Self- and Peer Perspectives on Pathological Personality Traits and Interpersonal Problems

Allan Clifton, **Eric Turkheimer**, and **Thomas F. Oltmanns**
University of Virginia

Abstract

This study compares the relationship between personality disorders and interpersonal problems as obtained by self-report and peer-report measures. Participants (*N* = 393) were administered self- and peer-report versions of the Peer Inventory for Personality Disorder and the Inventory of Interpersonal Problems–64. Canonical analyses demonstrated similar relationships between personality disorder features and interpersonal problems as measured by either self or peer. Analyses between self and peer found little shared variance across sources, indicating a large method variance. Results indicate that although similar constructs are identified by self and peers in their understanding of personality pathology and associated interpersonal problems, self-report information overlaps very little with information obtained from peers, underscoring the importance of obtaining multiple sources of information.

Keywords

self-report; peer report; personality disorders; interpersonal problems

Personality disorders (PDs) are described in the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM–IV*; American Psychiatric Association, 1994) on the basis of specific personality features for each disorder. However the *DSM–IV* also requires that any PD, regardless of type, must result in interpersonal impairment or subjective distress. In other words, simply displaying a pattern of problematic traits and characteristics is not enough, if these traits do not lead to additional problems such as difficulty relating to others. Morey (1997) underscored the importance of interpersonal dysfunction in PDs, stating that "the maladaptiveness which qualifies personality disorders as mental disorders can only be evident in an interpersonal context" (p. 937). Unfortunately, most research on PDs has neglected the issue of interpersonal problems, focusing instead on the conscribed features of specific disorders. Without a better appreciation of their interpersonal consequences, our understanding of PDs is necessarily limited.

Correspondence concerning this article should be addressed to Allan Clifton, Western Psychiatric Institute and Clinic, 3811 O'Hara Street, Pittsburgh, PA 15213. cliftonad@upmc.edu.
Allan Clifton is now at the Department of Psychiatry, University of Pittsburgh School of Medicine. Thomas F. Oltmanns is now at the Department of Psychology, Washington University in St. Louis.
Allan Clifton, Eric Turkheimer, and Thomas F. Oltmanns, Department of Psychology, University of Virginia.

Measures of interpersonal difficulty focus on specific types of problems that become evident in interactions with other people. A large body of literature suggests a convergence between *DSM* PDs and patterns of maladaptive interpersonal behavior. PD traits have been associated with impaired social functioning in both clinical (e.g., Skodol et al., 2002) and nonclinical (e.g., Oltmanns, Melley, & Turkheimer, 2002) samples. In contrast with other people, individuals with PD tend to adhere rigidly to particular behaviors and to utilize extreme versions of these behaviors (Sim & Romney, 1990). Numerous studies (e.g., Pincus & Wiggins, 1990; Romney & Bynner, 1997; Soldz, Budman, Demby, & Merry, 1993; Wiggins & Pincus, 1994) have shown that many of the *DSM* PDs can be described accurately using the two-factor space of the interpersonal circumplex. Other studies (e.g., Pilkonis, Kim, Proietti, & Barkham, 1996; Scarpa et al., 1999) have shown that patterns of interpersonal problems reliably act as markers of personality pathology and are useful in screening for PDs in both clinical and nonclinical populations.

Previous studies that have examined the relation between PDs and interpersonal functioning have relied on self-report measures both to establish a diagnosis and as an index of interpersonal problems. Unfortunately, the validity of self-report measures is open to question in both regards. People with PDs may have an especially difficult time observing or reporting the way their behavior affects those around them (Oltmanns, Turkheimer, & Strauss, 1998). Relying solely on self-report methods of assessment may therefore produce a limited view of PD traits. In fact, a review of informant studies of PDs found a median correlation of only .36 between self-report and informant report (Klonsky, Oltmanns, & Turkheimer, 2002). Measures of interpersonal problems have demonstrated comparable self–informant correlations. For example, Hill, Zrull, and McIntire (1998) administered self-report and informant versions of the Inventory of Interpersonal Problems–64 (IIP-64) to 214 pairs of participants and found moderate correlations between self-report and informant report (correlations of unipsatized scales ranged from .20 to .39). Similarly, Foltz, Morse, and Barber (1999) administered self-report and informant versions of the IIP-64 to 49 romantic couples and found similar mean self–partner correlations across scales (.39 for female participants' self-ratings, and .42 for male participants' self-ratings).

Taken together, these results suggest that individuals' understanding of their personality traits and their interpersonal functioning is often at odds with those around them. If we hope to accurately understand the interpersonal impact of PDs, we must go beyond simply asking the person to report his or her interpersonal limitations and also obtain information from those with whom the person interacts on a daily basis. By incorporating the observations of large groups of peers, we hope to provide a broader picture of interpersonal dysfunction in PDs.

The purpose of the present study was twofold. First, we examined the relation between PD traits and interpersonal problems using measures obtained from self-report and from large groups of peers. Specifically, do peers identify relationships between personality pathology and interpersonal problems similar to those found by self-report? If the relationship between measures is markedly different within each source, it could suggest that individuals have a different understanding of maladaptive behavior in others than they have for themselves. Alternatively, similar patterns within each source would suggest a consistent understanding

of the relationship between PDs and interpersonal problems in both self-report and judgments provided by others.

Second, we examined the relation between PD traits and interpersonal problems measured across source. That is, we compared the PD traits obtained by self-report with the interpersonal problems reported by peers and vice versa. Previous research has found only modest self–peer correlations for PD traits, which may be due to differing perceptions of the same traits between self and peers (Clifton, Turkheimer, & Oltmanns, 2004). Understanding the PD traits that predict perception of interpersonal problems across source may improve our understanding of how specific PDs are perceived differently by self and peers.

Method

Participants

The participants in this study were 393 undergraduate students (75% women) at a large public university. Their ages ranged from 18 to 22, with a mean of 19.2 (*SD* = 0.5). Participants were 75% Caucasian, 9% Asian, 7% African American, and 8% other ethnicities (Hispanic, Native American, or biracial). Participants were all first-year students who had been living together for approximately 5 months on 1 of 32 single-sex dormitory halls. The number of participants ranged from 7 to 19 per group (*M* = 12, *SD* = 2.6), and participants made peer ratings only of other members of their group. As part of the battery of measures, participants rated all other members of their group on the item, "Please rate how well you know each person," rating each person on 4-point rating scale ranging from 0 (*not at all*) to 3 (*very well*). The mean dyadic rating on this item was 1.58 (*SD* = 1.0), indicating that, on average, participants felt they knew one another between "somewhat" and "well."

Measures and Procedure

Participants were brought, in their individual groups, to a private computer facility at the university. Each was seated at a separate computer terminal, arranged to prevent seeing others' ratings. Each participant was administered a computerized battery of measures, including both self- and peer-report versions of a PD inventory and a measure of interpersonal problems. This process took approximately 2 hr to complete.

Peer Inventory for Personality Disorder

The Peer Inventory for Personality Disorder (PIPD) consists of 106 items, 81 of which are lay translations of the 10 *DSM–IV* PD diagnoses. These PD items were constructed by translating the *DSM–IV* criterion sets for PDs into lay language; resulting items were then reviewed and revised by expert consultants. For example, the *DSM–IV* narcissism item "Has a grandiose sense of self-importance (e.g., exaggerates achievements and talents, expects to be recognized as superior without commensurate achievements)" was rewritten in lay language as "Thinks he or she is much better than other people (without good reason)." Twenty-three filler items were also included in these measures, based on additional, mostly positive, characteristics, such as "trustworthy and reliable" or "agreeable and cooperative." The self-report and peer-report versions of items were otherwise identical, with only the wording (i.e., first-person or third-person) of the questions differing.

The peer-nomination procedure was a round-robin design in which every individual in the group had the opportunity to nominate every other member of the group. Items were presented to participants in a quasi-random order. For each item, the participant was shown a list of all members of his or her group and was asked to nominate those who exhibit the characteristic in question. The participant was able to nominate as many peers as he or she wished but was required to nominate at least one individual for each item. For each nomination, the participant assigned the nominee a rating (1, 2, or 3), indicating that the nominee "sometimes," "often," or "always" displays the characteristic. Nominations, rather than pure rating scales, are commonly used in studies of large groups (e.g., Maassen, Goossens, & Bokhorst, 1998) to reduce the amount of time required to complete the measures. Rather than rating every individual in their group on every item, participants were able to identify only those who best fit the criterion, tacitly assigning a rating of 0 to those whom they did not nominate. Our procedure was therefore a kind of hybrid nomination-rating procedure.

Dimensional peer-report scales, based on the *DSM–IV* criteria sets, were calculated by adding up the total number of nominations received for the items in each scale, weighted by the score assigned by each nominator (i.e., 1, 2, or 3). These scores were then divided by the total number of possible nominators in the group, to ensure that participants in larger peer groups would not be scored as having more peer-reported personality pathology solely as a result of having more peers available to nominate them.

Following the peer-report section, all participants completed a self-report version of the same items. Participants were presented with the items in the same order and were asked, "What do you think you are really like on this characteristic?" Participants responded using a 4-point scale: 0 (*never this way*), 1 (*sometimes this way*), 2 (*usually this way*), and 3 (*always this way*). For each PD, the ratings for the relevant criteria were summed to form a dimensional measure of PD.

The psychometric properties and factor structure of the PIPD were described (Thomas, Turkheimer, & Oltmanns, 2003) for two large nonclinical samples. The median interrater reliability (alpha) for peer scores on individual PIPD items was .74 in a sample of 2,111 military recruits, with values ranging from .90 to .19. In a sample of 1,536 college students, reliability ranged from .73 to .26, with a median value of .54. Factor analysis of the peer-report items also demonstrated high correspondence (congruence coefficients ranged from .87 to .97) with factor patterns of widely used self-report models of PDs.

Inventory of Interpersonal Problems–64

The Inventory of Interpersonal Problems (IIP; Horowitz, 1979) is a widely used measure of self-reported interpersonal difficulties. It was originally designed as a way to measure and track interpersonal problems commonly seen in patients presenting for therapy. The 127 items composing the original IIP were derived from complaints reported by clinical patients. These items were structured as either "It is hard … " statements (e.g., "It is hard for me to feel close to people") or "I do this too much" statements (e.g., "I am too suspicious of others"; Horowitz, Rosenberg, Baer, Ureño, & Villaseñor, 1988).

The IIP-64 (Horowitz, Alden, Wiggins, & Pincus, 2000) is a 64-item subset of the IIP based on Wiggins's (1979) interpersonal circle. Interpersonal theorists have described personality as a combination of two orthogonal bipolar dimensions: a vertical dimension representing dominance, status, or control and a horizontal dimension representing love, warmth, or affiliation (Gurtman, 1993). In a circumplex model, traits are arrayed around these two dimensions in a circular space, such that the closer two traits are on the circle, the more highly they are correlated (Foltz et al., 1999). By combining the dimensions of dominance and affiliation, a near-infinite number of interpersonal styles can be obtained, although the space is usually divided into specific regions combining varying levels of dominance–submission and hostility–friendliness (Gurtman, 1996). The IIP-64 consists of eight scales, of 8 items each, corresponding to the eight regions of the interpersonal circumplex. By convention, the octants of the circumplex are frequently referred to by two-letter abbreviations arrayed in alphabetical order counterclockwise around the circumplex. The IIP-64 scales and their corresponding circumplex octants are Domineering/Controlling (PA), Vindictive/Self-Centered (BC), Cold/Distant (DE), Socially Inhibited (FG), Nonassertive (HI), Overly Accommodating (JK), Self-Sacrificing (LM), and Intrusive/Needy (NO).

Participants in the present study were administered self- and peer-report versions of a modified form of the IIP comprising 88 of the 127 items from the original IIP. These items were selected to keep the battery as short as possible, while including all of the overlapping and nonoverlapping items of the IIP-64 and the IIP–Personality Disorders (IIP-PD; Pilkonis et al., 1996).[1] For each self-report item, participants were asked, "What do you think you are really like on this characteristic?" (To maintain consistency across sources, we made these instructions different from those of the standard IIP, which ask individuals to rate the distressfulness of each item.) Participants responded using a 5-point scale of how much the item applied to them, ranging from 0 (*not at all*) to 4 (*extremely*). The peer version of the IIP consisted of the same items, using third-person language. The peer nominating and rating procedure was otherwise identical to the peer section of the PIPD, with the exception of the 5-point IIP rating scale rather than the 4-point rating scale of the *DSM–IV* criteria.

Participants in the present study received dimensional scores on the 10 PIPD *DSM–IV* scales and 8 IIP-64 scales from two different sources (self and peer). We then conducted analyses to investigate the convergence of the PIPD with measures of interpersonal dysfunction both within and between sources.

Results

Descriptive Statistics

Mean scores and standard deviations on IIP-64 and PIPD scales across all participants are displayed in Table 1. Standardized scores were calculated for each scale based on the grand mean of the scales for each instrument. Although the raw scores in Table 1 were calculated differently for self- and peer-report scales, the relative magnitude of scores within each

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[1]The IIP-PD is a 47-item subset of the original IIP, comprising five scales empirically derived to discriminate individuals with a PD diagnosis from those without a diagnosis. An identical series of analyses was conducted comparing the PIPD with the IIP-PD; results were similar to those obtained from the IIP-64. In the interest of space, we have not included the results of these analyses, but they are available on request.

instrument can be compared across sources on the basis of their *z* scores. *Z* scores for self-reported IIP-64 ranged from −0.47 (Domineering/Controlling) to 0.42 (Nonassertive), and for peer-reported IIP-64 ranged from −0.35 (Domineering/Controlling) to 0.47 (Nonassertive). *Z* scores for IIP-64 across source were relatively similar, with the exception of somewhat larger scores on the Self-Sacrificing scale from self-report compared with peer report. *Z* scores for self-reported PIPD ranged from −0.47 (Paranoid) to 0.77 (obsessive–compulsive personality disorder [OCPD]), and for peer-reported PIPD ranged from −0.34 (Antisocial) to 0.43 (Narcissistic). Comparing PIPD *z* scores across source found relatively higher scores on the self-report OCPD and Avoidant scales, whereas peer report demonstrated relatively higher scores on Narcissistic and Antisocial scales.

The median interrater reliability (alpha) across dorm groups for peer-reported PIPD scales ranged from .66 (Paranoid) to .81 (Histrionic), with a median value of .75. This reliability is somewhat larger than a previous study using the PIPD (Thomas et al., 2003), which likely is due to the use of aggregated scales rather than individual PD criteria. Median interrater reliability for peer-reported IIP scales ranged from .57 (Vindictive/Self-Centered) to .75 (Socially Inhibited) with a median value of .65.

Within-Source Intercorrelations

Correlational analyses were conducted within self-reported PIPD and IIP-64 measures.[2] Intercorrelations for self-report PD scales were moderate to large overall, ranging from .22 (Schizoid with Dependent) to .68 (Schizoid with Schizotypal), with a median correlation of .48. Intercorrelations for self-reported IIP-64 scales ranged from .00 (Nonassertive with Domineering/Controlling) to .78 (Nonassertive with Overly Accommodating), with a median correlation of .33. Consistent with traditional circumplexical structure, correlations tended to be largest for scales adjacent on the interpersonal circumplex (e.g., HI with FG) and smallest for those diametrically opposite (e.g., HI with PA).[3]

Correlational analyses were also performed within peer-reported measures (see Footnote 2), which resulted in a larger range of values than those obtained by self-report. PIPD intercorrelations ranged from −.09 (Histrionic with Schizoid) to .80 (Histrionic with Narcissistic), with a median of .52. Intercorrelations of IIP-64 scales ranged from −.30 (Domineering/Controlling with Nonassertive) to .87 (Domineering/Controlling with Vindictive/Self-Centered), with a median of .17. As with self-report scales, inter-correlations for peer-reported IIP-64 scales demonstrated a circumplexical pattern, with a tendency for increased correlations in adjacent octants of the circumplex. An exception, however, was the association between Self-Sacrificing (LM) and Intrusive/Needy (NO), which was smaller than expected (*r* = .18; see Footnote 3).

[2]The complete correlational tables described in this section are available at our Web site, http://www.peernom.org/papers/interpersonal.pdf
[3]Both the self-report and peer-report IIP-64 intercorrelation matrices were submitted to the computer program RANDALL (Tracey, 1997), which compares the actual matrix with the ideal matrix predicted for circumplexical structure. Analyses confirmed the circumplexical structure of both the self-report (confidence interval [CI] of .90, *p* < .0005) and peer report (CI of .87, *p* < .0005).

Across-Source Correlations

Correlational analyses were also conducted between self-reported and peer-reported measures (see Footnote 2). Correlations across sources (i.e., self-report with peer report) were considerably smaller than those seen within source. Self–peer correlations for corresponding PIPD scales ranged from .22 (OCPD) to .36 (Antisocial), with a median value of .27, very similar to that found in previous studies of the PIPD (e.g., Thomas et al., 2003). Correlations for noncorresponding PD scales ranged from −.12 (self-reported schizoid with peer-reported dependent) to .26 (self-reported borderline with peer-reported antisocial), with a median value of .08. Of 100 self–peer PIPD comparisons, only 19 were significant at the Bonferroni-corrected .0001 level. Ten of these 19 significant correlations were of corresponding scales (i.e., self-report and peer report of the same scale).

Self–peer correlations for IIP-64 scales were also considerably smaller than within-source comparisons. Correlations for corresponding scales ranged from .19 (Cold/Distant) to .36 (Overly Accommodating), with a median value of .31. Correlations for noncorresponding scales ranged from −.26 (self-reported Domineering/Controlling with peer-reported Overly Accommodating) to .31 (self-reported Domineering/Controlling with peer-reported Vindictive/Self-Centered, and self-reported Overly Accommodating with peer-reported Nonassertive), with a median value of −.02.

Multivariate Analyses

We assessed the maximum possible multivariate association between PD scales and scales of interpersonal problems by conducting canonical correlation analyses among the sets of scales. Given two sets of variables (e.g., PIPD scales and IIP-64 scales), canonical correlation analysis creates linear combinations of the variables ("variates"), maximizing the relation among the two sets. For each set of variables, multiple orthogonal variate pairs can be extracted to compute the maximum possible variance shared.

Four canonical analyses were conducted, comparing self-reported (see Table 2) and peer-reported (see Table 3) PIPD scales with self- and peer-reported IIP-64 scales. Canonical analyses optimize the weights of each set of scales to explain the maximum possible amount of variance between the measures. In the interest of a more conservative analysis, significance values for the variates were based on an *F* test at the *p* < .0001 level. For each of the significant pairs of variates, we have reported the standardized canonical correlation and the cumulative proportion of variance explained by the significant variates of the opposite variables. The latter value represents the maximum amount of variance in one set of variables that can be explained by scores in the other set. Tables 2 and 3 also depict the highest correlated items (those with correlations higher than .30) on the significant pairs of canonical variates for each analysis.

Table 2 depicts the results of canonical correlation analyses between self-reported PIPD scales and self- and peer-reported IIP-64 scales. Analyses performed within source (e.g., self-reported PIPD and self-reported IIP-64) resulted in a greater number of significant variates, with a considerably larger amount of redundancy (shared variance), than those performed across source (e.g., self-reported PIPD with peer-reported IIP-64). The significant

self-reported canonical variate pairs explained a moderate amount of cumulative variance (36% of self-reported PIPD and 38% of IIP-64). Explanatory power across source was lower. The self-reported PIPD explained only 13% of the variance in peer-reported interpersonal behaviors, whereas the peer-reported IIP-64 explained a maximum of 5% of the variance in self-reported PD scores.

Table 3 depicts the second set of canonical correlations, performed between peer-reported PIPD and self- and peer-reported IIP-64. Analyses within source (i.e., peer report with peer report) demonstrated a very large association in which 60% (PIPD) and 64% (IIP-64) of the measure's variance was explained by the other measure. Canonical analyses across sources again explained very little variance. Peer-reported PIPD scores and self-reported IIP-64 scales explained only 5% and 4% of the variance in the other measure, respectively.

Within-Source Variates

As seen in Table 2, the first within-source (i.e., self-reported PIPD and IIP-64) PIPD variate was made up of all 10 PIPD scales to varying degrees, with the first IIP-64 variate comprising the interpersonal circumplex region from PA to FG (Domineering/Controlling, Vindictive/Self-Centered, Cold/Distant, and Socially Inhibited). The second set of variates consisted of avoidant PD correlating positively, and narcissistic and antisocial PDs correlating negatively, on the PIPD variate, and socially avoidant and nonassertive interpersonal behaviors correlating with the IIP-64. For the third PIPD variate, histrionic and dependent (and to a lesser extent, avoidant) PDs correlated positively, whereas schizoid PD (characterized by a lack of emotionality and close relationships) correlated negatively. The third IIP-64 variate consisted of positive correlations of Intrusive/Needy, Overly Accommodating, Self-Sacrificing (and to a lesser extent, Nonassertive) scales, with a moderate negative correlation of the Cold/Distant scale. The fourth pair of within-source variates consisted of a moderate positive correlation with histrionic PD on the PIPD variate, and positive correlations of the Overly Accommodating and Cold/Distant scales for the IIP-64.

The within-source variates for peer report (i.e., peer-reported PIPD with peer-reported IIP-64) were quite similar to those for self-report. As seen in Table 3, the first peer IIP-64 variate consisted of positive correlations of items high on the dominance dimension (i.e., Intrusive/Needy, Domineering, and Vindictive/Self-Centered) and negative correlations of submissive scales (i.e., Socially Inhibited and Nonassertive). The second set of variates consisted of all 10 scales of the PIPD and the IIP-64 scales of Cold, Socially Inhibited, Vindictive, Domineering, and Nonassertive. The third peer-report canonical variates consisted of avoidant, histrionic, and dependent PDs on the PIPD and the IIP-64 scales of Overly Accommodating, Self-Sacrificing, Nonassertive, and Intrusive/Needy. A fourth significant peer-report canonical variate consisted of OCPD on the PIPD and the Self-Sacrificing and Overly Accommodating scales on the IIP-64. A fifth and final significant pair of canonical variates consisted only of small negative correlations by the avoidant scale on the PIPD and the Nonassertive scale on the IIP-64.

Across-Source Variates

As seen in Table 2, the first canonical variate pair for self-reported PIPD scales and peer-reported IIP-64 scales consisted of Antisocial and Narcissistic PIPD scales, and IIP-64 scales comprising positive associations with Domineering, Vindictive, and Intrusive scales and negative associations with Nonassertive and Overly Accommodating scales. That is, the greatest amount of shared variance was accounted for by people who described themselves as antisocial and narcissistic and were being described by peers as domineering, vindictive, and intrusive. These same individuals tended not to be nominated as nonassertive or overly accommodating. The second significant canonical factor consisted of a negative association with schizoid PD and positive association with histrionic PD for the self-reported PIPD, compared with positive associations with the Intrusive/Needy and Self-Sacrificing, and negative associations with Socially Inhibited and Cold scales of the peer-reported IIP-64.

For peer-reported PIPD and self-reported IIP-64 scales (see Table 3), only one pair of variates was significantly associated. These canonical variates indicated that positive correlations on the Social Inhibition and Nonassertive scales and negative correlations on the Domineering scale were associated with negative correlations with the peer-reported Narcissistic and Antisocial scales. That is, individuals who described themselves as socially inhibited and nonassertive tended not to be identified by peers as being narcissistic or antisocial.

Discussion

The present study had two primary aims. First, we examined the relationship between PD and interpersonal problems. As previous studies of these two domains have generally relied on self-report for information, we were specifically interested in whether peer report demonstrated similar patterns of relationship among domains. A second aim of this study was to examine the relationship between these two domains of assessment across sources; that is, to examine how self-reported PDs relate to peer perception of interpersonal problems and vice versa.

Self-Report Measures

Consistent with previous findings (e.g., Horowitz et al., 2000; Pilkonis et al., 1996), self-reported PD traits in the present study were highly related to maladaptive interpersonal behavior, explaining more than a third of the variance in both PIPD and IIP-64 scales. Canonical analyses extracted four significant pairs of variates. The first pair extracted appears to be a general dysfunction factor, comprising all of the PIPD scales and four IIP-64 scales predominated by high interpersonal hostility. Self-reported personality pathology as a whole may be related to hostility and alienation, over and above the traits of individual disorders. The second pair of variates describes a pattern of social inhibition, positively correlated with avoidant PD and negatively correlated with narcissistic and antisocial PDs. The third pair of variates may be interpreted as a pattern of dependency, neediness, and vulnerability. The final significant canonical variate for the self-report scales is difficult to interpret and may represent aspects of histrionic PD not captured elsewhere or may simply be an artifact of the data analysis.

In summary, the findings indicate that self-reported PDs and interpersonal problems are highly related and explain a moderate amount of the overall variance of one another. Although there is a fair amount of overlap among PD scales, which emerged as a general pathology factor, self-reported PD scales were differentially associated with specific types of self-identified problematic interpersonal behaviors in ways consistent with previous self-report findings (e.g., Alden & Capreol, 1993; Horowitz et al., 2000; Pincus & Wiggins, 1990).

Peer-Report Measures

The relationships among peer-reported scales were even more robust than those of self-report, with PIPD scores explaining nearly two thirds of the variance in IIP-64 scales. That is, to a large degree, peers tend to identify the same individuals as having both disordered personality traits and engaging in problematic interpersonal behaviors.

The first canonical variates extracted, representing the largest overlap in variance between the peer-reported measures, come from peers identifying individuals both as having Cluster B personality traits and as engaging in intrusive, domineering, and self-centered behavior. This correspondence is consistent both with previous self-report findings (e.g., Soldz et al., 1993) and with the second set of self-report canonical variates described earlier. The second peer-report variates appear to be a general pathology factor very similar to the first self-report canonical correlation. This variate pair suggests that, like self-report, peers identify a general pathology factor associated with interpersonal hostility and alienation (i.e., the IIP-64 scales incorporating negative affiliation). The third set of peer variates comprised scales suggesting excessive neediness or clinginess. The fourth pair of peer variates comprised OCPD and the Overly Accommodating and Self-Sacrificing scales of the IIP-64, perhaps representing peers' perception of conscientiousness in OCPD. The final pair of peer variates may represent something akin to healthy extraversion, characterizing individuals who were identified as neither avoidant nor nonassertive, in a way uncorrelated with other pathology.

Overall, canonical analyses of peer-reported IIP-64 and IIP-PD scales are entirely consistent with previous self-report findings (e.g., Horowitz et al., 2000) and with the self-report canonical analyses reported earlier. In particular, the first three peer-report canonical factors, representing nearly all of the shared variance, were nearly identical to the first three self-report factors, indicating that the associations between traits and behaviors as described by peers are very similar to those obtained by self-report.

Self–Peer Correspondence

The canonical analyses across source (i.e., peer report with self-report) demonstrated less predictive ability than those conducted within source, accounting for relatively little of the variance in measures. However, despite the small amount of shared variance, relationships between PD features and interpersonal impairment across source were consistent with the within-source analyses described earlier.

As seen in Table 2, two significant pairs of canonical variates were extracted from the analysis of self-reported PIPD scales and peer-reported IIP-64 scales. Together these

variates accounted for relatively little of the variance in either set of scales. The majority of the variance was accounted for by the first variate pair, which indicated that individuals who self-reported Antisocial and Narcissistic traits tended to be identified by peers as being aggressive and domineering. The second canonical factor consisted of associations with self-reported schizoid (negative) and histrionic (positive) PDs, compared with peer-reported IIP-64 high affiliation scales and negative associations with low affiliation scales. These two sets of canonical variates essentially describe the two axes of the interpersonal circumplex. The first describes the vertical domineering axis, whereas the second describes the horizontal affiliation axis. The PDs associated with each of these IIP-64 axes also corresponded closely to both previous self-report findings (e.g., Horowitz et al., 2000; Soldz et al., 1993) and the within-source canonical analyses described earlier. That is, despite the relatively small amount of variance shared across source, the association is neither random nor inconsistent with findings within source.

For peer-reported PIPD and self-reported IIP-64 scales (see Table 3), only one pair of canonical variates was significant, explaining about 5% of the variance in each measure. This variate pair indicated that individuals who described themselves as being passive and nonassertive tended *not* to be identified by peers as possessing narcissistic or antisocial traits. This is again consistent with the within-source analyses described earlier, specifically the second pair of self-reported canonical variates.

Overall, then, analyses across sources are consistent with the within-source analyses described earlier. Moreover, they correspond with our clinical understanding of personality pathology, particularly antisocial and narcissistic PDs. Despite the consistency in these associations, however, their magnitude is quite small. Whereas significant canonical correlates within source explained more than a third of the variance in self-report, and nearly two thirds of the variance in peer report, the maximum possible variance explained across sources ranged from only 4% to 13%.

These findings suggest that self-report and peer report assess similar constructs but that the variance due to the source of ratings is overwhelmingly larger than the variance due to the constructs. Despite the large association between PD traits and problematic interpersonal behavior within source, there is little shared variance across sources. We propose that the large method variance and low predictive ability across sources result from differing perceptions of pathology by individuals and their peers, in that individuals have little recognition of what their peers think of them. That is, participants in this study reported pathological personality traits and also described problematic behaviors that were consistently associated with these traits. However, their peers tended to identify completely different individuals as engaging in problematic interpersonal behavior, as evidenced by the small amount of shared variance across source. Consistent with prior literature (e.g., Kolar, Funder, & Colvin, 1996), these findings suggest that people are unaware of how their behavior is perceived by others. Because individuals with PD may be particularly poor at identifying how they are perceived by others (e.g., Oltmanns, Gleason, Klonsky, & Turkheimer, in press), multiple sources of information are crucial in assessing personality pathology.

Conclusions

The present study demonstrated two major findings regarding PDs and interpersonal problems. First, the relationship between these two domains is very similar when assessed by either self-report or peer-report measures. This supports previous findings that PDs are strongly associated with interpersonal impairment and suggests that individuals' understanding of the association between these domains is relatively constant whether describing themselves or others. Second, when comparing these domains across source, the explanatory power is quite small, even though the factors extracted are similar to those found within source. Taken with the previous finding, this suggests that although the understanding of the relationship between personality and interpersonal behavior is similar, perceptions of both traits and behaviors differ depending on the source. In other words, individuals demonstrate little awareness of how their personality and behavior are perceived by those around them.

Note that the present study does not address the external validity of either self-report or peer-report ratings. If either self-report or peer report were measurably better at predicting external criteria, that source might be weighted more heavily in assessing personality pathology. Previous studies (e.g., Fiedler, Oltmanns, & Turkheimer, 2004; Mount, Barrick, & Strauss, 1994) have indicated that both self and peer supply information that is independently useful, providing incremental validity in predicting external criteria. A longitudinal follow-up of the present study is currently under way to further examine the issue of predictive validity. In addition, the present study was concerned with finding the maximum amount of shared information between self and peers, necessitating the use of canonical analyses. Future research should consider self-perception and peer perception of PDs and behavior from a more theoretical perspective, capitalizing on the interpersonal theory of the circumplex to increase the utility of findings.

Although self-report and peer-report generate similar constructs of pathology, the present findings indicate that obtaining information solely by self-report provides relatively little information about how individuals' personality and behavior are perceived by those around them. A complete understanding of PDs requires information from both self-report and those with whom the individual interacts on a regular basis. On the basis of the present findings, we suggest that, whenever possible, peer sources of information be obtained in addition to self-report.

Acknowledgments

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Table 1

Means, Standard Deviations, and Standardized Scores of Self-Report and Peer-Report IIP-64 and PIPD Scales (N = 393)

Scale name	Self M (SD)	Self z score	Peer M (SD)	Peer z score
IIP-64				
Domineering/Controlling (PA)	4.39 (3.31)	−0.47	1.95 (1.75)	−0.35
Vindictive/Self-Centered (BC)	4.57 (3.33)	−0.43	2.24 (1.84)	−0.21
Cold/Distant (DE)	5.34 (4.04)	−0.24	2.45 (1.78)	−0.10
Socially Inhibited (FG)	7.17 (4.82)	0.20	2.95 (2.55)	0.15
Nonassertive (HI)	8.09 (5.17)	0.42	3.60 (2.46)	0.47
Overly Accommodating (JK)	7.96 (4.58)	0.39	3.28 (2.05)	0.31
Self-Sacrificing (LM)	7.47 (4.10)	0.27	2.39 (1.51)	−0.13
Intrusive/Needy (NO)	5.78 (3.82)	−0.14	2.37 (2.09)	−0.14
Total	50.67 (21.96)		21.22 (9.26)	
PIPD				
Paranoid	3.99 (3.08)	−0.09	1.12 (0.99)	−0.33
Schizotypal	4.75 (4.03)	0.14	1.69 (1.37)	0.09
Schizoid	4.01 (2.71)	−0.09	1.63 (1.28)	0.05
Antisocial	2.19 (2.42)	−0.64	1.10 (1.18)	−0.34
Borderline	3.75 (3.37)	−0.17	1.49 (1.40)	−0.05
Histrionic	4.11 (2.92)	−0.06	1.78 (1.63)	0.16
Narcissistic	4.50 (3.78)	0.06	2.14 (2.10)	0.43
Avoidant	5.28 (3.59)	0.30	1.44 (1.10)	−0.09
Dependent	3.52 (3.10)	−0.24	1.38 (1.27)	−0.13
OCPD	6.81 (3.59)	0.77	1.85 (1.26)	0.21
Total	42.91 (23.61)		15.63 (9.47)	

Note. IIP-64 = Inventory of Interpersonal Problems–64 (and their corresponding circumplex octants); PIPD = Peer Inventory for Personality Disorder; OCPD = obsessive–compulsive personality disorder.

Table 2

Canonical Correlations of Self-Reported PIPD Scales and Self- and Peer-Reported IIP-64 Scales

| | | | Cumulative variance explained | | | Variable (r > |.30|) composing significant variates | |
PIPD	IIP-64	No. of variates (p < .0001)	PIPD	IIP-64	Canonical r	PIPD	IIP-64
Self-report	Self-report	4	0.29	0.23	.79	Paranoid (.78) Schizotypal (.78) Borderline (.75) Avoidant (.72) Narcissistic (.70) Schizoid (.69) OCPD (.66) Histrionic (.59) Antisocial (.57) Dependent (.55)	Cold (.82) Vindictive (.79) Domineering (.73) Socially Inhibited (.71)
			0.33	0.33	.68	Avoidant (−.58) *Narcissistic (−.39)* *Antisocial (−.38)*	Socially Inhibited (.69) Nonassertive (.63) *Domineering (−.53)* Overly Accommodating (.47) *Vindictive (−.37)*
			0.36	0.37	.52	Histrionic (.57) *Schizoid (−.56)* Dependent (.54) Avoidant (.32)	Intrusive/Needy (.76) Overly Accommodating (.54) Self-Sacrificing (.49) Nonassertive (.35) *Cold (−.34)*
			0.36	0.38	.31	Histrionic (.46)	Overly Accommodating (.52) Cold (.36)
Self-report	Peer-report	2	0.03	0.10	.51	Antisocial (.59) Narcissistic (.50)	Domineering (.77) Vindictive (.69) Intrusive/Needy (.58) *Nonassertive (−.76)* *Overly Accommodating (−.62)*
			0.05	0.13	.44	*Schizoid (−.66)* Histrionic (.42)	Intrusive/Needy (.60) Self-Sacrificing (.55) *Socially Inhibited (−.49)* *Cold (−.47)*

Note. Negatively correlated scales are displayed in italics. PIPD = Peer Inventory for Personality Disorder; IIP-64 = Inventory of Interpersonal Problems–64; OCPD = obsessive–compulsive personality disorder.

Table 3

Canonical Correlations of Peer-Reported PIPD Scales and Self- and Peer-Reported IIP-64 Scales

PIPD	IIP-64	No. of variates ($p < .0001$)	Cumulative variance explained		Canonical r	Variable ($r > |.30|$) composing significant variates	
			PIPD	IIP-64		PIPD	IIP-64
Peer-report	Peer-report	5	0.25	0.25	.92	Narcissistic (.80) Histrionic (.79) Antisocial (.76) Borderline (.66) Paranoid (.60)	Intrusive/Needy (.84) Domineering (.77) Vindictive (.66) *Socially Inhibited (−.56)* *Nonassertive (−.50)*
			0.51	0.49	.87	Schizotypal (.89) Schizoid (.83) Avoidant (.75) Paranoid (.66) Borderline (.53) Narcissistic (.37) OCPD (.37) Antisocial (.36) Dependent (.35) Histrionic (.30)	Cold (.90) Socially Inhibited (.82) Vindictive (.70) Domineering (.47) Nonassertive (.46)
			0.57	0.61	.76	Avoidant (.52) Histrionic (.44) Dependent (.37)	Overly Accommodating (.74) Self-Sacrificing (.64) Nonassertive (.59) Intrusive/Needy (.43)
			0.59	0.63	.54	OCPD (.86)	Self-Sacrificing (.58) Overly Accommodating (.35)
			0.60	0.64	.44	*Avoidant (−.30)*	*Nonassertive (−.34)*
Peer-report	Self-report	1	0.04	0.05	.48	*Narcissistic (−.66)* *Antisocial (−.65)*	Socially Inhibited (.59) Nonassertive (.58) *Domineering (−.65)*

Note. Negatively correlated scales are displayed in italics. PIPD = Peer Inventory for Personality Disorder; IIP-64 = Inventory of Interpersonal Problems–64; OCPD = obsessive–compulsive personality disorder.