00	-0.015	0.386	0.00	-0.005	0.357	0.00	-0.015	0.386	0.00
3. N1 Trait-ness	-0.001	0.387	0.00	-0.056 [†]	0.390	0.01	-0.008	0.361	0.00	-0.021	0.387	0.00
Schizotypal PD x N1	0.026		0.00	-0.010		0.00	0.059		0.01	0.000		
4. N1 Trait-ness x STYPD baseline	-0.078*	0.393*	0.01	-0.068*	0.395 [†]	0.01	0.010	0.362	0.00	-0.076*	0.393 [†]	0.01
N1 Trait-ness x N1 level	0.040		0.00	-0.003		0.00	0.028		0.00	0.036		
Self-consciousness (N4)												
1. STYPD baseline	0.614**	0.398**	0.64	0.630	0.405**	0.67	0.606	0.400**	0.61	0.619**	0.405**	0.65
2. N4 level	-0.014	0.398	0.00	-0.006	0.405	0.00	0.018	0.400	0.00	0.001	0.405	0.00
3. N4 Trait-ness	-0.007	0.400	0.00	0.009	0.406	0.00	-0.007	0.401	0.00	0.022	0.407	0.00
STYPD x N4 level	-0.016		0.00	-0.039		0.00	0.025		0.00	-0.023		
4. N4 Trait-ness x STYPD baseline	-0.076*	0.407*	0.01	0.021	0.407	0.00	0.013	0.402	0.00	-0.037	0.413*	0.00
N4 Trait-ness x N4 level	0.051		0.00	0.002		0.00	0.022		0.00	0.074*		
Warmth (E1)												
1. STYPD baseline	0.548**	0.392**	0.51	0.559**	0.392**	0.54	0.551	0.383**	0.51	0.547**	0.392**	0.51
2. E1 level	-0.081*	0.405**	0.01	-0.105**	0.405**	0.02	-0.091*	0.391*	0.01	-0.102**	0.405**	0.02
3. E1 Trait-ness	0.011	0.414*	0.00	0.023	0.414**	0.00	0.036	0.397	0.00	0.005	0.414*	0.00
STYPD x E1 level	-0.090**		0.01	-0.097**		0.02	-0.077 [†]		0.01	-0.098**		
4. E1 Trait-ness x STYPD baseline	-0.021	0.416	0.00	0.039	0.419 [†]	0.00	0.022	0.406 [†]	0.00	-0.020	0.417	0.00
E1 Trait-ness x E1 level	-0.043		0.00	-0.046		0.00	-0.085*		0.01	-0.053 [†]		
Trust (A1)												
1. STYPD level	0.480	0.392**	0.39	0.498**	0.392**	0.42	0.470**	0.341**	0.34	0.491**	0.392**	0.41
2. A1 level	-0.034	0.397*	0.00	-0.055 [†]	0.397*	0.01	-0.048	0.343	0.00	-0.069*	0.397*	0.01
3. A1 Trait-ness	0.000	0.400	0.00	0.040	0.402 [†]	0.00	0.010	0.347	0.00	0.055 [†]	0.401	0.01
STYPD x A1 level	-0.070*		0.01	-0.077*		0.01	-0.062		0.01	-0.076*		
4. A1 Trait-ness x STYPD baseline	-0.016	0.404	0.00	-0.070*	0.408 [†]	0.01	-0.021	0.348	0.00	-0.059 [†]	0.411*	0.01
A1 Trait-ness x A1 level	-0.061 [†]		0.01	-0.005		0.00	-0.031		0.00	-0.092**		

three traitedness indicators, was not in the predicted direction, and indicated that individuals less traited on Anxiousness were more likely to retain a Schizotypal diagnosis at two-years. The interaction of traitedness on Self-consciousness by the baseline score on Schizotypal PD was a statistically significant moderator for the interaction term including interitem variance on Self-consciousness, but not for the interactions including the other three indices of traitedness on Self-consciousness. This moderating effect was also in the direction opposite as hypothesized, suggesting individuals less traited on Self-consciousness were more consistent than individuals more traited on Self-consciousness. The interaction of Trust by baseline status also demonstrated a significant effect for the traitedness measures construct similarity and person-fit, however it was also in the direction opposite as hypothesized; individuals who were less traited on Trust were more consistent in their diagnosis of Schizotypal PD at two years. Thus, none of the traitedness estimates moderated the diagnostic consistency for Schizotypal PD in the hypothesized direction; the effects indicated that less traitedness on the hypothesized traits is associated with greater consistency on Schizotypal PD.

Trait level by traitedness interactions offered additional prediction to the models. The semipartial correlation coefficients for the interaction of trait level by the traitedness suggest that these interactions also have a moderate effect on the relationship between baseline Schizotypal scores and 2 year Schizotypal consistency. The interaction of trait levels by person fit traitedness estimates for Self-Consciousness ($r = 0.074$, $p < 0.05$), temporal response pattern ($r = -0.085$, $p < 0.05$) and person-fit estimates for Warmth ($r =$

-0.053, $p < 0.10$), and interitem variance ($r = -0.061$, $p < 0.05$) and person-fit estimates for Trust ($r = -0.092$, $p < 0.01$) were all significant predictors of Schizotypal PD diagnosis at 2 years.

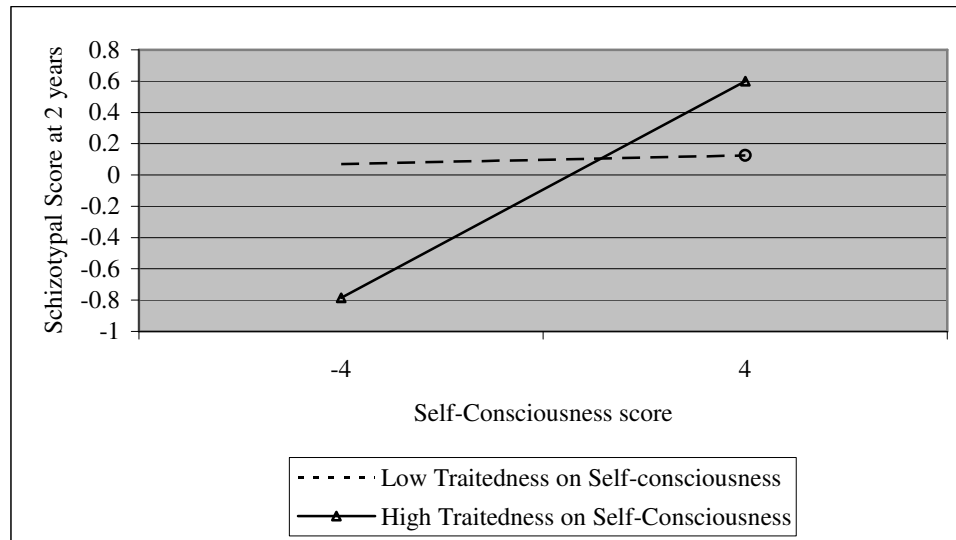


Figure 4. Traitredness by trait level on Self-consciousness interaction predicting schizotypal score at 2 years.

As can be seen from Figure 4 above, and Figure 5, below, the interaction of score and traitredness was a predictor of later status. The above figure demonstrates that individuals traitred on Self-consciousness were more predictable than individuals with the same trait scores who were less traitred on Self-consciousness. Individuals who were low scoring on Warmth and Trust, but also “traitred”, were better predicted by the traitred group than the low scoring, less traitred group. Similarly, high scoring traitred individuals status was better predicted than the high scoring less traitred individuals. Figure 5,

below, demonstrates this effect for the interaction of Warmth score and Warmth traitedness estimate.

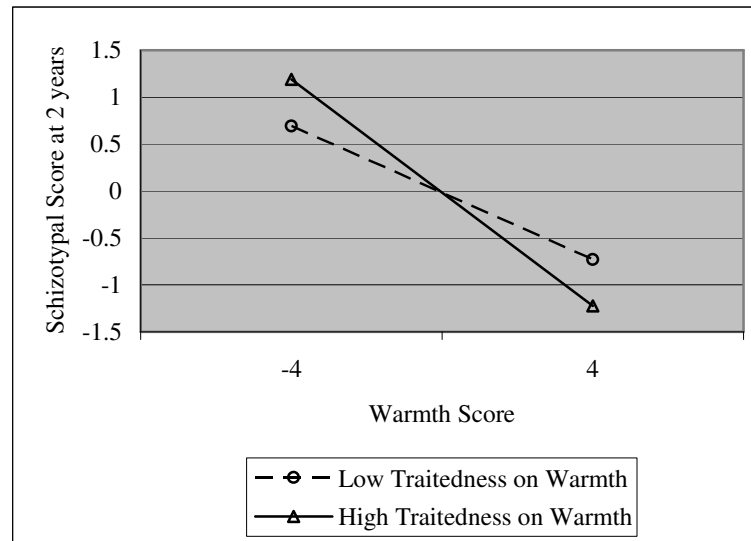


Figure 5. Traitedness by trait level on Warmth interaction predicting schizotypal score at 2 years.

Schizotypal Personality Disorder Diagnostic Consistency: Zero-order Correlations between Independent and Dependent variables.

To further interpret our findings of the main and moderating effects of traitedness on consistency of diagnostic status and consistency of functioning, bivariate correlations between diagnostic consistency and the independent variables entered into the regression models (trait levels, traitedness indicators, and baseline diagnostic status) are provided below in Table 10.

Table 10. Schizotypal Personality Disorder: Zero-order Correlations of Independent Variables with Diagnostic Consistency.

<i>Schizotypal Personality Disorder</i>	<i>Consistency of Schizotypal Diagnosis</i>
STYPD baseline	-0.588**
Anxiousness (N1)	
Level	-0.138**
Interitem Variance Traitedness	-0.062
Construct Similarity Traitedness	-0.001
Temporal Response Pattern Traitedness	0.015
Person Fit Traitedness	0.016
Self-consciousness (N4)	
Level	-0.095
Interitem Variance Traitedness	-0.030
Construct Similarity Traitedness	-0.014
Temporal Response Pattern Traitedness	-0.007
Person Fit Traitedness	0.032
Warmth (E1)	
Level	0.085
Interitem Variance Traitedness	0.057
Construct Similarity Traitedness	0.031
Temporal Response Pattern Traitedness	-0.056
Person Fit Traitedness	0.040
Trust (A1)	
Level	0.178**
Interitem Variance Traitedness	0.075
Construct Similarity Traitedness	-0.109**
Temporal Response Pattern Traitedness	0.032
Person Fit Traitedness	0.067

** $p < 0.01$.

The relationship between number of Schizotypal criteria met at baseline with consistency of diagnostic status indicated that, as was the case with Borderline individuals, individuals who met criteria at baseline for Schizotypal were less consistent/more likely to show diagnostic change, whereas individuals who did not meet criteria at baseline were unlikely to meet criteria at the two year time points.

Anxiousness was negatively related to consistency of Schizotypal diagnosis ($r = -0.138$, $p < 0.01$), suggesting that more anxious individuals at baseline were less

consistent over time with respect to the presence/absence of a Schizotypal PD diagnosis. Trust was positively associated with consistency of a Schizotypal diagnosis, suggesting that individuals that score more highly on Trust were more likely to be consistent on the presence/absence of the Schizotypal diagnosis. As low trust scores are hypothesized to relate to the presence of Schizotypal PD diagnosis, this linear relationship likely indicates that more trusting individuals are consistently not Schizotypal. The construct similarity traitedness estimate for Trust was significant ($r = -0.109$, $p < 0.01$) and suggested that those less traited on Trust are more consistent in the presence/absence of the Schizotypal diagnosis. Generally, however, looking at the relationships between the traitedness estimates and the consistency of diagnostic status reveals that the relationships are quite small. Interitem variance correlations range from $r = -0.030$ to $r = 0.075$; construct similarity correlations range from $r = -0.001$ to $r = 0.109$; temporal response pattern stability correlations range from $r = -0.007$ to $r = -0.056$; and person fit correlations range from $r = 0.016$ to $r = 0.067$.

Avoidant Personality Disorder

As can be seen in Table 11, the predictor which accounted for the greatest proportion of the variance in predicting consistency of Avoidant PD at 2 years was participants' baseline Avoidant PD diagnosis, accounting for about 38% of the variance of the models, with slightly less of the variance for models which tested temporal response pattern stability. The decrease in variance predicted is due to a decrease in sample size accounted for by the traitedness measure. Effect sizes for the Avoidant PD predictor ranged from 0.29 to 0.49.

Table 11. Avoidant Personality Disorder Consistency: Summary of Hierarchical Regression Analyses Testing Moderating Effects of Trait-ness Estimates.

<i>Avoidant PD</i>	Interitem Variance			Construct Similarity			Temp. Res. Pattern Stab.			Person Fit		
	Part Corr.	R ²	Effect Size f ²	Part Corr.	R ²	Effect Size f ²	Part Corr.	R ²	Effect Size f ²	Part Corr.	R ²	Effect Size f ²
Anxiousness (N1)												
1. AVPD baseline	0.549**	0.379**	0.49	0.543**	0.379**	0.48	0.530**	0.338**	0.43	0.548**	0.379**	0.49
2. N1 level	0.074*	0.382 [†]	0.01	0.063 [†]	0.382 [†]	0.01	0.057	0.341	0.00	0.059 [†]	0.382 [†]	0.01
3. N1 Trait-ness	-0.043	0.386	0.00	-0.002	0.384	0.00	0.028	0.342	0.00	-0.047	0.386	0.00
AVPD x N1 level	0.059 [†]		0.01	0.047		0.00	0.025		0.00	0.045		0.00
4. N1 Trait-ness x AVPD baseline	-0.022	0.387	0.00	-0.027	0.385	0.00	-0.021	0.343	0.00	-0.032	0.387	0.00
N1 Trait-ness x N1 level	-0.007		0.00	0.013		0.00	0.008		0.00	0.010		0.00
Self-consciousness (N4)												
1. AVPD baseline	0.412**	0.377**	0.29	0.417**	0.377**	0.30	0.438**	0.350**	0.31	0.416**	0.377**	0.30
2. N4 level	0.151**	0.394**	0.04	0.155**	0.394**	0.04	0.134**	0.364**	0.03	0.155**	0.394**	0.04
3. N4 Trait-ness	-0.027	0.413**	0.00	-0.005	0.412**	0.00	0.17	0.376*	0.05	-0.024	0.413**	0.00
AVPD x N4 level	0.140**		0.03	0.138**		0.03	0.104*		0.02	0.135**		0.03
4. N4 Trait-ness x AVPD baseline	-0.042	0.415	0.00	-0.029	0.414	0.00	0.001	0.376	0.00	-0.027	0.414	0.00
N4 Trait-ness x N4 level	0.014		0.00	0.038		0.00	0.018		0.00	0.035		0.00
Vulnerability (N6)												
1. Avoidant PD	0.533**	0.384**	0.47	0.535**	0.384**	0.47	0.515**	0.341**	0.41	0.532**	0.384**	0.47
2. N6 level	0.059 [†]	0.392**	0.01	0.097**	0.392**	0.02	0.089*	0.350*	0.01	0.094**	0.392**	0.01
3. N6 Trait-ness	-0.012	0.395	0.00	0.022	0.395	0.00	0.032	0.352	0.00	0.017	0.394	0.00
AVPD x N6 level	0.053		0.00	0.052		0.00	0.026		0.00	0.048		0.00
4. N6 Trait-ness x AVPD baseline	-0.035	0.400	0.00	-0.020	0.396	0.00	-0.040	0.358	0.00	-0.031	0.401*	0.00
N6 Trait-ness x N6 level	0.068*		0.01	0.036		0.00	-0.052		0.00	0.079*		0.01
Extraversion (Extr.)												
1. Avoidant PD	0.484**	0.374**	0.39	0.462**	0.374**	0.35	0.461**	0.344**	0.34	0.484**	0.374**	0.38
2. Extr. Level	-0.095**	0.381*	0.01	-0.092**	0.381*	0.01	-0.059	0.348	0.01	-0.095**	0.381*	0.01
3. Extr. Trait-ness	-0.039	0.389*	0.00	0.096**	0.396**	0.02	0.086*	0.356	0.01	-0.008	0.387 [†]	0.00
AVPD x Extr. level	-0.082*		0.01	-0.072*		0.01	-0.044		0.00	-0.074*		0.01
4. Extr. Trait-ness x AVPD baseline	-0.055	0.392	0.00	0.041	0.395 [†]	0.00	-0.040	0.372*	0.00	-0.012	0.388	0.00
Extr. Trait-ness x Extr. level	-0.042		0.00	-0.041		0.00	-0.124**		0.02	-0.037		0.00

Table 11. Continued.

<i>Avoidant PD</i>	Interitem Variance			Construct Similarity			Temp. Res. Pattern Stab.			Person Fit		
	Part Corr.	R ²	Effect Size f ²	Part Corr.	R ²	Effect Size f ²	Part Corr.	R ²	Effect Size f ²	Part Corr.	R ²	Effect Size f ²
Gregariousness (E2)												
1. AVPD baseline	0.549**	0.375**	0.49	0.534**	0.375**	0.46	0.507**	0.331**	0.40	0.554**	0.375**	0.50
2. E2 level	-0.065*	0.379 [†]	0.01	-0.062 [†]	0.379 [†]	0.01	-0.040	0.333	0.00	-0.063 [†]	0.379 [†]	0.01
3. E2 Traitdness	-0.029	0.380	0.00	0.028	0.380	0.00	0.104*	0.342 [†]	0.02	-0.004	0.379	0.00
AVPD x E2 level	-0.031		0.00	-0.018		0.00	0.002		0.00	-0.020		0.00
4. E2 Traitdness x AVPD baseline	-0.046	0.382	0.00	0.049	0.382	0.00	0.086*	0.350	0.01	-0.033	0.380	0.00
E2 Traitdness x E2 level	-0.011		0.00	0.008		0.00	0.002		0.00	-0.010		0.00
Assertiveness (E3)												
1. AVPD baseline	0.473**	0.380**	0.39	0.476**	0.380**	0.39	0.461**	0.344**	0.34	0.469**	0.380**	0.38
2. E3 level	-0.123**	0.395**	0.03	-0.126**	0.395**	0.03	-0.123**	0.358**	0.02	-0.137**	0.395**	0.03
3. E3 Traitdness	-0.030	0.415**	0.00	0.001	0.414**	0.00	0.038	0.369*	0.00	-0.028	0.414**	0.00
AVPD x E3 level	-0.139**		0.03	-0.135**		0.03	-0.099*		0.02	-0.137**		0.03
4. E3 Traitdness x AVPD baseline	-0.047	0.419	0.00	0.008	0.414	0.00	0.013	0.374	0.00	-0.028	0.419	0.00
E3 Traitdness x E3 level	-0.057 [†]		0.01	-0.012		0.00	-0.056		0.01	-0.066*		0.01

[†]p < .10; * p < .05; **p < .01

Several traits offered incremental prediction to Avoidant status at two years. Levels on Self-consciousness were associated with a statistically significant R^2 change; semipartial correlations for Self-consciousness level ranged from $r = 0.134$ to 0.155 and were significant at $p < 0.01$, and f^2 values ranged from 0.03 to 0.04 . Assertiveness also was a significant predictor of consistency of Avoidant status at two years, semipartial correlations for Assertiveness were statistically significant, ranging from $r = -0.123$ to $r = -0.137$, $p < 0.01$, with effect sizes ranging from $f^2 = 0.02$ to $f^2 = 0.03$. The addition of Assertiveness also resulted in a statistically significant change in R^2 . The Neuroticism traits, Vulnerability and Anxiousness resulted in statistically significant changes in R^2 , though the addition of Anxiousness trait level resulted in a more modest shift in R^2 than Vulnerability. Extraversion, and the Extraversion facet, Gregariousness, were also both significant predictors of consistency of Avoidant status at two years. The addition of Extraversion resulted in statistically significant R^2 change ($p < 0.05$), as did Gregariousness ($p < 0.10$).

Several of the trait level by baseline Avoidant PD status interactions were significant in predicting Avoidant status at 2 years. The largest of these was the interaction of Self-consciousness by baseline Avoidant PD; the semipartial correlation was statistically significant ($p < 0.05$ to $p < 0.01$ depending on which model), and the effect size for this predictor ranged from $f^2 = 0.02$ to $f^2 = 0.03$. The moderating effect of Self-consciousness level on Avoidant diagnostic consistency at 2-years is plotted below in Figure 6. The interaction of Assertiveness by Avoidant PD at baseline was also a significant predictor in the model ($p < 0.05$ to $p < 0.01$), with effect sizes ranging from f^2

=0.02 to $f^2=0.03$. Finally, the semipartial correlation representing the contribution of interaction of Extraversion and Avoidant baseline status was statistically significant for three out of four of the regressions; the exception was semipartial correlation for model which tested the temporal response pattern traitedness estimate, and the statistical significance change is most likely attributable to the decreased sample size). Effect sizes ranged from $f^2=0.00$ to $f^2=0.01$ Figure 6, below demonstrating the relationship of the moderating effect of Self-consciousness level by Avoidant status at baseline; the form of the other trait level by Avoidant baseline interactions took the same form, so Figure 6 may be viewed as an example for all of the trait level by baseline interactions. Figure 6 demonstrates that the differences in diagnostic consistency tend to occur more among individuals who had high Avoidant scores at baseline; individuals with high scores on Avoidant PD at baseline who also had high levels of Self-consciousness were more likely to remain consistent on the diagnosis than individuals with the same score on Avoidant PD at baseline, but with lower scores on Self-consciousness.

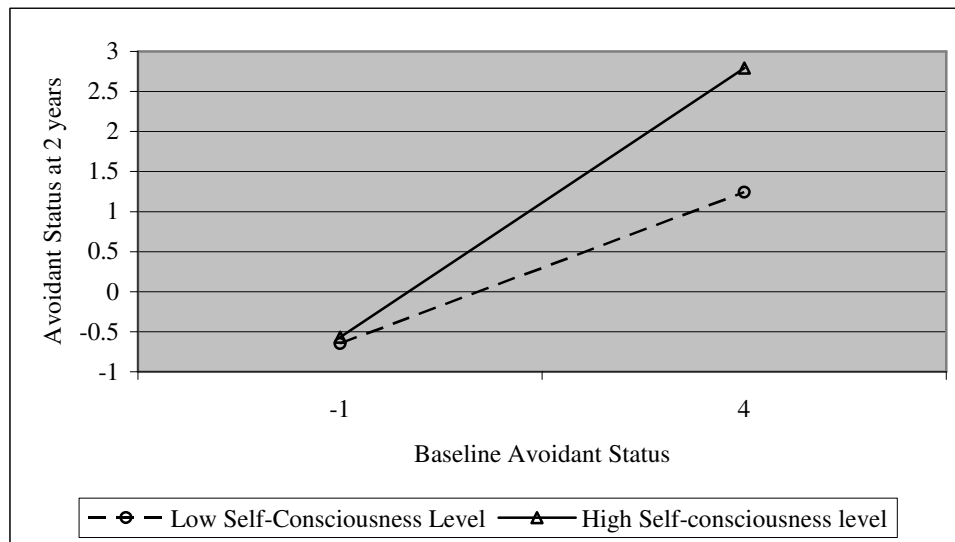


Figure 6. Interaction of avoidant score at baseline by self-consciousness trait level predicting consistency of avoidant PD diagnosis.

The main effects of construct similarity and temporal response pattern stability estimates for Extraversion traitedness were both significant ($r = 0.096$, $p < 0.01$, $f^2 = 0.02$ and $r = 0.086$, $p < 0.05$, $f^2 = 0.01$, respectively). Only one interaction of traitedness by baseline Avoidant PD was demonstrated among this set of regressions. Traitdness on Gregariousness, shown in Figure 7, as estimated by temporal response pattern stability ($r = 0.086$, $p < 0.05$, $f^2 = 0.01$), was a significant predictor of Avoidant status at 2 years.

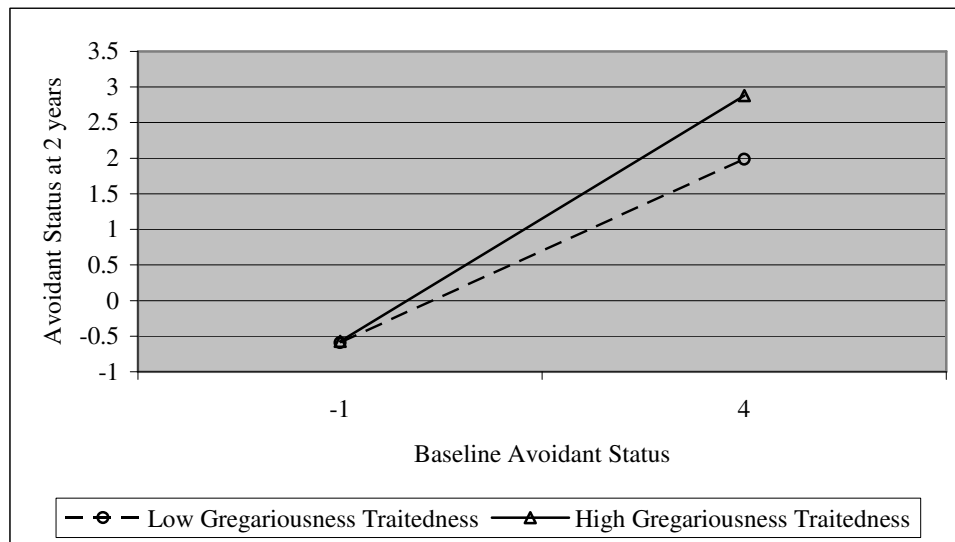


Figure 7. Gregariousness traitedness moderating avoidant PD consistency.

The trait by traitedness interactions appeared to be somewhat more predictive of Avoidant status at two years. Extraversion trait level by traitedness on Extraversion was a significant predictor of two-year Avoidant status when temporal response pattern stability was used as the estimate of traitedness ($r = -0.124$, $p < 0.01$, $f^2 = 0.02$). Figure 8, below, demonstrates that the Extraversion was more related to Avoidant PD at 2 years in the highly traited individuals than in the less traited individuals. The semipartial correlations measuring the predictive effect of the interactions of Vulnerability level by traitedness on Vulnerability and the interaction Assertiveness level by traitedness on Assertiveness were statistically significant for the interitem variance estimates and the person fit estimates. The trait by traitedness interactions were all in the direction that would be expected; trait scores in individuals more traited on Vulnerability,

Assertiveness, and Extraversion were more strongly related to Avoidant PD at 2 years than these same trait scores in less traited individuals.

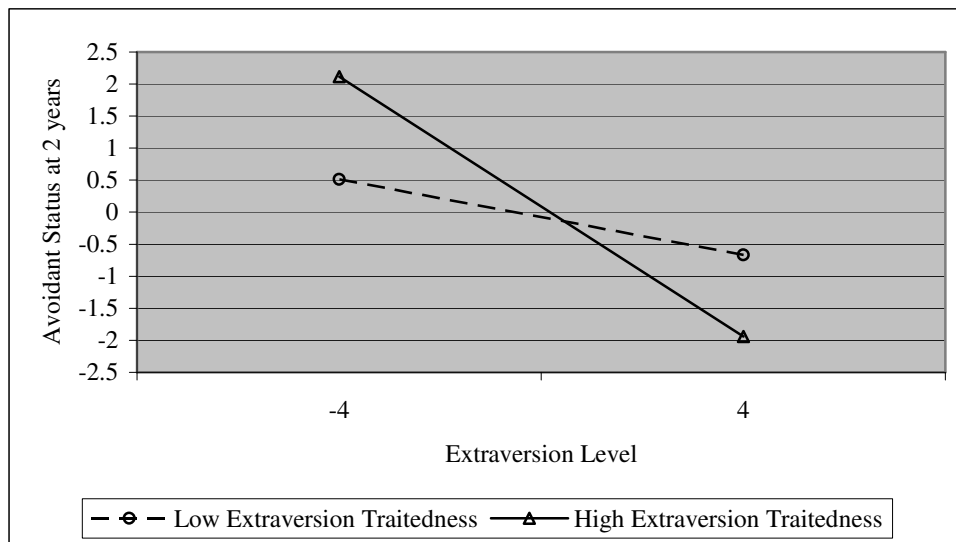


Figure 8. Extraversion traitedness moderating the relationship between extraversion trait level and avoidant disorder consistency.

Avoidant Personality Disorder Diagnostic Consistency: Zero-order Correlations between Independent and Dependent variables.

Bivariate correlations were computed between the independent variables and consistency of Avoidant PD. Construction of the consistency of diagnosis variable was described above regarding Schizotypal diagnostic consistency. Consistency of diagnostic status on Avoidant PD was negatively related to the presence of Avoidant criteria, suggesting that individuals who were not Avoidant at baseline did not become

Avoidant, whereas individuals who were Avoidant at baseline demonstrated greater change at two-years.

Individuals who scored higher on the Extraversion domain and Extraversion facets were also more consistent in their diagnostic status on Avoidant. This is probably due to the fact that individuals scoring more highly on Extraversion are less likely to be Avoidant at either baseline or two-year follow-up, and thus are consistently not Avoidant. In contrast, elevations on Neuroticism facets was associated with less consistency on diagnostic status, suggesting that more Anxious, Self-conscious, and Vulnerable individuals showed greater diagnostic inconsistency on Avoidant PD.

Zero-order correlations indicate that the construct similarity estimate of Extraversion traitedness is the only traitedness estimate with a statistically significant relationship to diagnostic consistency, and it is the less traited individuals on Extraversion that are more consistent. However, construct similarity is statistically significantly related to trait level and trait extremity (see Table 12); this confound may affect the interpretation of this finding. The regression analysis which found more traited individuals on Extraversion (using the temporal response pattern stability estimate) had partialled out level prior to testing the moderating effect, thus its interpretation was less influenced by the confound of trait level.

Table 12. Avoidant Personality Disorder: Zero-order Correlations of Independent Variables with Diagnostic Consistency.

<i>Avoidant PD</i>	Consistency of Avoidant Status
AVPD baseline	-0.372**
Anxiousness (N1)	
Level	-0.146**
Interitem Variance Traitedness	-0.068
Construct Similarity Traitedness	0.023
Temporal Response Pattern Traitedness	0.023
Person Fit Traitedness	-0.012
Self-consciousness (N4)	
Level	-0.197**
Interitem Variance Traitedness	-0.045
Construct Similarity Traitedness	-0.047
Temporal Response Pattern Traitedness	0.030
Person Fit Traitedness	0.004
Vulnerability (N6)	
Level	-0.128**
Interitem Variance Traitedness	0.003
Construct Similarity Traitedness	0.053
Temporal Response Pattern Traitedness	-0.009
Person Fit Traitedness	0.018
Extraversion	
Level	0.109*
Interitem Variance Traitedness	0.004
Construct Similarity Traitedness	-0.112**
Temporal Response Pattern Traitedness	0.037
Person Fit Traitedness	-0.021
Gregariousness (E2)	
Level	0.119**
Interitem Variance Traitedness	0.004
Construct Similarity Traitedness	-0.101
Temporal Response Pattern Traitedness	0.071
Person Fit Traitedness	-0.048
Assertiveness (E3)	
Level	0.141**
Interitem Variance Traitedness	-0.026
Construct Similarity Traitedness	0.097
Temporal Response Pattern Traitedness	0.049
Person Fit Traitedness	0.059

**p < .01.

Obsessive-Compulsive Personality Disorder

Table 13 demonstrates that baseline Obsessive-Compulsive PD status was a significant predictor of later Obsessive-Compulsive PD status, accounting for about 27-32% of the variance in the models, and with effect sizes ranging from $f^2 = 0.31$ to $f^2 = 0.45$. Traits that were predicted to relate to Obsessive-Compulsive PD were all facets of Conscientiousness. Interestingly, virtually none of the trait level predictors were statistically significant predictors of Obsessive-Compulsive PD diagnostic consistency.

The main effect of Conscientiousness traitedness was a significant predictor of consistency of Obsessive-Compulsive PD using the interitem variance estimate ($r = -0.127$, $p < 0.01$, $f^2 = 0.02$) and the person fit traitedness estimate ($r = -0.092$, $p < 0.05$, $f^2 = 0.01$). Dutifulness traitedness was also a significant predictor of consistency of Obsessive-Compulsive PD using the interitem variance estimate ($r = -0.125$, $p < 0.01$, $f^2 = 0.02$) and the person fit traitedness estimate ($r = -0.072$, $p < 0.05$, $f^2 = 0.01$).

Achievement Striving traitedness and Competence traitedness using the interitem variance estimate were significantly related to later Obsessive-Compulsive PD status ($r = -0.074$, $p < 0.05$, $f^2 = 0.01$, and $r = -0.062$, $p < 0.10$, $f^2 = 0.01$, respectively).

The moderating effect of traitedness on later Obsessive-Compulsive PD status was significant only for traitedness on Achievement Striving with the interitem variance traitedness estimate ($r = -0.070$, $p < 0.05$, $f^2 = 0.01$) and temporal response pattern estimate ($r = 0.092$, $p < 0.05$, $f^2 = 0.01$). It is noteworthy that these two interactions are in opposing directions. Similarly, the Achievement striving trait by traitedness interactions were modestly statistically significant for interitem variance and temporal response

pattern stability (both $p < 0.10$); observation reveals that these semipartial correlations are also in opposite directions ($r = 0.058$ and $r = -0.073$, respectively). The trait by traitedness interaction for Dutifulness was also statistically significant ($r = -0.088$, $p < 0.05$, $f^2 = 0.01$).

Obsessive-Compulsive Personality Disorder Diagnostic Consistency: Zero-order Correlations between Independent and Dependent variables.

To further explore the relationship between the effects of traitedness on Obsessive-Compulsive PD consistency, bivariate correlations (shown in Table 14) were computed between the predictors and the participant's status on Obsessive-Compulsive PD consistency. The zero-order correlation between baseline Obsessive-Compulsive PD and diagnostic consistency suggests that the more criteria met for Obsessive-Compulsive PD at baseline, the less consistent on Obsessive-Compulsive PD diagnostic status, suggesting that as was the case with the other three personality disorders, individuals meeting diagnostic criteria demonstrated greater change in their diagnostic status, whereas individuals who were not Obsessive-Compulsive at baseline remained so over time.

Table 13. Obsessive-Compulsive Personality Disorder Consistency: Summary of Hierarchical Regression Analyses Testing Moderating Effects of Trait-ness Estimates.

<i>Obsessive-Compulsive PD</i>	Interitem Variance			Construct Similarity			Temp. Res. Pattern Stab.			Person Fit		
	Part Corr	R ²	Effect Size f ²	Part Corr	R ²	Effect Size f ²	Part Corr	R ²	Effect Size f ²	Part Corr	R ²	Effect Size f ²
Conscientiousness (Cons.)												
1. OCPD baseline	0.478**	0.286**	0.33	0.506**	0.286**	0.36	0.535**	0.307**	0.42	0.495**	0.286**	0.35
2. Cons. Level	0.022	0.286	0.00	0.017	0.286	0.00	0.005	0.307	0.00	-0.015	0.286	0.00
3. Cons. Trait-ness	-0.127**	0.307**	0.02	0.048	0.290	0.00	0.048	0.309	0.00	-0.092*	0.297*	0.01
OCPD baseline x Cons. level	-0.034		0.00	-0.040		0.00	-0.022		0.00	-0.049		0.00
4. Cons. Trait-ness x OCPD baseline	0.014	0.309	0.00	0.005	0.293	0.00	-0.015	0.316	0.00	-0.003	0.300	0.00
Cons. Trait-ness x Cons. level	-0.045		0.00	0.050		0.00	-0.080 [†]		0.01	-0.049		0.00
Competence (C1)												
1. OCPD baseline	0.517**	0.287**	0.38	0.526**	0.287**	0.39	0.553**	0.314**	0.45	0.513**	0.287**	0.37
2. C1	0.020	0.287	0.00	0.006	0.287	0.00	0.003	0.314	0.00	-0.010	0.287	0.00
3. C1 Trait-ness	-0.062 [†]	0.294 [†]	0.01	0.017	0.289	0.00	0.029	0.316	0.00	-0.049	0.293 [†]	0.00
OCPD baseline x C1 level	-0.026		0.00	-0.039		0.00	-0.024		0.00	-0.049		0.00
4. C1 Trait-ness x OCPD baseline	-0.040	0.298	0.00	0.040	0.291	0.00	0.002	0.317	0.00	-0.023	0.296	0.00
C1 Trait-ness x C1 level	-0.039		0.00	0.013		0.00	-0.031		0.00	-0.040		0.00
Dutifulness (C3)												
1. OCPD baseline	0.494**	0.288**	0.35	0.513**	0.288**	0.37	0.536**	0.318**	0.43	0.509**	0.288**	0.37
2. C3	0.068*	0.289	0.01	0.037	0.289	0.00	0.045	0.320	0.00	0.019	0.289	0.00
3. C3 Trait-ness	-0.125**	0.308**	0.02	0.026	0.291	0.00	-0.010	0.321	0.00	-0.072*	0.296*	0.01
OCPD x C3 level	-0.008		0.00	-0.032		0.00	-0.039		0.00	-0.038		0.00
4. C3 Trait-ness x OCPD baseline	-0.035	0.310	0.00	0.014	0.291	0.00	-0.008	0.329	0.00	-0.043	0.300	0.00
C3 Trait-ness x C3 level	-0.031		0.00	0.012		0.00	-0.088*		0.01	-0.033		0.00
Achievement Striving (C4)												
1. Obsessive-Compulsive PD	0.468**	0.270**	0.31	0.483**	0.270**	0.32	0.506**	0.283**	0.36	0.469**	0.269**	0.31
2. C4	0.033	0.273	0.00	0.043	0.273	0.00	0.036	0.285	0.00	0.053	0.273	0.00
3. C4 Trait-ness	-0.074*	0.282*	0.01	0.025	0.274	0.00	0.004	0.286	0.00	-0.049	0.277	0.00
Obsessive-Compulsive PD x C4	-0.006		0.00	-0.025		0.00	-0.033		0.00	-0.016		0.00
4. C4 Trait-ness x OCPD baseline	-0.070*	0.288 [†]	0.01	0.029	0.275	0.00	0.092*	0.298*	0.01	-0.052	0.279	0.00
C4 Trait-ness x C4 at baseline	0.058 [†]		0.00	-0.027		0.00	-0.073 [†]		0.01	0.019		0.00

Table 14. Obsessive-Compulsive Personality Disorder: Zero-order Correlations of Independent Variables with Diagnostic Consistency.

<i>Obsessive Compulsive PD</i>	Consistency of Obsessive-Compulsive Personality Status
OCPD baseline	-0.479**
Conscientiousness	
Level	-0.125**
Interitem Variance Traitedness	0.036
Construct Similarity Traitedness	-0.030
Temporal Response Pattern Traitedness	-0.004
Person Fit Traitedness	-0.043
Competence (C1)	
Level	-0.097
Interitem Variance Traitedness	0.026
Construct Similarity Traitedness	0.020
Temporal Response Pattern Traitedness	0.060
Person Fit Traitedness	0.066
Dutifulness (C3)	
Level	-0.067
Interitem Variance Traitedness	0.015
Construct Similarity Traitedness	-0.026
Temporal Response Pattern Traitedness	-0.070
Person Fit Traitedness	0.006
Depressiveness (N3)	
Level	0.090
Interitem Variance Traitedness	-0.010
Construct Similarity Traitedness	0.008
Temporal Response Pattern Traitedness	0.033
Person Fit Traitedness	-0.017
Achievement Striving (C4)	
Level	-0.124**
Interitem Variance Traitedness	0.003
Construct Similarity Traitedness	0.011
Temporal Response Pattern Traitedness	0.032
Person Fit Traitedness	0.049

p < .01

None of the zero-order correlations between the traitedness estimates and the consistency of Obsessive-Compulsive PD were significant, suggesting that being more

traited on relevant traits to Obsessive-Compulsive PD was not generally associated with increased diagnostic consistency on Obsessive-Compulsive PD.

Zero-order correlations between specific traits that are relevant to Obsessive-Compulsive PD and diagnostic consistency suggest that lower scores on these traits related to more diagnostic consistency on the presence or absence of an Obsessive-Compulsive PD diagnosis. For example, the individuals with lower scores on Conscientiousness and Achievement Striving were more consistent, suggesting that higher scores on Conscientiousness and Achievement Striving were associated with individuals who showed more diagnostic fluctuation.

Effects of Traitedness on Cross-Situational Consistency of Functioning

Borderline Personality Disorder

Traitedness theory suggests that individuals for whom a trait is more relevant should be more cross-situationally consistent, thus the main effects of traitedness were investigated to determine if traitedness on disorder relevant traits was predictive of cross-situational consistency of functioning. The regression models testing the main effects of baseline Borderline PD, trait levels, traitedness estimates, and trait level by baseline PD interactions, were largely statistically nonsignificant in terms of predicting cross-situational consistency of functioning (see Table 15) Baseline Borderline status was not a statistically significant predictor of cross-situational consistency of functioning, nor were any of the trait level predictors.

Three of the traitedness estimates were significantly related to cross-situational consistency of functioning; traitedness on Anxiousness estimated with construct

similarity ($r = 0.101$, $p < 0.01$, $f^2 = 0.01$), the temporal response pattern stability estimate of Angry Hostility traitedness ($r = 0.107$, $p < 0.05$, $f^2 = 0.01$; see Figure 9), and traitedness on Depressiveness measured with the interitem variance estimate ($r = 0.069$, $p < 0.10$, $f^2 = 0.00$). The main effect of traitedness on Angry Hostility on cross-situational consistency of functional impairment is plotted in Figure 9; the main effects for Depressiveness and Anxiousness took the same form, thus Figure 9 is plotted as an example of the main effects of traitedness for each of the three significant traitedness estimates on cross-situational consistency of functional impairment. Each of these three traitedness estimates was in the predicted direction, suggesting increased traitedness on these relevant traits was associated with increased consistency of functional impairment across three areas of functioning. None of the trait level by baseline Borderline PD status interactions were significant predictors of cross-situational consistency of functioning.

Table 15. Borderline Personality Disorder Cross Situational Consistency of Functional Impairment: Summary of Hierarchical Regression Analyses Testing Main Effects of Trait-ness Estimates.

<i>Borderline PD</i>	Interitem Variance			Construct Similarity			Temp. Res. Pattern Stab.			Person Fit		
	Part Corr	R ²	Effect Size f ²	Part Corr	R ²	Effect Size f ²	Part Corr	R ²	Effect Size f ²	Part Corr	R ²	Effect Size f ²
Neuroticism (Neur)												
1. BPD	-0.065	0.005 [†]	0.00	-0.063	0.005 [†]	0.00	-0.063	0.009 [†]	0.00	-0.065	0.005 [†]	0.00
2. Neuroticism	0.007	0.005	0.00	0.003	0.005	0.00	-0.009	0.009	0.00	0.003	0.005	0.00
3. Neur. Trait-ness	-0.006	0.005	0.00	0.020	0.006	0.00	0.059	0.014	0.00	-0.009	0.005	0.00
BPD x Neur.	-0.006		0.00	-0.005		0.00	-0.036		0.00	-0.008		0.00
Anxiousness (N1)												
1. BPD	-0.062	0.005 [†]	0.00	-0.053	0.005 [†]	0.00	-0.068	0.006	0.00	-0.057	0.005 [†]	0.00
2. N1 level	0.002	0.055	0.00	-0.004	0.005	0.00	0.010	0.006	0.00	0.002	0.005	0.00
3. N1 Trait-ness	-0.003	0.005	0.00	0.101 ^{**}	0.015 [*]	0.01	-0.032	0.009	0.00	0.023	0.006	0.00
BPD x N1 level	-0.024		0.00	-0.020		0.00	-0.043		0.00	-0.027		0.00
Angry Hostility (N2)												
1. BPD	-0.079 [*]	0.006 [*]	0.01	-0.077 [*]	0.006 [*]	0.01	-0.075	0.011 [*]	0.01	-0.076 [*]	0.006 [*]	0.01
2. N2 level	0.017	0.006	0.00	0.009	0.006	0.00	-0.005	0.011	0.00	0.012	0.006	0.00
3. N2 Trait-ness	0.022	0.007	0.00	-0.034	0.008	0.00	0.107 [*]	0.023 [†]	0.01	0.006	0.007	0.00
BPD x N2 level	0.02		0.00	0.012		0.00	0.029		0.00	0.017		0.00
Depressiveness (N3)												
1. BPD	-0.033	0.005 [†]	0.00	-0.054	0.005 [†]	0.00	-0.045	0.005	0.00	-0.037	0.005 [†]	0.00
2. N3 level	-0.058	0.005	0.00	-0.028	0.005	0.00	-0.048	0.006	0.00	-0.027	0.005	0.00
3. N3 Trait-ness	0.069 [†]	0.011	0.00	-0.016	0.006	0.00	-0.004	0.012	0.00	0.056	0.009	0.00
BPD x N3 level	-0.046		0.00	-0.029		0.00	-0.078		0.01	-0.034		0.00
Impulsiveness (N5)												
1. BPD	-0.067 [†]	0.006 [†]	0.00	-0.068 [†]	0.006 [†]	0.00	-0.057	0.004	0.00	-0.067 [†]	0.006 [†]	0.00
2. N5 level	-0.001	0.006	0.00	-0.002	0.006	0.00	0.009	0.004	0.00	-0.002	0.006	0.00
3. N5 Trait-ness	-0.003	0.007	0.00	-0.002	0.007	0.00	0.023	0.008	0.00	0.001	0.007	0.00
BPD x N5 level	-0.035		0.00	-0.036		0.00	-0.058		0.00	-0.036		0.00

Table 15. Continued.

<i>Borderline PD</i>	Interitem Variance			Construct Similarity			Temp. Res. Pattern Stab.			Person Fit		
	Part Corr	R ²	Effect Size f ²	Part Corr	R ²	Effect Size f ²	Part Corr	R ²	Effect Size f ²	Part Corr	R ²	Effect Size f ²
Vulnerability (N6)												
1. BPD	-0.045	0.005 [†]	0.00	-0.059	0.005 [†]	0.00	-0.075	0.009 [†]	0.01	-0.050	0.005 [†]	0.00
2. N6 level	-0.030	0.006	0.00	-0.025	0.006	0.00	-0.029	0.010	0.00	-0.028	0.006	0.00
3. N6 Traitedness	0.023	0.007	0.00	0.028	0.007	0.00	0.068	0.015	0.00	0.026	0.007	0.00
BPD x N6 level	-0.023		0.00	-0.016		0.00	-0.019	0.00	-0.020	0.00		

[†]p < .10, *p < .05, **p < .01.

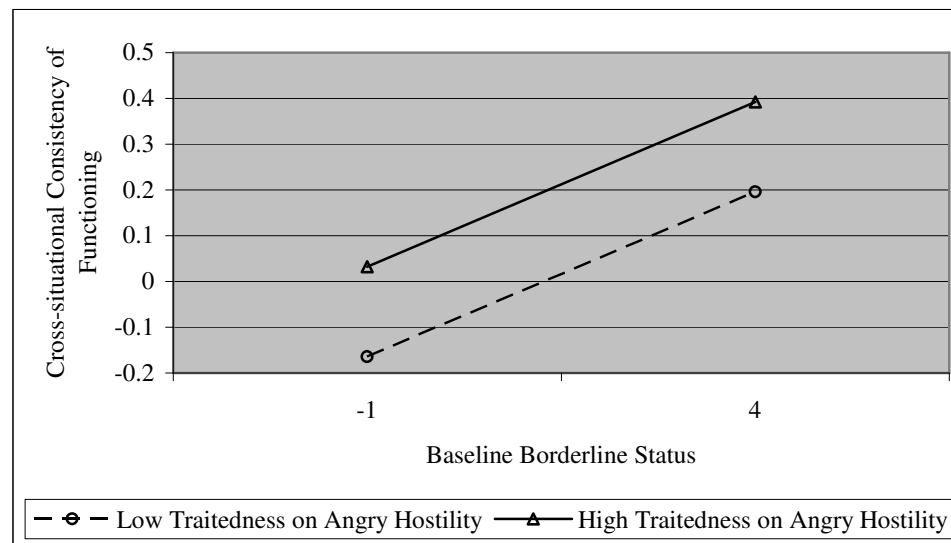


Figure 9. Main effect of traitedness on Angry Hostility predicting cross-situational consistency of functional impairment.

Further Investigations of Independent Variables and Cross-situational Consistency of Functional Impairment: Borderline and Cross-situational Consistency Relationships

To further explore the nature of the findings between Borderline PD, trait levels, and traidedness indices and cross-situational consistency of functioning, zero-order correlations were computed on the variables used in the Borderline PD-cross-situational consistency of functioning regression analyses. Table 16 reveals that bivariate correlations between the independent variables and the consistency indicator were by and large non-significant. Using the previously established Bonferroni criterion for significance of $p < 0.0125$, only the construct similarity estimate for traidedness on Anxiousness was significantly associated with cross-situational functioning. With the exception of the construct similarity traidedness estimate for Anxiousness, traidedness does not appear to be related to cross-situational consistency of functional impairment.

Table 16. Borderline Personality Disorder Consistency of Functioning: Zero-order Correlations between Independent Variables and Consistency of Functioning.

<i>Borderline PD</i>	Cross Situational Consistency of Functioning
BPD baseline	-0.074
Neuroticism	
Level	-0.027
Interitem Variance Traitedness	0.002
Construct Similarity Traitedness	0.018
Temporal Response Pattern Traitedness	0.050
Person Fit Traitedness	0.047
Anxiousness (N1)	
Level	-0.016
Interitem Variance Traitedness	-0.004
Construct Similarity Traitedness	0.110**
Temporal Response Pattern Traitedness	-0.012
Person Fit Traitedness	0.040
Angry Hostility (N2)	
Level	-0.025
Interitem Variance Traitedness	-0.018
Construct Similarity Traitedness	-0.033
Temporal Response Pattern Traitedness	0.118
Person Fit Traitedness	0.013
Depressiveness (N3)	
Level	-0.044
Interitem Variance Traitedness	0.046
Construct Similarity Traitedness	0.007
Temporal Response Pattern Traitedness	0.015
Person Fit Traitedness	0.076
Impulsiveness (N5)	
Level	-0.020
Interitem Variance Traitedness	0.000
Construct Similarity Traitedness	0.002
Temporal Response Pattern Traitedness	0.023
Person Fit Traitedness	0.021
Vulnerability (N6)	
Level	-0.051
Interitem Variance Traitedness	0.037
Construct Similarity Traitedness	0.021
Temporal Response Pattern Traitedness	0.063
Person Fit Traitedness	0.043

p < .01.

Schizotypal Personality Disorder

The semipartial correlations in Table 17 demonstrate that typically, baseline Schizotypal PD was a significant predictor of cross-situational consistency of functioning, suggesting that the more Schizotypal criteria individuals manifest, the less consistent was their functional impairment across situations. None of the trait levels entered in the models, Anxiousness, Self-consciousness, Warmth, or Trust, were significant predictors of cross-situational consistency of functioning. There was a statistically significant main effect of the construct similarity estimate for Anxiousness traitedness ($r = 0.096$, $p < 0.05$, $f^2 = 0.01$); increased traitedness was associated with increased consistency of functioning. Traitdness on Warmth, using the interitem variance estimate ($r = -0.092$, $p < 0.05$, $f^2 = 0.01$) was also significant, although in the direction opposite as expected; individuals less traited on Warmth were more cross-situationally consistent. The semipartial correlation reflecting the independent contribution for the interaction of baseline Schizotypal PD and Warmth level was statistically significant ($p < 0.05$, $f^2 = 0.01$), as was the interaction of baseline Schizotypal PD by Trust level for all regression models except the model which included the temporal response pattern estimate, which had a large decrease in sample size. These findings suggest that individuals who have higher scores on Schizotypal PD, and more maladaptive trait levels of these traits (low levels of Trust and Warmth) are more cross-situationally consistent than individuals with the same baseline Schizotypal PD score different, more elevated trait levels.

Table 17. Schizotypal Personality Disorder Cross Situational Consistency of Functional Impairment: Summary of Hierarchical Regression Analyses Testing Main Effects of Trait-ness Estimates.

<i>Schizotypal PD</i>	Interitem Variance			Construct Similarity			Temp. Res. Pattern Stab.			Person Fit		
	Part Corr	R ²	Effect Size f ²	Part Corr	R ²	Effect Size f ²	Part Corr	R ²	Effect Size f ²	Part Corr	R ²	Effect Size f ²
Anxiousness (N1)												
1. STYPD baseline	-0.097*	0.009*	0.01	-0.085*	0.009*	0.01	-0.104*	0.010*	0.01	-0.092*	0.009*	0.01
2. N1 level	0.009	0.009	0.00	0.001	0.009	0.00	0.014	0.010	0.00	0.005	0.009	0.00
3. N1 Trait-ness	0.015	0.010	0.00	0.096*	0.019*	0.01	-0.031	0.012	0.00	0.011	0.010	0.00
STYPD x N1	0.011		0.00	0.017		0.00	0.018		0.00	0.009		0.00
Self-consciousness (N4)												
1. STYPD baseline	-0.103**	0.010**	0.01	-0.111**	0.012**	0.01	-0.109*	0.011*	0.01	-0.119**	0.012**	0.01
2. N4 level	0.002	0.010	0.00	0.004	0.012	0.00	-0.012	0.011	0.00	-0.003	0.012	0.00
3. N4 Trait-ness	-0.015	0.014	0.00	-0.048	0.018	0.00	-0.065	0.021	0.00	-0.062	0.019 [†]	0.00
STYPD x N4 level	0.058		0.00	0.059		0.00	0.080		0.01	0.057		0.00
Warmth (E1)												
1. STYPD baseline	-0.118**	0.011**	0.01	-0.106**	0.011**	0.01	-0.073	0.004	0.01	-0.113**	0.011**	0.01
2. E1 level	0.055	0.012	0.00	0.040	0.012	0.00	0.067	0.004	0.00	0.036	0.012	0.00
3. E1 Trait-ness	-0.092*	0.026**	0.01	0.041	0.019 [†]	0.00	0.061	0.024*	0.00	-0.059	0.021*	0.00
STYPD x E1 level	-0.090*		0.01	-0.077*		0.01	-0.114*		0.01	-0.078*		0.01
Trust (A1)												
1. STYPD level	-0.109**	0.010**	0.01	-0.112**	0.010**	0.01	-0.055	0.007	0.00	-0.110**	0.010**	0.01
2. A1 level	-0.004	0.010	0.00	-0.002	0.010	0.00	0.069	0.012	0.00	-0.004	0.010	0.00
3. A1 Trait-ness	-0.008	0.017	0.00	0.013	0.017	0.00	-0.065	0.017	0.00	-0.007	0.017	0.00
STYPD x A1 level	-0.080*		0.01	-0.081*		0.01	-0.011		0.00	-0.081*		0.01

[†] p < .10, *p < .05, **p < .01.

Further Investigations of Independent Variables and Cross-situational Consistency of Functional Impairment: Schizotypal and Cross-situational Consistency Relationships

Bivariate correlations were computed (see Table 18) to further explore the effects of traitedness on cross-situational consistency for traits related to Schizotypal PD. There was a significant relationship between Schizotypal PD at baseline and cross-situational consistency of functioning, suggesting that individuals manifesting more Schizotypal criteria were less consistent in functioning across different domains, as noted earlier. None of the trait levels were statistically significantly related to cross-situational functioning. Bivariate correlations exploring the relationships between traitedness estimates and cross-situational consistency of functioning also were quite small, and only one met criteria for statistical significance. The construct similarity estimate of Anxiousness traitedness was statistically significant ($r = 0.110$, $p < 0.01$), and suggested that individuals more traited on Anxiousness are more cross-situationally consistent in

impairment. The construct similarity estimate of Anxiousness was the only traitedness estimate found significant in the predicted direction in the regression equation. The other traitedness estimate that was found significant, the interitem variance estimate of Warmth, did not show a significant zero-order relationship with cross-situational consistency.

Table 18. Schizotypal Personality Disorder Consistency of Functioning: Zero-order Correlations between Independent Variables and Consistency of Functioning.

<i>Schizotypal Personality Disorder</i>	Cross-Situational Consistency of Functioning
STYPD baseline	-0.101**
Anxiousness (N1)	
Level	-0.016
Interitem Variance Traitedness	-0.004
Construct Similarity Traitedness	0.110**
Temporal Response Pattern Traitedness	-0.012
Person Fit Traitedness	0.040
Self-consciousness (N4)	
Level	-0.020
Interitem Variance Traitedness	0.001
Construct Similarity Traitedness	-0.046
Temporal Response Pattern Traitedness	-0.053
Person Fit Traitedness	-0.024
Warmth (E1)	
Level	0.055
Interitem Variance Traitedness	-0.053
Construct Similarity Traitedness	0.041
Temporal Response Pattern Traitedness	0.076
Person Fit Traitedness	-0.041
Trust (A1)	
Level	0.040
Interitem Variance Traitedness	0.037
Construct Similarity Traitedness	-0.011
Temporal Response Pattern Traitedness	-0.062
Person Fit Traitedness	0.023

p < .01

Avoidant Personality Disorder

The regression models testing the predictive effects of baseline Avoidant PD status, trait levels, traitedness estimates, and interactions between trait levels and baseline status were largely statistically nonsignificant (see Table 19). Avoidant PD baseline status does not appear to predict cross-situational consistency of functioning, nor do most of the traits tested. One trait was an exception, Extraversion, which accounted for a significant change in R^2 in the model predicting cross-situational consistency of functioning. Only one traitedness estimate, the construct similarity estimate of traitedness on Anxiousness, was significant ($r = 0.101$, $p < 0.01$, $f^2 = 0.01$; see Figure 10). Figure 10 demonstrates that individuals who were more traited on Anxiousness were more cross-situationally consistent in their functional impairment across domains of functioning than individuals who are less traited on Anxiousness. None of the interactions of trait level by baseline Avoidant PD were statistically significant predictors of cross-situational consistency of functioning.

Table 19. Avoidant Personality Disorder Cross Situational Consistency of Functional Impairment: Summary of Hierarchical Regression Analyses Testing Main Effects of Trait-ness Estimates.

<i>Avoidant PD</i>	Interitem Variance			Construct Similarity			Temp. Res. Pattern Sim.			Person Fit		
	Part Corr	R ²	Effect Size f ²	Part Corr	R ²	Effect Size f ²	Part Corr	R ²	Effect Size f ²	Part Corr	R ²	Effect Size f ²
Anxiousness (N1)												
1. AVPD baseline	-0.052	0.003	0.00	-0.035	0.003	0.00	-0.087 [†]	0.007 [†]	0.01	-0.051	0.003	0.00
2. N1 level	0.007	0.003	0.00	0.000	0.003	0.00	0.012	0.008	0.00	0.009	0.003	0.00
3. N1 Trait-ness	-0.003	0.003	0.00	0.101**	0.013*	0.01	-0.028	0.009	0.00	0.027	0.004	0.00
AVPD x N1 level	0.017		0.00	0.027		0.00	-0.022		0.00	0.016		0.00
Self-consciousness (N4)												
1. AVPD baseline	-0.065 [†]	0.004	0.00	-0.068 [†]	0.004	0.00	-0.084 [†]	0.008 [†]	0.01	-0.065 [†]	0.004	0.00
2. N4 level	0.030	0.004	0.00	0.036	0.004	0.00	0.021	0.008	0.00	0.027	0.004	0.00
3. N4 Trait-ness	-0.010	0.008	0.00	-0.050	0.010	0.00	-0.060	0.015	0.00	-0.046	0.010	0.00
AVPD x N4 level	0.058		0.00	0.058		0.00	0.060		0.00	0.059		0.00
Vulnerability (N6)												
1. Avoidant PD	-0.042	0.003	0.00	-0.042	0.003	0.00	-0.074	0.009 [†]	0.01	-0.042	0.003	0.00
2. N6 level	-0.033	0.004	0.00	-0.033	0.004	0.00	-0.038	0.011	0.00	-0.033	0.004	0.00
3. N6 Trait-ness	0.037	0.006	0.00	0.019	0.005	0.00	0.060	0.015	0.00	0.034	0.006	0.00
AVPD x N6 level	-0.024		0.00	-0.017		0.00	-0.024		0.00	-0.019		0.00
Extraversion (Extr.)												
1. Avoidant PD	-0.017	0.003	0.00	-0.019	0.003	0.00	-0.007	0.006	0.00	-0.13	0.003	0.02
2. Extr. Level	-0.075 [†]	0.010*	0.01	0.082*	0.010*	0.01	0.120*	0.020*	0.01	0.079 [†]	0.010*	0.01
3. Extr. Trait-ness	-0.051	0.013	0.00	0.042	0.012	0.00	0.076	0.027	0.01	-0.028	0.011	0.00
AVPD x Extr. level	-0.037		0.00	-0.033		0.00	-0.012		0.00	-0.030		0.00
Gregariousness (E2)												
1. AVPD baseline	-0.021	0.002	0.00	-0.013	0.002	0.00	-0.044	0.008 [†]	0.00	-0.022	0.002	0.00
2. E2 level	0.053	0.005	0.00	0.044	0.005	0.00	0.115*	0.022*	0.01	0.051	0.005	0.00
3. E2 Trait-ness	0.018	0.006	0.00	-0.041	0.008	0.00	0.005	0.023	0.00	-0.006	0.006	0.00
AVPD x E2 level	-0.032		0.00	-0.032		0.00	-0.041		0.00	-0.034		0.00

[†]p < .10, *p < .05, **p < .01.

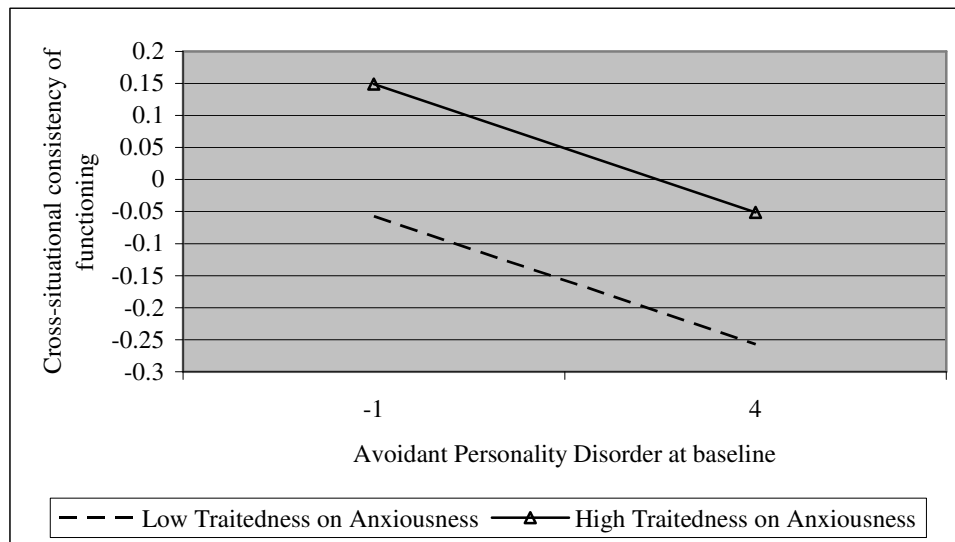


Figure 10. Main effect of traitedness on anxiousness predicting cross-situational consistency of functional impairment.

Further Investigations of Independent Variables and Cross-situational Consistency of Functional Impairment: Avoidant Personality Disorder and Cross-situational Consistency Relationships

Table 20, below, demonstrates that using the Bonferroni corrected p-value of 0.0125, only the zero-order correlation between construct similarity estimate of traitedness on Anxiousness and the cross-situational consistency of functioning measure were statistically significant. The zero-order correlation between Extraversion and cross-situational consistency approached the criterion for statistical significance ($p = 0.015$). This table, as the other tables revealing the zero-order correlations between the independent variables and the cross-situational functioning dependent variable, reveals that there does not appear to be a strong linear relationship between estimates of traitedness and cross-situational consistency of functional impairment.

Table 20. Avoidant Personality Disorder Consistency of Functioning: Zero-order Correlations between Independent Variables and Consistency of Functioning.

<i>Avoidant PD</i>	Cross Situational Consistency
AVPD baseline	-0.046
Anxiousness (N1)	
Level	-0.016
Interitem Variance Traitedness	-0.004
Construct Similarity Traitedness	0.110**
Temporal Response Pattern Traitedness	-0.012
Person Fit Traitedness	0.040
Self-consciousness (N4)	
Level	-0.020
Interitem Variance Traitedness	0.001
Construct Similarity Traitedness	-0.046
Temporal Response Pattern Traitedness	-0.053
Person Fit Traitedness	-0.024
Vulnerability (N6)	
Level	-0.051
Interitem Variance Traitedness	0.037
Construct Similarity Traitedness	0.021
Temporal Response Pattern Traitedness	0.063
Person Fit Traitedness	0.043
Extraversion	
Level	0.098
Interitem Variance Traitedness	-0.050
Construct Similarity Traitedness	0.019
Temporal Response Pattern Traitedness	0.069
Person Fit Traitedness	-0.019
Gregariousness (E2)	
Level	0.065
Interitem Variance Traitedness	0.016
Construct Similarity Traitedness	-0.064
Temporal Response Pattern Traitedness	0.016
Person Fit Traitedness	-0.012
Assertiveness (E3)	
Level	0.041
Interitem Variance Traitedness	-0.022
Construct Similarity Traitedness	0.076
Temporal Response Pattern Traitedness	0.082
Person Fit Traitedness	-0.002

p < .01

Obsessive Compulsive Personality Disorder

Table 21 demonstrates that baseline Obsessive-Compulsive PD status was not a significant predictor of cross-situational consistency of functioning. However, Achievement striving was a significant predictor of cross-situational consistency of functioning, yielding a significant R^2 in all of the models except the one which included the estimate of temporal response pattern; this regression equation was based on a smaller sample. None of the traitedness estimates were significant predictors of cross-situational consistency of functioning. The semipartial correlations identifying the variance predicted by the interaction of Conscientiousness by Obsessive-Compulsive PD baseline status ($p < 0.05$) and by the interaction of Achievement Striving by baseline status ($p < 0.05$ to $p < 0.10$) suggest that these interactive effects of trait level by status significantly predict cross-situational consistency of functioning. Figure 11 demonstrates that individuals with high scores on Conscientiousness who met more criteria for Obsessive-Compulsive PD were more cross situationally consistent than individuals with high scores on Conscientiousness meeting fewer Obsessive-Compulsive PD criteria. Individuals with lower Conscientiousness scores who met few to no criteria for Obsessive-Compulsive PD were also more consistent than individuals with low Conscientiousness scores who met more criteria for Obsessive-Compulsive PD. This same effect occurred for the interactive effect of baseline Obsessive-Compulsive disorder score and Achievement Striving level; higher scoring individuals on Achievement Striving who met more criteria for Obsessive compulsive PD were more consistent than higher scoring individuals on Achievement striving who met less criteria

for Obsessive-Compulsive PD. Low scoring individuals on Achievement Striving who met more criteria for Obsessive-Compulsive PD were more consistent than low scoring individuals meeting fewer criteria for Obsessive-Compulsive PD.

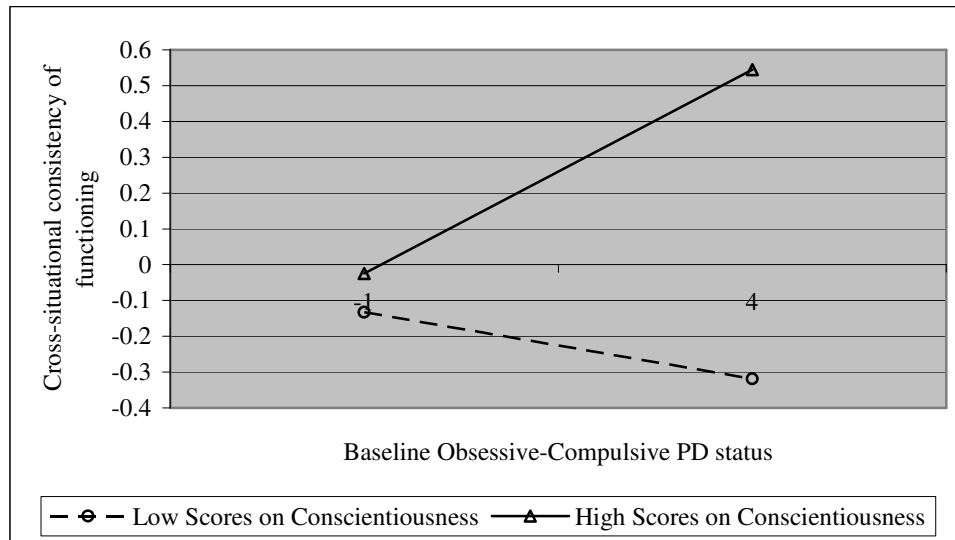


Figure 11. Conscientiousness level moderating the relationship between baseline status and cross-situational consistency of functional impairment.

Table 21. Obsessive-Compulsive Personality Disorder Cross Situational Consistency of Functional Impairment: Summary of Hierarchical Regression Analyses Testing Main Effects of Traitendness Estimates.

<i>OCPD</i>	Interitem Variance			Construct Similarity			Temp. Res.Pattern Stab.			Person Fit		
	Part Corr.	R ²	Effect Size f ²	Part Corr	R ²	Effect Size f ²	Part Corr	R ²	Effect Size f ²	Part Corr	R ²	Effect Size f ²
Conscientiousness (Cons.)												
1. OCPD baseline	0.019	0.003	0.00	0.024	0.003	0.00	0.029	0.004	0.00	0.020	0.003	0.00
2. Cons. Level	0.079 [†]	0.011*	0.00	0.078 [†]	0.011*	0.00	0.059	0.009	0.00	0.077 [†]	0.011*	0.00
3. Cons. Traitendness	-0.018	0.020 [†]	0.00	-0.010	0.020 [†]	0.00	0.026	0.022 [†]	0.00	-0.020	0.020 [†]	0.00
OCPD x Cons. level	0.093 [†]		0.00	0.092*		0.00	0.112*		0.00	0.091*		0.00
Competence (C1)												
1. OCPD baseline	0.023	0.001	0.00	0.020	0.001	0.00	0.022	0.001	0.00	0.022	0.001	0.00
2. C1	0.058	0.006 [†]	0.00	0.061	0.006 [†]	0.00	0.054	0.004	0.00	0.061	0.006 [†]	0.00
3. C1 Traitendness	0.017	0.008	0.00	0.018	0.008	0.01	-0.034	0.006	0.00	0.014	0.008	0.00
OCPD x C1 level	0.040		0.00	0.041		0.00	0.025		0.00	0.041		0.00
Dutifulness (C3)												
1. OCPD baseline	0.016	0.001	0.01	0.020	0.001	0.01	0.008	0.001	0.01	0.013	0.001	0.01
2. C3	0.045	0.003	0.00	0.034	0.003	0.00	0.061	0.005	0.00	0.040	0.003	0.00
3. C3 Traitendness	-0.010	0.006	0.00	-0.049	0.008	0.00	0.091 [†]	0.015	0.01	-0.049	0.008	0.00
OCPD x C3 level	0.049		0.00	0.047		0.00	0.045		0.00	0.049		0.00
Achievement Striving (C4)												
1. OCPD baseline	0.008	0.002	0.00	0.008	0.002	0.00	0.025	0.002	0.00	0.011	0.002	0.00
2. C4	0.084*	0.010*	0.00	0.079*	0.010*	0.00	0.048	0.006	0.00	0.084*	0.010*	0.00
3. C4 Traitendness	0.013	0.015	0.00	0.023	0.015	0.00	-0.021	0.018 [†]	0.00	0.028	0.016	0.00
OCPD x C4 level	0.072 [†]		0.00	0.073 [†]		0.00	0.110*		0.01	0.073 [†]		0.00

[†]p < .10, *p < .05, **p < .01.

Further Investigations of Independent Variables and Cross-situational Consistency of Functional Impairment: Obsessive-Compulsive Personality Disorder and Cross-situational Consistency Relationships

The number of Obsessive-Compulsive PD criteria endorsed at baseline was positively correlated with cross-situational consistency (see Table 22), suggesting that the presence of Obsessive-Compulsive personality disorder is associated with consistency in functioning across areas. The Bonferroni correction described earlier resulted in criterion of statistical significance set at $p = 0.0125$. Other than the baseline Obsessive-Compulsive personality disorder score, none of the other independent variables used in the regression models met that criterion for statistical significance. The finding of some significant findings in the regression model suggests that trait/disorder interactions did offer some contribution to the understanding of cross-situational functioning, as in the interactions between the levels of Conscientiousness and Achievement Striving and baseline Obsessive-Compulsive PD, both of which predicted cross-situational consistency of functioning.

Table 22. Obsessive-Compulsive Personality Disorder Consistency of Functioning: Zero-order Correlations between Independent Variables and Consistency of Functioning

<i>Obsessive Compulsive PD</i>	Cross Situational Consistency of Functioning
Obsessive-Compulsive PD baseline score	0.101*
Conscientiousness	
Level	-0.017
Interitem Variance Traitenedness	-0.007
Construct Similarity Traitenedness	0.038
Temporal Response Pattern Traitenedness	-0.014
Person Fit Traitenedness	0.071
Competence (C1)	
Level	0.024
Interitem Variance Traitenedness	0.012
Construct Similarity Traitenedness	-0.035
Temporal Response Pattern Traitenedness	0.003
Person Fit Traitenedness	0.053
Dutifulness (C3)	
Level	0.005
Interitem Variance Traitenedness	-0.047
Construct Similarity Traitenedness	0.077
Temporal Response Pattern Traitenedness	-0.050
Person Fit Traitenedness	0.097
Depressiveness (N3)	
Level	0.013
Interitem Variance Traitenedness	0.044
Construct Similarity Traitenedness	0.000
Temporal Response Pattern Traitenedness	0.024
Person Fit Traitenedness	0.101
Achievement Striving (C4)	
Level	-0.017
Interitem Variance Traitenedness	-0.007
Construct Similarity Traitenedness	0.038
Temporal Response Pattern Traitenedness	-0.014
Person Fit Traitenedness	0.071

DISCUSSION AND CONCLUSIONS

This study explored the utility of four different traitedness indicators as potential moderators of consistency of diagnostic status, and tested the ability of traitedness to predict cross-situational consistency of functional impairment. Results indicated that though they varied in the size of convergence, the traitedness estimates appear to share common variance. While certain traitedness estimates did demonstrate significant relationships with trait level, the greater risk of confound appears to be with trait extremity. Overall, traitedness was not a large or frequent moderator of diagnostic consistency, although there were isolated traitedness moderators that increased prediction of diagnostic consistency. Traitdness was also not globally associated with cross-situational consistency of functional impairment; rather, the isolated effects occurred in relation to traits that seem to relate to multiple domains of functioning.

Convergence of Traitdness Estimates

Results indicated that although certain traitedness estimates appear to be strongly related, and virtually all of the relationships between the traitedness indicators were positive, universal convergence across the indicators did not occur. The IRT-based person fit measure of traitedness and the interitem variance traitedness measures were the most strongly related. In general, the interitem variance traitedness estimate did not appear to be strongly related to construct similarity or to temporal response pattern stability. Biesanz, West, and Graziano (1998) noted that there is a statistical explanation for some relationship between interitem variance and temporal response pattern stability; they noted that individuals with more variability in their response patterns are more

likely to have higher stability estimates. In general construct similarity demonstrated modest relationships with the temporal response estimates and the person fit estimates. The convergence of construct similarity with person-fit estimates may be in part a function of how the two estimates are calculated. Person-fit is largely based on the response pattern of the group, such that more aberrant responders are less fitting to the model. Individuals scoring more similarly to the group are more traited according the person fit traitedness estimate. Similarly, construct similarity is based around an individual's similarity of response pattern to the group pattern of responses. Thus, the convergence of these two indicators may reflect some overlap in measurement. The modest convergence of construct similarity with temporal response pattern stability is interesting, because it indicates that individuals' consistency of their own responses over time (temporal response pattern) shares some relationship to the similarity of their response profile to the group. It suggests that individuals who are more consistent with themselves are also more consistent with the group. Temporal response pattern stability and person-fit generally did not converge well.

Comparing convergence of traitedness estimates in our sample with other studies is difficult since studies of traitedness typically explore different traits, as well as different traitedness indicators. However, some past research is informative in terms of comparisons. Chaplin (1991) reported the average correlation between interitem variance and construct similarity on eight domains was $r = -0.01$; our average correlation across the five domains, using a Fisher z transformation before averaging, was 0.04. Biesanz, West, and Graziano (1998) looked at the convergence of four moderator

indices, including temporal response pattern, interitem variance, scalability, and construct similarity, for the traits Conscientiousness and Extraversion in two separate studies. We found substantially higher convergence between construct similarity and temporal response pattern stability than Biesanz, West, and Graziano did in Study 1 (1998; $r = -0.09$ for Extraversion; $r = -0.18$ for Conscientiousness), but comparable levels of their convergence estimates from Study 2 ($r = -0.32$ for Extraversion; $r = -0.18$ for Conscientiousness). These authors did not scale the traitedness estimates in their study; the relationships between the indicators, overall, were positive, as were the findings in this study. We also found similar convergence as Biesanz et al. reported in their estimates of the relationship of construct similarity and interitem variance ($r = -0.14$ for Study 1, $r = -0.16$ Study 2 Extraversion and $r = -0.13$ Study 1, $r = 0.19$ stud 2, for Conscientiousness).

Tellegen (1988) suggested that the interitem variability estimate not an optimal method of choice for traitedness assessment because it is particularly susceptible to “faultiness” variations. These variations can include inconsistent response patterns due to a certain type of response style (e.g. acquiescence, guessing), concentration difficulties, or other extraneous factors that may affect an individual’s ability to complete a self-report inventory. Tellegen (1988) notes that the inclusion of interitem variance as a moderator is still a valuable pursuit in that individuals who are more variable for any number of reasons may negatively affect prediction. It is noteworthy that the IRT-based measure of person-fit was specifically designed to find unusual or unlikely response patterns which do not fit an IRT model. Person-fit estimates can be

elevated for a number of reasons, including guessing, extreme response patterns, responding to items in a pattern which does not fit expectations, and incorrectly coding responses. It does not seem surprising; therefore, that interitem variance and person-fit estimates of traitedness appeared to have the greatest convergence amongst all of the measures that were correlated. The correlations between the interitem variance and person fit may have been lower had the NEO-PI-R been designed with an IRT framework rather than factor analysis. For example, items on the Information subtest of the WAIS become increasingly difficult as more items are completed; extreme variations on these items (e.g. a score of 0 on the first, easiest item, and a 2 on the last, hardest item) suggest misfit to the model because the items on the Information subtest are expected to increase in difficulty. As the NEO-PI-R is currently designed, unexpected response patterns on the NEO-PI-R do not necessarily indicate a person-level misfit to a logical progression of item difficulty, they indicate response patterns that do not fit the profile of the group. As has already been discussed, individuals with a lot of variability in their response pattern will have converging person-fit and interitem variance estimates. IRT researchers have been evaluating IRT models of the NEO-PI-R and with some success in approximating facet scores from fewer items using IRT modeling (see Reise & Henson, 2000).

Is it possible that traitedness estimates simply reflect estimates of response patterns? Indeed, all of the traitedness estimates are based around individual response patterns, and are likely to be subject to different response styles. At the same time, patterns thought to reflect invalid responding that also indicate less traitedness should

not be immediately discounted. Patterns thought to reflect invalid response patterns may, in fact, be influenced by traitedness, or low traitedness on specific traits. For example, if an individual does not identify with any of the questions on a measure of political affiliation; the individual may endorse the items any number of ways, possibly erratically, possibly with an acquiescent tendency, or possibly an “all false” approach. While this person might appear to have a faulty response pattern, it is also quite possible that low traitedness on political affiliation is the explanation for this response style.

Trait level/Trait extremity

Consistent linear relationships between traitedness estimates trait level for specific domains were not found, with the exception of the domain, Openness, which was positively related to interitem variance, construct similarity, and temporal response pattern. Trait extremity on Openness was also significantly negatively related to the IRT-based measure of person fit. These results indicate that individuals with elevated Openness scores are more consistent in their response pattern, more like the group in their pattern of responding, and more consistent in their pattern of responding over time than individuals who score lower on Openness. One explanation for this set of findings may be that Openness has been shown to be associated with a “g” factor of intelligence (Gignac, 2005, Harris, 2004). Intelligence may lead individuals to have a more consistent style of responding, both with themselves and with the group patterns. Individuals with more extreme scores on Openness also appear to be less likely to fit an IRT-model of Openness items. The negative relationship between extremity on Openness and person fit suggests that individuals who are most and least open are most

aberrant from the IRT model. This negative relationship for trait extremity and person-fit was true for all five domains, and likely reflects that extremity in either direction of the trait did not fit an IRT response pattern model. For example, individuals scoring in the lowest or highest range of Openness are forced to endorse multiple extreme scores, whereas an IRT measurement model is based on inferring an individual's score from a range of scores that parallels the group. Responding in one direction (all high or all low) does not fit a measurement model of the traits if the individuals do not respond consistently in that fashion (e.g. answer all 4s and then endorse two 0 scores); those individuals appear the least traited.

Construct similarity was also negatively related to trait extremity for four out of five domains (Openness was the exception). This is also likely related to the measurement properties of construct similarity. Construct similarity is based around the principal of shared meaning of the construct in question; the farther away from the group mean pattern of responding an individual is in his/her own response pattern, the less similar he/she views the construct. The negative relationship between trait extremity and construct similarity is not surprising; individuals who respond more dissimilarly from the group pattern are also likely to be more different from the group with respect to their score on the trait.

Neuroticism trait extremity was positively related to interitem variance traitedness, suggesting that individuals in the highest and lowest ranges on Neuroticism were most traited. Agreeableness, on the other hand, had a negative relationship between interitem variance and trait extremity, suggesting that the most and least

Agreeable individuals were also the least traited. This suggests that individuals with the highest and lowest scores on Neuroticism had a consistent pattern of responding, whereas the most and least Agreeable individuals were inconsistent, or quite variable, in their response pattern.

Personality Disorder Consistency Findings

For all of the four personality disorders explored in this study, the strongest predictor of diagnostic consistency was the baseline score on the diagnosis. The zero-order correlations revealed a general pattern that individuals who did not have a diagnosis at baseline did not tend to acquire one by the two-year time point, whereas individuals who did have specific diagnosis at baseline were more likely to demonstrate changes in their diagnostic status. That is, individuals in this sample are more likely to remit from a personality disorder diagnosis than to acquire an additional one. This is consistent with previous findings exploring the patterns of stability and change in this sample of patients. Grilo, Shea, Sanislow et al. (2004) demonstrated that all four personality disorders show patterns of remission over two year periods, with 23-38% of patients showing improvement over time in their diagnosis.

The utility of trait level to predict diagnostic stability appeared to vary across the different disorders. For example, neither Schizotypal nor Obsessive-Compulsive Personality Disorder demonstrated any main effects of trait level, whereas the regressions testing the diagnostic consistency of Borderline and Avoidant PD demonstrated several main effects that predicted diagnostic consistency in these personality disorders. Borderline and Avoidant both demonstrated main effects for the

Neuroticism facets Anxiousness and Vulnerability. The facet of Vulnerability is designed to measure vulnerability to stress, and individuals who score more highly describe feeling incapable and panicked when stressful situations occur (Costa & McCrae, 1992). Because certain traits have been hypothesized to be relevant to more than one disorder, the same trait was occasionally entered as predictors for different personality disorders. Sometimes, as was the case for Vulnerability and Anxiousness, the traits were similarly predictive for both hypothesized disorders. This reflects the often raised criticism of the five factor model for its limited ability to differentiate among the personality disorders. However, certain traits that were expected to function similarly often were predictive for both groups, but functioned differently. For example, the main effect of Self-consciousness and the interaction of Self-consciousness trait level by baseline score predicted Avoidant status at 2 years; the main effect for this trait did not predict Schizotypal PD at two years, and traitedness on Self-consciousness moderated diagnostic consistency for Schizotypal PD, suggesting that this trait functioned differently in predicting stability of these two diagnoses. Whereas Anxiousness was entered as a predictor for three of the personality disorder consistency explorations, it was a significant main effect for two (Borderline and Avoidant), but significant only in interaction with traitedness in moderating Schizotypal consistency.

Similar findings occurred related to trait level by baseline diagnosis interactions. There was a moderating effect of trait level on diagnostic consistency for Schizotypal PD (for the traits Warmth and Trust) and for Avoidant PD (for the traits Self-Consciousness, Extraversion, and Assertiveness). In an effort to differentiate personality

disorder groups, Morey et al. (2002) tested whether the addition of interactions of the five factor domains would increase the ability to differentiate the Schizotypal, Borderline, Obsessive-Compulsive PD, and Avoidant. They found that several interactions of the domain levels differentiated Avoidant from the other three personality disorders. Morey et al. (2002) noted that these interactive effects “suggest that the personality disorders lie within the same general region of the space defined by the FFM, with differences among the disorders reflecting relatively subtle shadings, rather than extremes of orthogonal dimensions” (p .230). Though specific explorations differentiating the disorders were not tested in this study, the differences in the form of the relation of the same traits to the stability of different personality disorders demonstrated in this study seem to indicate that the same traits may emerge in subtly different patterns depending on the disorder. However, unlike in Morey et al., the configural patterns of different traits were not explored. Rather, the interactive effects tested in this study included diagnostic status at baseline and the moderating effects of traitedness estimates.

Traitedness and Borderline Personality Disorder

High scores on Neuroticism have been found to differentiate Borderline PD from community populations (e.g. Morey et al. 2002; Pukrop, 2002) and from other Axis II diagnoses (all but Avoidant, see Morey et al., 2000). This study found that traitedness on Neuroticism increased prediction of the consistency of diagnostic status of Borderline PD, suggesting that individuals who are more Borderline at baseline and more traited on Neuroticism are more likely to remain Borderline than individuals with the same

symptom count at baseline who are less traited. Traitedness on Anxiousness, which is a facet of Neuroticism, also increased prediction of consistency of Borderline diagnostic consistency in the same fashion. More traited individuals were more consistent in diagnostic status. A particularly interesting finding in this set of traits was traitedness on Impulsiveness, which was a significant moderator of diagnostic consistency. Novelty seeking, a scale from the Temperament and Character Inventory (TCI; Cloninger et al., 1993) has recently been shown to differentiate individuals with Borderline PD from individuals with other PDs. This finding may add a modest contribution towards understanding among individuals with Borderline PD, who may show greater diagnostic change.

The interaction of Impulsiveness trait level by the traitedness estimate suggested that less traited individuals with higher Impulsiveness scores are more likely to have a diagnosis of Borderline PD at two-years than more traited individuals with the same Impulsiveness score. These effects run counter to those hypothesized. This suggests that the traitedness estimates function differently in interaction with symptom counts than with the traits thought to underlie these symptom counts. An additional interpretation of the divergent findings for Impulsiveness is the possibility that the highest scoring individuals on Impulsiveness may have a more characteristically impulsive or inconsistent response style. In the face of indecision about which level of a response to endorse, they maybe more inclined to follow urges to quickly respond and move forward than to deliberate on a response.

Traitedness on two different traits predicted cross-situational consistency of functioning, Anxiousness and Angry Hostility, in individuals with Borderline PD. Viewed in the context of some of the prototypical symptoms and experiences of Borderline PD, these results would be anticipated. Borderline PD has been demonstrated to be associated with worse functioning than other Axis II diagnoses in vocational status, a measure of overall functioning which included an index of relationship status, and to have lower Global Assessment of Functioning scores (Zanarini et al., 2005). Anxiousness would be expected to cross into interpersonal areas of functioning (e.g. intense anxiety about abandonment), work (self-critical ruminations about performance) and leisure (impairment of utilizing leisure with anxiety as a prominent obstacle). Individuals for whom Anxiousness is more relevant, who are more traited, are more cross-situationally consistent in their functional impairment.

Traitedness on Angry Hostility was also associated with cross-situational consistency of functional impairment. In a study evaluating relationships between anger, anxiety, depression, and fear, Leichsenring (2004) found higher correlations among those variables in Borderline individuals than patients who were higher functioning, with the relationship between anger and depression the strongest of the relationships. Borderline individuals who experience Angry Hostility are likely to suffer consequences of their actions in multiple areas of their lives; they may be less likely to engage in leisure activities (they may withhold participation, or feel uninspired to engage), are more likely to have interpersonal conflicts at work affecting work functioning, and are more likely to suffer interpersonal conflicts with friends and family. One finding that

did not emerge was that traitedness on Impulsiveness did not predict cross-situational consistency of functioning; this is somewhat surprising, given that individuals for whom this trait is most relevant would be expected to show disruptions in multiple areas of their life associated with impulsivity. However, it is possible that impulsivity affects certain areas more than others; thus, traitedness on Impulsiveness may influence functioning, but it does not predict cross-situational consistency.

Traitedness and Schizotypal Personality Disorder

Traitedness estimates for Anxiousness, Self-consciousness, and Trust significantly moderated Schizotypal symptomatic consistency, but in the direction opposite of that predicted. Traitedness is a measure of the extent to which a trait is consequential to prediction of behavior, and these findings indicated that individuals who were less traited on these traits were more predictable in terms of their diagnostic consistency. One possible explanation of this may be in the nature of Schizotypal PD; these individuals are construed to be eccentric and unusual, with subtle signs of thought disorder, whereas traitedness indicators are estimates that, with the exception of temporal response pattern stability, are derived from a shared perception of a trait with the group. None of the significant moderating effects for Schizotypal PD were using the temporal response pattern estimate, which is the group-independent measure of traitedness. Another explanation may be found in specific patterns of attentional performance by individuals with elevated Schizotypal PD pathology; in a study testing the association between high Schizotypal scores, anxiety, and ability to suppress attention to irrelevant stimuli, schizotypy and anxiety were both related to poorer

performance (Braunstein-Bercovitz, 2000). Attentional difficulties that increase with increasing Schizotypal scores may have accounted for less traitedness on Anxiousness, Self-consciousness, and Trust being associated with greater consistency of diagnosis. Traitredness in the Schizotypal group, at least in those individuals most Schizotypal, may be associated with a response style affected by distraction and anxiety, which might account for more typical “faulty” response patterns.

Interestingly, the interaction of trait levels by traitredness estimates demonstrated that the level by traitredness estimates were a predictor of diagnostic stability; individuals more traitred on Self-consciousness, Trust, and Warmth were more predictable on diagnostic consistency when trait level was entered into the interaction rather than rather than baseline Schizotypal score. This suggests that the contribution of traitredness estimates may serve to differentiate individuals scoring in the maladaptive direction on those traits hypothesized to be relevant to Schizotypal; higher scorers who are traitred are more likely to retain their diagnostic status from those scoring in the maladaptive ranges who are not traitred. One of the limitations of the Five Factor Model of personality disorder is that it is difficult to assess who will remit on a disorder from who will not using the traits; these findings suggest a potential contribution of traitredness to assess some element of “trait rigidity”. That is, level offers a picture of the strength of the trait, but traitredness may offer some insight into the meaning or consequence of the trait for an individual’s diagnostic picture. More traitred Schizotypal individuals with maladaptive levels on these traits appeared diagnostically more consistent, which implies these were the individuals least likely to change on their diagnosis. Interestingly,

whereas the relationship of traitedness estimates to trait levels worked as predicted, the interaction of Schizotypal symptom count and traitedness did not, suggesting some differences in how traitedness estimates function depending on how they are used.

Inconsistency in the level of functional impairment was associated with being Schizotypal, which may reflect the nature of the pathology. These individuals may not have difficulty finding leisure activities that please them, but may struggle to maintain relationships given the interpersonal struggles brought about by suspiciousness and social anxiety. At the same time, these individuals may function reasonably well in certain types of more isolative professions, but not others that have a more social or interactive component. Indeed, it was traitedness on Anxiousness that was most predictive of cross-situational consistency of functioning for this group. Whereas certain elements of Schizotypal pathology may not be functionally impairing depending on the area of functioning (e.g. eccentricity may not affect work as a computer programmer), Anxiousness is a trait that can be expected to influence functioning in all areas. These findings suggest that of the relevant traits to Schizotypal explored in this study (Anxiousness, Self-consciousness, Warmth, and Trust), traitedness on Anxiousness is likely to carry the most impact in terms of functional impairment cross-situationally.

Traitedness and Avoidant Personality Disorder

Consistency on Avoidant PD was significantly moderated by traitedness on Gregariousness. The trait, Gregariousness reflects a general tendency towards enjoying the company of others company, and “the more the merrier” (Costa & Widiger, 2002, p. 464). It is not surprising that traitedness on an Extraversion facet is related to

consistency of Avoidant PD, and consideration of the Avoidant criteria reveals why Gregariousness traitedness is most informative in differentiating predictable from less predictable individuals on Avoidant PD consistency. Five of the seven Avoidant PD criteria specifically reference social situations or interpersonal relationships, each of which require some element of comfort with others. The other traits investigated for Avoidant PD, the broad domain, Extraversion, Assertiveness, and the Neuroticism facets Anxiousness, Self-consciousness, and Vulnerability, capture the elements of anxiety and social inhibition experienced by these individuals; their effects, when observed, were seen in the main effects of trait level (observed for all traits but Vulnerability). However, in terms of further lessons about specific trait relevance to diagnostic consistency, traitedness asks the question, how consequential is this trait in predicting behaviors for these individuals? For individuals with Avoidant PD, traitedness on Gregariousness is predictive of diagnostic consistency above and beyond the effects of Gregariousness level.

Only the construct similarity traitedness estimate for Anxiousness had a main effect on cross-situational functional impairment. Individuals who are more traited on Anxiousness would be expected to show more consistent functional impairment across areas, as anxiousness influences behaviors in multiple areas. Meyer (2002) studied personality and mood contributions to Avoidant PD, and among the findings found that a measure of the Behavioral Inhibition System (elevated) and Behavioral Activation System (decreased) were associated with Avoidant PD beyond the effects of Neuroticism and Anxiousness. The Behavioral Inhibition System reflects an increased

sensitivity to threat, and seems likely to be related to the finding that traitedness on Anxiety is related to consistency of cross-situational functioning. Anxiety and the Behavioral Inhibition System were found to be correlated. Individuals for whom Anxiousness is more consequential, who are more traited on Anxiousness, are more consistent in their functional impairment across situations.

Traitedness and Obsessive-Compulsive Personality Disorder

The traitedness estimates demonstrated limited predictive effectiveness for diagnostic consistency of Obsessive-Compulsive PD. Though the interitem variance and construct similarity estimates of Achievement Striving were both found to moderate the diagnostic consistency of Obsessive-Compulsive PD, the direction of the interaction for each estimate was in the opposite direction. The same traitedness estimates for Achievement Striving also were found to moderate the trait level by baseline Obsessive-Compulsive PD interaction, also in opposing directions. One explanation for the performance of the Obsessive-Compulsive group may be revealed in the nature of the disorder itself. Individuals with Obsessive-Compulsive PD are supposedly perfectionists and preoccupied with detail. It is possible that this detail orientation may affect performance on self-report measures, decreasing variability of item responses, which would attenuate reliable measurement of traitedness for many of the indicators. It is noteworthy that temporal response pattern, the estimate that appears to be least subject to the influences of trait extremity, is the estimate that was significant for this group.

Another explanation of the findings lies in the performance of the Five Factors to explain Obsessive-Compulsive PD pathology and change; a recent study indicated that

in contrast to Borderline, Schizotypal, and Avoidant PD, Obsessive-Compulsive PD did not demonstrate a relationship between trait change and disorder change. This same study demonstrated only marginal performance of an initial confirmatory factor analyses of the traits hypothesized to underlie Obsessive-Compulsive PD, which suggested that the facets of the NEO may be limited in explaining the trait structure of Obsessive-Compulsive PD (Warner et al., 2004).

Traitedness on Achievement striving predicted cross-situational consistency of functional impairment in individuals with Obsessive-Compulsive PD. High levels of Achievement striving are associated with aspiration and drive, whereas low levels are associated with a lack of ambition (Costa & McCrae, 1992). Regardless of trait level, individuals for whom this trait is more relevant were more cross-situationally consistent in their functioning, suggesting that this trait may be an important component of functional impairment in individuals with Obsessive-Compulsive PD. For example, excessive workaholism can actually lead to poor work productivity if one becomes distracted by performance expectations of self and others; this same workaholism can negatively affect interpersonal relations and leisure pursuits. Individuals who are traited and score quite highly on Achievement Striving may thus be at risk for impairment that crosses those areas, whereas traited individuals at lower levels on Achievement striving, while also expected to be consistent across areas, may not experience the same level of impairment.

Conclusion

The results of this study must be viewed in light of their size and their own consistency. Generally speaking, the moderating effects of traitedness estimates, even when statistically significant, had small effect sizes. In addition, the traitedness estimates varied in how convergent they were in the predictions of cross-situational consistency and diagnostic consistency. Though certain traitedness estimates were statistically significantly associated with increased predictions, they often stood in isolation. Some uncertainty must exist about what to make of the effects that occurred for only one indicator, but it is not clear that there should be an expectation of convergence to interpret the findings as meaningful. Though the traitedness estimates were generally positively correlated, these relationships varied in strength depending on the relationship. For example, person-fit and interitem variance estimates often demonstrated the same predictive effect; however, this would be expected based on their strong correlations. When the two indices demonstrated convergence in prediction, it is not clear that this should indicate that a result is more “valid”.

Though the effects of traitedness estimates in moderating diagnostic consistency and predicting cross-situational consistency were quite small, this does not mean that the effects are not valuable. McClelland and Judd (1993) wrote about the difficulties of finding moderator effects in field designs, concluding that researchers “should be aware that the odds are against them” (p. 388) due to problems with the distributions of the predictors relative to experimental designs. They concluded without better control of these distributions, researchers face serious limitations in the ability to find effects.

They referenced Evans (1985), who, in his simulations of data, found that genuine interactions yielded a 1% effect size. One strategy that might be worth considering in traitedness research is to evaluate the variables on which the traitedness estimates are constructed. In this study, traitedness estimates were based on the five factor model; however, this model has been criticized specifically on the grounds that it cannot fully capture the range of pathology experienced by individuals with personality disorders. It would seem that a traitedness estimate's utility in prediction is limited by the trait's utility in prediction; it would be interesting to test other models of personality pathology (e.g. the SNAP; Clark, 1993) that have trait measures that have been shown to capture more variance of personality disorder pathology. Other models of traitedness can also be explored that are less dependent on response pattern; Tellegen (1988) suggests that schema and traitedness are related concepts, and that assessing schema, the "cognitive structure that processes (selects, interprets, integrates, stores, and retrieves) diverse information in some domain" (p. 651) may be a strategy to assess individual differences in relevance without restricting individuals to a location or level on that dimension, as is currently required of most traitedness estimates (e.g. by assessment of trait level). Tellegen (1988) offered the example of gender schematicity; individuals differ not in the level of masculinity/femininity they possess, but in the degree to which their behaviors are organized around gender schema. Tellegen's suggestion has not yet been explored, but may merit consideration in the future of traitedness research.

This study offered one of the most thorough investigations of the traitedness hypothesis thus far, and is the first to test the two most recent traitedness models in the

same paper, the measure of person-fit and temporal response pattern stability. The measures of traitedness were calculated on a large clinical sample, and the concepts were applied to clinical questions, a direction not previously explored in the traitedness literature. Also, the longitudinal nature of the data allowed for longitudinal assessments of traitedness (temporal response pattern stability) as well as application of the traitedness indices to questions about diagnostic consistency. It is also the first large scale application of the moderated multiple regression approach first suggested by Tellegen, Kamp, and Watson (1982) that addresses potential confounds of moderator effects.

There were not strong and universal findings of traitedness in predicting diagnostic or cross-situational consistency, but there were isolated effects of interest that indicate that the concept of traitedness may have a role in furthering understanding of trait-behavior relationships. This study was the first to test the hypothesis that traitedness predicts personality consistency cross-situationally across three domains of functioning. This study demonstrated that for some of the people, certain traits are more predictive of behaviors across situations than for other people, and that this is particularly true for certain traits. Specifically, individuals who were more traited on Anxiousness were more cross-situationally consistent than individuals less traited, suggesting that at least for certain traits, there may be differences in prediction based on traitedness. Traitdness appears to be more applicable to certain traits than to others in the prediction of cross-situational consistency.

This study was also the first to test this set of moderators as a measure of consistency of personality disorder diagnoses, applying a personality concept to a crucial question about personality disorder stability and change. One major question of interest in the personality disorder literature is if individuals suffering from Axis II diagnoses can change, and what may help or hinder these changes. Results of this study indicated that traitedness on certain traits was associated with increased diagnostic consistency over time; that suggests that individuals most traited on traits relevant to these diagnoses may be the least likely to show patterns of remission over time. Whereas being traited on a healthy level on a trait may lead to consistencies in normal behaviors, traitedness and maladaptive levels of personality disorder relevant traits may lead to a difficult treatment course.

In conclusion, the results of this study play an important role in clarifying questions about trait-behavior relationships. McCrae and Costa (2003) have stated that the Five Factor Model traits are found in all people in varying degrees and define traits as “dimensions of individual differences to show consistent patterns of thoughts feelings and actions” (p. 25); this study suggests that some people demonstrate individual differences in the extent to which traits predict those consistent patterns. Results suggested that though the nomothetic power of the Five Factor Model is important in the prediction of diagnostic consistency, and these predictive effects were often strengthened when united with the idiographic principles originally espoused by Allport.

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