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Identifying Personality Pathology Associated With Major Depressive Episodes: Incremental Validity of Informant Reports

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Abstract

Major limitations are associated with the use of a single source of information to assess personality pathology. The construct validity of standardized interviews and informant reports on personality pathology has been established relative to other measures of personality pathology, but it is also important to consider these measures in relation to other constructs that should be related to personality pathology. One example is major depression. In this study, we evaluated whether less common clinical methods of assessment for measuring the same personality pathology constructs, including semistructured interviews and informant reports, demonstrate unique validity, using major depressive episode (MDE) as the external criterion. This analysis focuses on a representative, community-based sample of 1,437 participants and informants. We conducted a hierarchical logistic regression analysis and determined the order of entering the predictor variables based on likelihood of being used in a clinical setting as well as empirical recommendations. Each step of our regression model significantly increased our ability to predict lifetime MDE, including self, interviewer, and informant reports of personality pathology. Overall, these findings indicate that multiple sources of personality assessment provide unique information about the relationship between maladaptive personality traits and a history of MDE. Thus, semistructured diagnostic interviews and informant reports can be used as a resource to improve the validity of personality assessments.

A substantial literature documents the relationship between personality disorders (PDs) and major depressive episodes (MDEs; Gunderson et al., 2008; Lenzenweger, Lane, Loranger, & Kessler, 2007; Paris, 2010). Most of these studies have focused exclusively on questionnaire- and interview-derived self-report data, and few have evaluated the relationship between MDEs and PDs using multiple sources of personality pathology (Bornstein, 2003; Huprich & Bornstein, 2007). Multimethod assessments could provide supplemental information about personality pathology that could maximize the validity of individual assessments. Valid assessments of personality pathology are important because the presence of maladaptive traits might have practical implications about vulnerability, prognosis, and treatment planning. In addition, some researchers believe that more exhaustive and accurate assessments of PDs, which could be achieved using multiple sources, contribute to increased treatment satisfaction and outcome of other mental disorders (Jensen-Doss & Weisz, 2008).

Despite a series of recent findings supporting multimethod assessments of personality pathology, assessment procedures in clinical settings still resemble those practiced 30 years ago (Watkins, Campbell, Nieberding, & Hallmark, 1995). In fact, a survey of clinician-researchers considered empirical research less influential and meaningful in their clinical practice compared to interactions with their clients (Safran, Abreu, Ogilvie, & DeMaria, 2011). Whereas most professionals use questionnaires, researchers typically use structured interviews (Segal & Coolidge, 2003), and clinicians routinely rely on informal patient narratives to assess personality pathology (Watkins et al., 1995; Westen, 1997). All of these methods are derived from the patient's perspective. Unfortunately, major limitations follow from dependence on a single source of information to assess personality pathology. For example, reporting bias is an inherent part of PDs because many of the defining traits are characterized by lack of insight or forthrightness. Some mal-adaptive traits that might influence the accuracy of self-report include inhibition in new interpersonal situations due to feeling inadequate or suspiciousness, fear of disapproval, deceitfulness, unstable or grandiose self-image, suggestibility, distorted thinking patterns, and exaggerated response style. As a result clinicians might generate an incomplete or biased impression of the patient's personality. For example, much of the research on self-report questionnaires has shown low to moderate correlations with clinicians, informants, and objective reports (Meyer, Finn, Eyde, & Kay, 2001). Other studies have shown that self-report measures are deficient in their ability to discriminate the effects of momentary mood states and implicit processing (e.g., priming; Huprich, Bornstein, & Schmitt, 2011). This evidence suggests that clinicians should not only take into account information from self-reports, but other measures as well. If informants have the ability to provide valid information, they might account for some of the "error" in self-reports.

Most studies interested in the validity of informant reports on personality pathology have focused on agreement with other sources measuring personality pathology, including questionnaires, standardized interviews, and more informants. Review articles on multimethod assessments conclude that agreement is low to moderate between self- and informant reports, and the combination of measures improves predictive validity and reliability (Klonsky, Oltmanns, & Turkheimer, 2002). These data suggest that self- and informant reports might provide different perspectives, but both are valuable predictors of personality functioning. Collecting multiple measures is beneficial when alternative sources account for new insight into personality that the first measure was unable to detect. Reports on incremental validity have further demonstrated that informant reports provide information about personality pathology over and above self-reports. Specifically, Lawton, Shields, and Oltmanns (2011) examined the incremental validity of informant reports using PD prototype scores. Their findings revealed a significant relationship with personality pathology measured by the Structured Interview for *DSM-IV* Personality (SIDP-IV; Pfohl, Blum, & Zimmerman, 1997) after controlling for variance accounted for by self-reports. In addition, Miller, Pilkonis, and Clifton (2005) found that informant-rated personality data in a psychiatric sample proved to be significantly valuable information in addition to self-reports. Informant scores accounted for up to an additional 20% of the variance using consensus interview ratings and impairment as outcome measures. The advantage of multimodal assessments (i.e., combining reports from multiple sources) is that it is not

necessary to favor one method over another. This logic is important because both perspectives provide valid, yet unique information. In addition, inclusion of multiple sources allows clinicians and researchers to overcome “blind spots” and biases. This is valuable in situations where an individual might not receive a clinically significant profile on one measure, but does on another. The use of multiple assessments of the same constructs promotes further investigation of discrepancies between reports, otherwise symptoms might be overlooked or misinterpreted, thus increasing misdiagnosis. In our study, we examine the agreement among three sources (i.e., informant, self, and interviewer), reporting on the same personality pathology constructs because we wanted to provide empirical data to illustrate the divergence between methods.

Although relying on a single source of information presents limitations in the assessment of personality, so does using informal clinical interviews. For example, when conducting informal interviews, most clinicians seek confirmatory evidence for their initial impressions and fail to assess every possibility systematically (Rogers, 2003). Therefore it should be no surprise that agreement between informal clinical evaluations and standard interviews is low to moderate for most disorders (Rettew, Doyle-Lynch, Achenbach, Dumenci, & Ivanova, 2009). Standardized interviews increase reliability by using clear language and established sequencing and rating of items (Rogers, 2003). Standardized interviews can refer to either semistructured or fully structured interviews. Semistructured interviews have the added benefit of incorporating relevant follow-up questions and allowing the interviewer the opportunity to use clinical judgment and not simply record the participant’s response. Conversely, structured interviews are intended to be read verbatim and provide the interviewer with little to no rating flexibility. It is important to emphasize the rigidity of structured interviews because responses are heavily dependent on the participant’s response and are subject to the same biases as self-report questionnaires. This especially holds true for PDs. In this article we used a semistructured interview, in conjunction with other assessment measures, to collect information about the participant’s personality pathology. If the relationship between semistructured interviews measuring personality pathology and the occurrence of MDEs is significant after controlling for questionnaire-based self-report of PDs, then semistructured interviews would also have the advantage of enhancing accuracy in clinical practice.

To determine whether questionnaires, informant reports, and interviews are valid measures of personality pathology, it is important to consider the correspondence of each assessment method with a relevant external criterion (Farmer, 2000). Semistructured interviews and behavioral observations are common validity criteria for personality instruments, but other measures might prove to have value as well. For example, if we wanted to analyze the construct validity of a personality pathology measure, it would be necessary to compare the results of this measure to another established or commonly accepted measure of personality pathology. It is also important, however, to compare this measure to constructs that it should be related to besides personality pathology. It makes sense that PDs and affective disorders should be related because both are organized around emotional processes. In this article, we consider whether different methods of personality assessment generate meaningful constructs by testing their relationship with MDE.

One previous study has examined how participant and informant reports of personality pathology relate to the prognosis of MDE, social adjustment, and global functioning in a clinical sample. Klein (2003) was interested in measuring the comparative validity of interview-based self- and informant reports of PDs in predicting an external criterion over 7.5 years. Dimensional and dichotomous measures of PDs from both sources predicted elevated depressive symptoms, but only informant reports predicted social adjustment at follow up. The investigator concluded that both sources of information make important contributions in predicting clinical outcomes. We planned to perform a similar analysis using a large community sample and variables collected concurrently to test the construct validity of informant reports. We also added semistructured interviews to our regression model to comply with recommended guidelines for the assessment of PDs (American Psychiatric Association, 2006; Widiger & Samuel, 2009).

Even if alternative methods to routine practice were found to be valid, their application in clinical settings would only be justified if they add to the clinician's impression of the client's functioning over and above data routinely and easily obtained. The insufficient integration of evidence-based assessments (i.e., multisource assessments and standardized interviews) in clinical practice is likely due to the perception of high costs and time commitment. Therefore, the time, effort, and money expended by administering semistructured interviews and collecting informant reports should only be used if they contribute unique information that is significantly different from questionnaire-based self-report data (i.e., informant reports and interviews demonstrate incremental validity), is cost effective, and has practical implications, such as identifying appropriate therapeutic needs (Hunsley & Meyer, 2003). The aim of this article is to test whether less common clinical methods of assessment, including semistructured interviews and informant reports, provide unique information about the relationship between personality pathology and a relevant construct, the lifetime occurrence of MDE, after accounting for self-report questionnaires.

Method

Participants

A community-based sample of adults between the ages of 55 and 64 were recruited to participate in an ongoing longitudinal study: the St. Louis Personality and Aging Network (SPAN; Oltmanns & Gleason, 2011). Participants were identified using listed phone numbers, which were cross-checked with census data to ensure that at least one member of the household was within the target age range. The study completed collecting baseline data early in 2011 ($N = 1,630$). Each participant was asked to provide details to contact an informant, preferably a significant other, to complete questionnaires about the primary participant. Approximately 9% ($n = 155$) of the participants did not have informant data; 6.5% ($n = 107$) of the participants identified an informant, but the informant did not respond to our inquiries, 0.5% ($n = 9$) were unable to identify an informant, and 2.3% ($n = 39$) of participants refused to provide an informant. We eliminated dyads if either the informant or participant skipped more than two questions on one of the PD scales. This report focuses on the 1,437 participants and informants who adequately completed their respective measures of personality. Of the eligible informants, 48.7% were romantic partners, 27.4% were family

members, and 21.6% were friends. On average, participants reported knowing their informants for 31.94 years ($SD = 15.1$). Besides omitting participants with insufficient data, we did not actively implement exclusion criteria. We included participants diagnosed with bipolar disorder, and considered them positive cases for the outcome MDE measure. The sample is generally representative of middle-aged individuals living in the St. Louis area (Table 1). The mean age of participants at baseline was 59.6 ($SD = 2.70$) and 55.2% were female ($n = 793$). All participants and informants provided informed, written consent and were compensated, \$60 and \$30 respectively, for completing the baseline assessment.

Measures

Baseline assessment for participants in the SPAN study includes a brief life narrative, a semistructured diagnostic interview for PDs, and structured interviews screening for depression and substance use. All interviews were conducted by carefully trained research staff and graduate students who received continued supervision by the principal investigator (T. F. Oltmanns). After the interview portion of the assessment is complete, participants fill out a battery of self-report measures. Informants were mailed a letter inviting them to participate in the study. They completed all questionnaires including demographics and PD assessments at home and returned them in a prepaid envelope.

C–DIS–IV—We used the Computerized Diagnostic Interview Schedule (C–DIS–IV; Robins, Helzer, Croughan, & Ratcliff, 1981) to identify lifetime prevalence rates of MDEs. The fully structured interview was designed to be administered by nonclinician interviewers and to assess for all major Diagnostic and Statistical Manual of Mental Disorders (4th ed. [*DSM–IV*]; American Psychiatric Association, 1994) psychiatric diagnoses. Participants are asked about the presence or absence of depressive symptoms based on the *DSM–IV* criteria. Questions are structured so that only “yes” or “no” answers are acceptable. Additional questions are asked to determine whether endorsed symptoms are causing significant impairment or distress, better accounted for by a medical condition or explained by a differential diagnosis. The computer program automatically calculates whether the required criteria are present to warrant a diagnosis of a current or past MDE. In general studies have shown acceptable validity and reliability of the CDIS (Eaton, Neufeld, Chen, & Cai, 2000).

SIDP–IV—The SIDP–IV (Pfohl et al. 1997) was administered to assess the presence of *DSM–IV* PDs. The instrument contains 78 items, one for each PD criterion (excluding optional PD not otherwise specified items), and is arranged by thematic grouping of symptoms, rather than by type of disorder, to minimize the focus of pathology. Multiple probes or questions can be used to rate one criterion and are supposed to elicit answers to guide the magnitude or presence of PD symptoms. To avoid questions being endorsed mistakenly, interviewers are required to ask for substantive behavioral examples in addition to descriptive character traits. The directions emphasize focusing on usual behavior that predominated over the previous 5 years. Participants’ responses were rated by interviewers on a scale from 0 (*not present*) to 3 (*strongly present*) to measure symptom presence over the past 5 years. A score of 2 or 3 is indicative of meeting criteria threshold (symptom is present at least 50% of the time), a score of 1 is subthreshold, and a score of 0 indicates minimal to no symptom presentation. We analyzed the data using each criterion scored on a

4-point dimensional scale. All interviews were video-recorded, and independent judges rerated 265 randomly chosen interviews. We calculated the intraclass correlation coefficient (ICC) using a one-way random model. We demonstrated adequate overall reliability between raters ($ICC = 0.67$) on the summed total score across all 160 SIDP-IV items. The reliabilities for specific *DSM-IV* PDs in ascending order are paranoid ($ICC = .53$), histrionic ($ICC = .54$), obsessive-compulsive ($ICC = .62$), schizotypal ($ICC = .68$), antisocial ($ICC = .69$), dependent ($ICC = .73$), narcissistic ($ICC = .75$), schizoid ($ICC = .75$), borderline ($ICC = .77$), and avoidant ($ICC = .86$). Past reviews on the psychometric properties of the SIDP show good reliability and fair validity (Pilkonis et al., 1995).

Multi-source Assessment of Personality Pathology—The Multi-source Assessment of Personality Pathology (MAPP; Oltmanns & Turkheimer, 2006) is a self-report measure designed specifically to assess *DSM-IV* PDs from the perspectives of multiple individuals and was completed by participants and their informants. The instrument consists of 106 items, 81 based on the PD criteria and 25 based on normal personality traits. For the purposes of this study, we only used the PD items. The items were developed with the intention of translating the diagnostic criteria into lay language, with each item representing one PD symptom. Respondents are asked to rate each statement using a scale ranging from 0 (*I am never like this/0% of the time*) to 4 (*I am always like this/100% of the time*). The ordering of the items is random so that symptoms for each PD are not grouped together to decrease reporter's bias. Measures were kept in dimensional format during analyses to increase reliability and meaning. The MAPP has been previously shown to have excellent test-retest reliability spaced at least 2 days apart (median $r = .83$; Okada & Oltmanns, 2009) and internal consistency in our own sample ($\alpha = .94$). Diagnostic agreement between the MAPP and other PD measures is modest (median $r = .40$ with the Personality Diagnostic Questionnaire-Version IV; median $r = .39$ with the Structured Clinical Interview for *DSM-IV* Axis II Personality Disorders; Okada & Oltmanns, 2009), but consistent with past studies on concordance rates among PD instruments. Informant MAPP forms are identical to the self-report except the items are written in third person.

Statistical Analysis

First, we converted total scores for each PD from the MAPP and SIDP into mean scores to account for differences in number of symptoms assessed per each PD. We accomplished this by summing dimensional scores and dividing by the number of criteria or items for each respective disorder. We measured the agreement among self-reports, informant reports, and interviews measuring specific PDs using zero-ordered correlations. Pearson correlations were performed between the history of MDE and each PD measured by self- and informant reports on the MAPP and the SIDP.

We conducted a hierarchical logistic regression analysis to determine which PDs and assessment methods were uniquely predictive of lifetime occurrence of MDE while controlling for gender and race. The order in which the personality predictors are entered into the model is especially important to consider because we are able to control for one type of assessment to determine whether alternative methods uniquely improve predictive validity. We determined the order in which to enter the predictor variables based on practical

considerations typically used in a clinical setting, accounting for time and cost on the part of both the client and clinician. We ordered the steps from least to most burdensome: self-report questionnaires, semistructured interview, and informant reports. This means that when considering the relationship between the SIDP and MDE, we removed any redundant variance that the SIDP shared with the self-report MAPP. Informant data were entered last and were thus adjusted for self-report MAPP and SIDP overlap. As a result, we were able to test whether methods of assessment that are less common in clinical practice provide unique information about the relationship between personality pathology and MDE. However, the reality of clinical practice is that clinicians gather informant reports just as frequently as they administer formal interviews when diagnosing personality disorders (Westen, 1997). In an exploratory analysis, we switched the order of the last two “blocks” in the hierarchical regression. In other words, we entered informant reports second and the semistructured interview last into the model. The overall results of the analysis did not change, and thus we report only the original results here.

Results

According to the C–DIS–IV, 27.1% ($n = 389$) of our sample reported a history of MDE, 24.8% ($n = 357$) qualified for a lifetime diagnosis of major depressive disorder, and 2.2% ($n = 32$) qualified for a lifetime diagnosis of bipolar disorder. For those participants with a history of major depression, the average age at first episode was 34.9 ($SD = 14.7$), the average age of their most recent episode was 43.3 ($SD = 11.4$), and the mean number of total episodes was 4.0 ($SD = 7.6$). Most of the participants who qualified for MDE reported receiving professional treatment for mental health at some point in their life (77.6%). Pearson correlations showed that borderline, histrionic, schizotypal, paranoid, dependent, and avoidant PD symptoms are significantly correlated with a history of MDE using each of the three assessment procedures (Table 2). Schizotypal, paranoid, avoidant, and dependent features did not significantly predict MDE after controlling for the influence of other personality pathology and assessment methods (Table 3).

Table 3 shows the regression coefficient and odds ratio for each of the personality pathology variables. Each step of our regression model significantly increased our ability to predict lifetime MDE after controlling for race and gender, including self-report questionnaire ($\chi^2 = 62.47$, $df = 10$), diagnostic interviews ($\chi^2 = 40.74$, $df = 10$), and informant reports ($\chi^2 = 24.29$, $df = 10$; Table 3). We used the Nagelkerke pseudo- R^2 measure to approximate the amount of variance accounted for by the final model ($R^2 = .17$). While controlling for questionnaire-based self-reports of personality pathology, interviewer ratings of borderline PD symptoms ($B = 1.79$, $SE = .41$, $p < .001$) were a significant predictor of lifetime MDE. The odds ratio for interview-derived borderline pathology indicates that for each 1-point increase on the subtotal of SIDP borderline items, the participant is six times more likely to have experienced an episode of depression. While controlling for self MAPP and interviewer reports, informant ratings of histrionic ($B = .45$, $SE = .19$, $p = .02$) and narcissistic ($B = -.70$, $SE = .20$, $p < .001$) PD symptoms uniquely predicted MDE. Inverting the odds ratio for the narcissism subscore on the informant MAPP reveals that for each 1-point increase on the scale, there is a doubling of the odds that the participant will not have

experienced an episode of depression. It is important to note that narcissistic pathology has a unique inverse relationship with major depression (Table 3).

Table 4 illustrates the relationships between personality pathology assessment measures for each of the 10 PDs. Overall, the agreement between measures is moderate across disorders. The correlations between self-report and interview tended to be higher than the self-informant and informant-interview relationships, ranging from $r = .26$ (antisocial PD) to $r = .61$ (avoidant PD). In contrast, the correlations between self- and informant reports ranged from $r = .13$ (narcissistic PD) to $r = .27$ (paranoid and avoidant PDs) and between $.17$ (schizotypal PD) and $.35$ (borderline PD) when comparing informant reports with the SIDP.

Discussion

The results of this analysis indicate that a history of MDEs is uniquely related to self-, interviewer, and informant reports of personality pathology. Thus, we found further support for using assessment methods uncommonly applied in practice as a resource to improve personality measurement. Our results are also consistent with previous reports indicating that self-report of maladaptive personality traits is associated with increased risk of experiencing major depression (Galione & Oltmanns, 2013; Gunderson et al., 2008). These results have practical implications for improving case conceptualization as well as detection and monitoring of personality pathology and related disorders. Patients might be improperly treated or poorly understood if clinicians do not have an accurate representation of the extent and nature of their psychopathology (Meyer et al., 2001). Too often, psychologists focus on obtaining convergent data to support their initial impressions and overvalue shared variance between different assessment measures of the same trait. Our findings are consistent with Hunsley and Meyer's (2003) suggestion that psychologists should also consider the importance of nonconvergent data to improve assessment accuracy and clinical recommendations. By collecting information from multiple sources, the clinician now knows how the client describes himself or herself as well as how he or she is perceived by others, both important perspectives to consider in treatment.

The clinical relevance of validating our multimethod assessment model is grounded in the fact that we analyzed incremental validity. Individual measures of personality pathology have shown variable performance results across studies, regardless of which measure is used (Perry, 1992). Our analysis of incremental validity shows that, although distinct methods share a certain amount of variance with each other, they also account for unique information. Zero-order correlations between measures also illustrate the distinctions between methods. The relationship between methods ranged from $r = .17$ to $r = .61$, and is strong enough to suggest that each method is measuring the same construct, yet there is not enough overlap to substitute one method for another. In fact these data provide further support that each source generates independent information. Nonconvergent data can provide new insight into how to conceptualize personality and might lead to a more comprehensive understanding of the client. In other words, targets and informants perceive the target's traits differently; these differences are systematic and complementary (Clifton, Turkheimer, & Oltmanns, 2004). For example, both the self and informant might report that the target is avoidant, but one might interpret these qualities as cold and distant whereas the

other might perceive their behavior as odd. A more uniform case conceptualization, such as this, is useful for guiding treatment. This perspective takes advantage of discrepancies between methods instead of disregarding them as “error.”

Researchers might also benefit from the optimal validity acquired through multimethod assessments. These issues should be considered when developing definitions and assessment procedures for PDs. Ideally guidelines will be developed so that researchers and clinicians will be able to interpret redundant and nonredundant information from multiple personality assessments in a standardized and practical fashion. Developing a systematic framework that integrates seemingly idiosyncratic and contradictory information will be a challenging endeavor.

Some researchers have attempted to construct realistic guidelines to facilitate implementing empirically supported assessment procedures in clinical settings, lowering costs without impacting diagnostic accuracy (Lenzenweger, Loranger, Korfine, & Neff, 1997; Widiger & Samuel, 2009). The recommendations include a two-stage process involving a self-report questionnaire to screen for PD features and then using a semistructured interview to verify a diagnosis when elevated scores are present. We attempted to simulate the sequence order of this assessment procedure with our hierarchical design. Our results support the use of a multimethod model and provide some evidence for a third stage (e.g., informant reports). One caveat to the multistage assessment is that it might be possible for a participant to produce normal scores on the self-report MAPP, but then receive a diagnosis using the SIDP or informant MAPP. Participants with a PD diagnosis might be especially vulnerable to this possibility due to lack of insight. Our data favor a simultaneous data collection approach using different sources instead of a sequential screening process. Our results demonstrate that additional assessments improve predictive validity by accounting for variance that self-reports do not detect. By screening and eliminating assessments with low scores on one measure, the clinician or researcher removes the possibility for a second and third measure to identify additional variance.

Our results show that Cluster B PDs have the strongest relationship with MDEs, irrespective of the source. High levels of borderline and histrionic personality pathology and low levels of narcissistic personality features in older adults significantly predict the occurrence of MDE across different sources of assessment. It should be noted, though, that despite the significance of histrionic and narcissistic results, the magnitude of the effect size is modest. For this reason, we believe the aggregation of items on each step (i.e., total psychopathology measured by each instrument) provides more powerful results than focusing on individual disorders. Nevertheless, our results are consistent with previous reports that borderline PD frequently co-occurs with major depression (Lenzenweger et al., 2007). Farmer (2000) suggested that the degree to which PDs should be considered meaningful constructs is affected by how well different methods for assessing PDs correspond with theoretically related disorders. Several theoretical models attempt to explain the PD–depression relationship, including the spectrum model (Shea & Yen, 2005). Our data do not speak to a single theoretical model, but increasing evidence suggests a common dimensional factor implementing both borderline PD and major depression (Siever & Davis, 1991). It is also important to consider that early occurrence of major depressive disorder might increase the

risk of maladaptive traits, which could be the case for histrionic PD (Kasen et al., 2001). Another possible explanation for histrionic PD being a significant predictor is that borderline PD, histrionic PD, and major depressive disorder all share a lower order affective lability trait (Skodol, Shea, Yen, White, & Gunderson, 2010).

The inverse relationship that we found between narcissism and MDE is inconsistent with previous findings (Miller, Campbell, & Pilkonis, 2007). This discrepancy could be attributed to different variants of narcissism (e.g., grandiose vs. vulnerable; Pincus & Lukowitsky, 2009). Adaptive forms of narcissism include resilient self-esteem, assertion, and achievement motivation. The majority of our participants were not pathological, thus subthreshold levels of narcissism might serve a protective function against depression. In contrast, more mal-adaptive narcissistic traits such as entitlement and manipulation are more strongly related to depression (Watson & Biderman, 1993). There is still much to be learned about narcissism in later life, and it might be the case that narcissists underreport depressive symptoms as a function of pride or denial (Balsis, Eaton, Cooper, & Oltmanns, 2011). It is also worth noting that narcissism was only significantly related to depression in the regression model and is not correlated with depression. The most probable explanation for this finding is that narcissism is acting as a suppressor on histrionic scores for both the self and informant MAPP. In other words, the narcissism predictor is accounting for variance from the histrionic predictor that is unrelated to depression. As a result of including both factors in the model, the relationship between histrionic scores and depression improves while revealing a negative regression coefficient for narcissism.

Even though our study focuses on an older age community sample, we consider the latter part of middle age an optimal time to measure rates of depression across the life span. In addition, subsyndromal PDs might affect a higher proportion of older adults than we are currently aware of (Abrams & Bromberg, 2006). Thus it is important to validate measures in this age group and consider alternative methods to detect milder yet disruptive forms of pathology. Although our sample might not have shown pronounced elevated rates of psychopathology characteristic of a clinical sample, our prevalence rates of MDE and personality pathology are comparable to other community samples (Kessler et al., 2003; Lenzenweger et al., 2007). Representative community samples are critical for determining whether milder cases of personality pathology have a significant impact on functioning and answer questions about what features deviate from the norm enough to be considered clinically relevant.

Another potential issue to consider is that our assessment only included one informant, and that person was selected by the participant. Some findings suggest that self-selected informants provide more positive reports than informants not selected by the primary participant (Leising, Erbs, & Fritz, 2010). Although some researchers believe that the use of multiple informants strengthens assessment measures, Kraemer and colleagues (2003) noted that, if informants show high collinearity, then quantity does not matter as much as using other reports to compensate for measurement deficiencies. Our procedure satisfied that recommendation. It is also possible that our results might be an artifact of adding additional items at each step of the regression model as opposed to adding multiple sources. Multiple measures from the same source might account for just as much variance when predicting

depression as having three separate sources. For example, adding different self-report measures might explain additional variance when predicting MDE that was unaccounted for by the MAPP. Unfortunately we did not include multiple personality pathology assessments from the same source, so we are unable to rule out a potential artifactual finding. It is important to note that Table 4 demonstrates that informant reports and interviews provide unique perspectives and are likely to provide information that a more comprehensive or extensive self-report assessment could not detect due to reporter biases or blind spots.

We also acknowledge that there are other personality pathology measures that we did not include in these analyses. Implicit or behavioral measures offer an alternative method to assess information about internal processes that interview, self-, or informant reports are unable to access (Huprich & Bornstein, 2007; Huprich et al., 2011). Although these measures might not be capable of assessing the personality in its entirety, they have the potential to complement other personality assessments and improve construct validity further (Ganellen, 2007).

In conclusion, these results suggest that underutilized assessment approaches including semistructured interviews and informant reports provide useful information above and beyond that provided by self-report measures of personality pathology. This relationship highlights the importance of a multiperspective approach for PD assessments.

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Table 1

Demographic characteristics of 1,437 participants and informants in the St. Louis Personality and Aging Network study.

Demographic Characteristics	Participants		Informants	
	<i>n</i>	%	<i>n</i>	%
Sex				
Female	793	55.2	986	68.6
Male	644	44.8	450	31.3
Race				
White	968	67.4	965	67.3
Black	435	30.3	438	30.5
Other	34	2.4	31	2.2
Education				
Less than high school	31	2.2	19	1.3
High school graduate	620	43.1	674	47.5
College graduate or higher	785	54.6	727	51.2
Marital status				
Married	707	49.2	883	62.0
Widowed	99	6.9	68	4.8
Separated	24	1.7	26	1.8
Divorced	400	27.8	176	12.4
Never married	207	14.4	189	13.3
Serious relationship	—	—	83	5.8

Table 2

Self-, interview, and informant reports of personality pathology zero-order correlations with major depressive episodes.

Personality Disorder	MAPP Self-Report	SIDP Interview	MAPP Informant Report
Schizoid	.06	.01	.02
Schizotypal	.08**	.07*	.11**
Paranoid	.07*	.06*	.09**
Borderline	.15**	.22**	.17**
Histrionic	.13**	.09**	.14**
Antisocial	.04	.03	.08**
Narcissistic	.03	.01	.03
Avoidant	.12**	.11**	.12**
Dependent	.11**	.15**	.12**
Obsessive-compulsive	.05	.04	.04

Note. MAPP = Multi-source Assessment of Personality Pathology; SIDP = Structured Interview for *DSM-IV* Personality.

*
 $p < .05$.

**
 $p < .01$.

Table 3

Self-, interview, and informant reports of personality pathology predicting major depressive episodes using hierarchical logistic regression.

Step	Step χ^2	Nagelkerke R^2	Nagelkerke R^2	Personality Disorder Variables Entered	Regression Coefficient B	Odds Ratio
1. MAPP Self-Report (controlling for gender and race) ^a	62.47**	0.12	0.34 = 0.10 ^d	Schizoid	.18	1.20
				Schizotypal	.01	1.01
				Paranoid	-.09	.92
				Borderline	1.15**	3.17
				Histrionic	.56**	1.76
				Antisocial	-.35	.70
				Narcissistic	-.40*	.67
				Avoidant	.06	1.06
				Dependent	-.13	.88
				Obsessive-compulsive	-.12	.89
2. SIDP interview (controlling for Step 1) ^b	40.74**	0.15	0.39 = 0.05	Schizoid	-.36	.70
				Schizotypal	.57	1.77
				Paranoid	.07	1.10
				Borderline	1.79**	6.06
				Histrionic	.25	1.29
				Antisocial	-.39	.69
				Narcissistic	-.13	.89
				Avoidant	.03	1.03
				Dependent	.76	2.14
				Obsessive-compulsive	.05	1.05
3. MAPP informant report (controlling for Steps 1 & 2) ^c	24.29**	0.17	0.42 = 0.03	Schizoid	.00	1.00
				Schizotypal	-.07	.93
				Paranoid	.17	1.18
				Borderline	.37	1.45
				Histrionic	.45*	1.56
				Antisocial	.08	1.09

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Step	Step χ^2	Nagelkerke R^2	Nagelkerke R	Personality Disorder Variables Entered	Regression Coefficient B	Odds Ratio
				Narcissistic	-.70**	.49
				Avoidant	-.11	.90
				Dependent	.12	1.12
				Obsessive-compulsive	.00	1.00

Note. MAPP = Multi-source Assessment of Personality Pathology; SIDP = Structured Interview for DSM-IV Personality.

^a Variables entered at Step 1: Gender, race, MAPP self-report.

^b Variables entered at Step 2: Gender, race, MAPP self-report, SIDP interview.

^c Variables entered at Step 3: Gender, race, MAPP self-report, SIDP interview, MAPP informant report.

^d R represents incremental change after controlling for gender and race.

* $p < .05$.

** $p < .01$.

Table 4

Agreement between self-MAPP, informant-MAPP, and SIDP personality pathology measures using zero-order Pearson correlations.

Personality Disorder	Self MAPP–Informant MAPP	Self MAPP–SIDP Interview	Informant MAPP–SIDP Interview
Schizoid	.24	.35	.22
Schizotypal	.22	.36	.17
Paranoid	.27	.43	.20
Borderline	.26	.43	.35
Histrionic	.22	.34	.20
Antisocial	.22	.26	.21
Narcissistic	.13	.34	.25
Avoidant	.27	.61	.29
Dependent	.25	.43	.20
Obsessive–compulsive	.19	.35	.19

Note. MAPP = Multi-source Assessment of Personality Pathology; SIDP = Structured Interview for *DSM–IV* Personality.