# Personality Pathology and Alcohol Dependence at Midlife in a Community Sample

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## Abstract

The present study examined the association between personality pathology (PP) and alcohol dependence (AD; both lifetime and in the past 12 months) among middle-aged to older adults incorporating three sources of assessment, specifically, diagnostic interviews as well as self- and informant reports. We collected data from a representative sample of community participants ($N =$ 1,630; ages 54 – 65 years) and their informants ($N =$ 1,462). Measures employed were the substance use disorder sections of the Mini-International Neuropsychiatric Interview Schedule for Mental Disorders, the Structured Interview for *DSM-IV* Personality (American Psychiatric Association, 2000, *Diagnostic and Statistical Manual of Mental Disorders,* 4th ed., text rev.; *DSM–IV–TR* SIDP) and the NEO-Personality Inventory–Revised (Costa, P. T., & McCrae, R. R., *Revised NEO-Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI) manual,* 1992, Odessa, FL, Psychological Assessment Resources; self-report and informant versions). To complement the diagnostic interview for personality disorders (PDs), we utilized a PD-count technique derived from the five-factor model (FFM), which provided an index of PP liability. Factors representing lifetime and past-12 month AD were regressed on each of the 10 PP factors constructed from the SIDP interview, as well as self-report and informant FFM-count scores. Lifetime diagnosis of AD was positively associated with higher scores on several PP measures, including paranoid, schizotypal, antisocial, borderline, histrionic, and narcissistic PP. There was an inverse relation between lifetime AD and the factor score for obsessive–compulsive PP. With regard to AD in the past 12 months, antisocial, borderline, histrionic, and narcissistic PP factors were significantly associated with increased risk for AD, whereas the obsessive–compulsive and schizoid PP factors were associated with decreased risk for AD. The present data indicate that features of antisocial and borderline PP continue to exhibit a relatively strong association with risk for AD in later middle age.

### Keywords

personality pathology; alcohol dependence; aging; five-factor model

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Various forms of personality pathology (PP) have important consequences involving health and social functioning, in part because of their connection to alcohol dependence (AD; Bucholz, Hesselbrock, Heath, Kramer, & Schuckit, 2000; Compton, Comway, Stinson, Cilliver, & Grant, 2005). Epidemiological findings suggest that the prevalence rate for personality disorders (PDs) in the general adult population is approximately 9%. Among those who qualify for a diagnosis of any PD, 31% also meet criteria for lifetime diagnosis of AD, compared with an 11% lifetime prevalence of AD among those without a PD (Trull, Jahng, Tomko, Wood, & Sher, 2010). Social and health burdens escalate when these disorders occur comorbidly (Hasin et al., 2011).

Externalizing forms of PP (also described as Cluster B PDs in *DSM–IV*) are typically associated with the greatest risk for AD (Grant et al., 2006; Jahng et al., 2011). Antisocial and borderline PD are less common among older adults (Oltmanns & Balsis, 2011), and the prevalence of AD also changes across the life span. Longitudinal studies indicate that the alcohol consumption of heavy drinkers decreases over time (Shaw, Krause, Liang, & McGeever, 2011). Cross-sectional epidemiological studies comparing older and younger cohorts in the United States suggest that the 12-month prevalence of AD decreases with age, from 18.4% in those between the ages of 18 and 24 to 5.4% among those between the ages of 45 and 65 (Lee et al., 2010). Although the changing prevalence of AD and PDs does not necessarily indicate evidence for a change in the nature and extent of their relationship, this has not been examined in a sample of older adults.

Recent analyses of data from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) indicate that it is important to study each stage of the life span in order to understand patterns of stability and change in AD, including the link with PP (Vergés et al., 2012). The context of later life presents different challenges and opportunities than those faced in young adulthood. Environmental circumstances that influence risk for problem drinking include levels of stress, social support, and drinking by friends and partners (Schuckit & Smith, 2000). Midlife is associated with transitions associated with intimate relationships, family responsibilities, and occupational demands. All of these changes could alter the extent and manner of interaction between PDs and AD (Oslin & Movandadi, 2007; Widiger & Seidlitz, 2002).

Methods used to measure PP can also have an important impact on the detection of associations between PDs and alcohol-use disorders. Most previous studies have relied primarily on semi-structured diagnostic interviews to identify the presence of specific symptoms for each PD. Measures based on more normally distributed personality traits can provide a useful complement to diagnostic interviews for the assessment of PP. For example, the five factor model (FFM) has been used to profile the PD prototype of all *DSM–IV* PDs (Widiger & Trull, 2007). Item counts have been identified based on facets, or lower order traits of the FFM, that are associated with each type of PD in *DSM–IV* (Miller, Bagby, Pilkonis, Reynolds, & Lynam, 2005). These scores represent *PD liability*, but would not be used to assign a diagnosis. Although increasing FFM scores correspond to increased PD vulnerability, the scores themselves represent the spectrum of risk. Studies on AD, specifically those related to personality traits, have been shown to be informative, with research suggesting a common liability distribution unifying disinhibitory personality traits (e.g., novelty-seeking and low conscientiousness (Littlefield & Sher, 2010; Malouff, Thorsteinsson, Rooke, & Schutte, 2007; Park, Sher, Krull, & Wood, 2009), antisocial PD, AD, and other substance-use problems (Krueger, Markon, Patrick, Benning, & Kramer, 2007; Lejuez et al., 2010; Ruiz, Pincus, & Schinka, 2008).

Another limitation in the current literature on PDs and AD has been excessive reliance on self-report measures. Questionnaires for PP have established merits, but people with PDs are

frequently unable to view themselves realistically and are sometimes unaware of the effect that their behavior has on other people (Huprich, Bornstein, & Schmitt, 2011; Oltmanns & Turkheimer, 2009). An effective method to overcome this barrier is the use of peers, spouses, and other informants as key sources of information. Correlations between self-report and informant personality descriptors have been found to be modest, at best, suggesting that the latter provide an important source of information that may be overlooked by the self. The value of this approach has been tested among older adults, and the findings suggest that informants add significant predictive validity, especially for antisocial, borderline, histrionic, and narcissistic PDs (Carlson, Vazire, & Oltmanns, in press; Lawton, Shields, & Oltmanns, 2011).

The current paper adds to the existing literature on PP and AD in three important ways. First, very few studies have addressed this topic among older adults. Evidence regarding the connection between PP and AD in later life will provide useful public-health data and expand current knowledge regarding health outcomes and social relationships in later life. Second, we supplemented diagnostic information from interviews using PD-count scores based on widely researched FFM-based lower order traits to measure PD liability. Third, informants were employed to provide descriptions of PP that would complement data from interviews and self-report questionnaires. To our knowledge, informants have not been included in previous studies regarding personality and alcohol-use disorders, in spite of the fact that lack of self-knowledge is a key feature of PDs (Oltmanns & Powers, 2012). The primary aim of the present analyses was to examine the association between PP and AD in an aging community population, utilizing diagnostic interviews in conjunction with self- and informant reports of FFM-based PD-count scores, which were used to provide a more comprehensive base of information regarding the presence of PP.

## Method

### Participants, Informants, and Procedure

The data presented in this paper were collected as part of a longitudinal study that is concerned with the trajectory and impact of PP in later life (St. Louis Personality and Aging Network: SPAN). Details regarding the goals of the project and recruitment methods are described elsewhere (Oltmanns & Gleason, 2011). The current paper is based on analyses performed with data from 1,630 participants between the ages of 55 and 64 who had completed baseline assessments. They were all residents of the St. Louis, Missouri metropolitan area (city and suburbs), identified using telephone records from a private sampling firm. They were paid $60 for completing a 3-hr assessment. Participants who had a life-threatening illness, were currently psychotic, or planned to move away from St. Louis in the near future were excluded from the study.

The mean age of the participants was 60 years ($SD = 3$ years). Among these, 45% were men and 55% were women. About 65% of the sample identified themselves as Caucasian, whereas 32% were non-Hispanic African American, with remaining individuals being of other ethnic backgrounds, such as Asian or mixed race. Forty-eight percent of the sample reported being currently married; 31% were separated or divorced. Roughly 14% of the participants had never married, and close to 7% were widowed. In terms of education, 25.6% of the sample had a bachelor's degree and 18.9% had a master's degree. About 7% possessed a doctoral degree, and the remaining majority had GEDs, high school diplomas, or a high school education.

We also recruited 1,462 informants. Each participant was asked to identity one informant who could provide a description of his or her personality characteristics. The mean age of the informants was 54 years ($SD = 11$ years). Approximately 48% of the informants were

spouses or romantic partners of the participants; 28% were other family members such as siblings or adult children. The rest of the informants were friends, neighbors, and coworkers.

Interviews were conducted face to face in the personality assessment lab (Department of Psychology, Washington University in St. Louis) by carefully trained interviewers, who were full-time staff members and graduate students in the clinical psychology training program. All of the interviews were video recorded. We randomly selected 265 to be rated again by an independent judge (another member of the team). The overall reliability (computed using intraclass correlations and the one-way random model) was 0.67. The reliability for specific *DSM–IV* PDs (treated as continuous scores) ranged from 0.86 for avoidant PD to 0.53 for paranoid PD. The reliability for borderline PD was 0.77.

## Measures

**Mini-International Neuropsychiatric Interview (M.I.N.I.)—**The M.I.N.I. (Sheehan et al., 1998) is a brief, easy to administer, structured interview to diagnose *DSM–IV* Axis I disorders. For alcohol-use disorders, in accordance with the hierarchical structure of abuse and dependence, individuals meeting criteria for *DSM–IV* AD are not queried about alcohol abuse. Although this does not affect diagnosis, it does influence latent-variable modeling of alcohol-use disorders that utilize both abuse and dependence criteria. Hence, we focused on the seven *DSM–IV* AD criteria that were collected for the past 12 months and across the lifetime, and used these items to create an AD latent factor for each time frame separately.

**Structured Interview for *DSM–IV* Personality (SIDP)—**The SIDP (Pfohl, Blum, & Zimmerman, 1997) was used to measure PD symptoms corresponding to the *DSM–IV*: paranoid, schizoid, schizotypal, antisocial, borderline, histrionic, narcissistic, avoidant, dependent, and obsessive– compulsive PDs. The interview includes 101 questions that are arranged by themes, such as work style, interpersonal relationships, emotions, interests, and activities. Each diagnostic criterion was rated on a scale from 0 to 3.

**NEO-Personality Inventory–Revised (NEO-PI-R)—**The NEO-PI-R is a measure of personality traits represented in the FFM (Costa & McCrae, 1992). It consists of 240 items answered on a 5-point scale that contribute to major domains of personality (i.e., neuroticism, extraversion, openness, agreeableness, and conscientiousness), along with six facets that contribute to each domain. In the present study, we used Form S (self report) and Form R (informant report) of the NEO-PI-R. Internal consistency coefficients ranged from 0.86 – 0.95 for domain scores and from 0.56 to 0.96 for facet scores of both forms.

**FFM-PD counts—**As proposed by Miller et al. (2005), the FFM-PD count technique provides a simplified, dimensional, multitrait scoring method to capture central features of the 10 *DSM–IV* PDs using the 30 facets of the FFM. It represents a simple count in which personality facet scores from the NEO-PI-R are summed together to give information regarding each type of PD. Reverse scoring is done for required facets. For instance, the PD count for liability to histrionic PD is obtained by adding NEO-PI-R facets of self-consciousnesses (reverse scored), impulsivity, gregariousness, activity, excitement seeking, positive emotions, openness to fantasy, openness to feelings, openness to actions, trust, self discipline (reverse scored), and deliberation (reverse scored). We incorporated this innovative method in the present study because it allows us to identify PP from the perspective of individuals and informants utilizing traits from the NEO-PI-R, while also permitting us to draw inferences about *DSM–IV* PD types as they are reflected in the SIDP interview (see Lawton et al., 2011, for more information about PD-prototype counts in the present sample of participants).

### Data Analyses

**Structural Equation Modeling (SEM)—**We used SEM in MPlus (Version 5.1, Muthén & Muthén, 2008) to examine the regression of an AD factor (created from the seven dependence criteria, separately for lifetime and past 12 months) on 10 individual factors representing each of the 10 forms of PP (constructed by factorizing the corresponding SIDP, self-report and informant FFM-PD-count scores). After accounting for the association between the two factors, additional influence of each score (SIDP, NEO-PI-R self-report and informant) on the AD factor was also examined. Prior to model fitting, the SIDP, NEO-PI-R self-report and informant scores were standardized ($M = 0$ and $SD = 1$). Gender and ethnicity were included as covariates.

## Results

According to the SIDP diagnostic interview, 134 participants (8.2%) met *DSM–IV* criteria for at least one PD, and an additional 30 participants (1.8%) qualified for PD not otherwise specified (10 or more miscellaneous PD features without meeting the criteria for any specific PD). The values were highest for obsessive–compulsive PD (2.9%), followed by avoidant PD (2.5%), and least for schizotypal PD (0.06%). Because the prevalence of PD diagnoses was relatively low in the sample, symptoms of PDs from the SIDP in terms of mean scores were used for further analysis. This procedure allowed us to retain the full dimensional nature of each PD, as revealed in ratings based on the interview.

With regard to the prevalence of AD in our sample, 2.7% and 15.9% of the participants met criteria for *DSM–IV* AD in the past 12 months and across their lifetimes, respectively. Using larger amounts of alcohol or drinking for longer than intended were the most commonly endorsed criteria (43.3% lifetime and 10.7% in the past 12 months), and experiencing withdrawal was least commonly endorsed (6.7% lifetime and 0.7% in the past 12 months). Gender differences in AD were significant, as expected, with 8.8% of women compared with 24.9% of men meeting criteria for a lifetime history of *DSM–IV* AD (1.4% and 4.3% of women and men respectively for past 12-month diagnoses).

Table 1 indicates correlations between PD-symptom scores from the SIDP interview, and PD-count scores from the self-report and informant versions of the NEO-PI-R. It also reports correlations between the self-report and informant PD-count scores from the NEO-PI-R. The correlations range from 0.02 (obsessive–compulsive PD) to 0.55 (avoidant PD). The associations of obsessive– compulsive PD drawn from SIDP- and PD-count scores from the NEO-PI were weak, suggesting that these two PD-count scores may not be valid measures of the *DSM–IV* disorder for which they were intended. Overall, the findings are consistent with those reported previously (Lawton et al., 2011; Miller et al., 2005). Associations between the self-report and informant PD-count scores ranged between 0.42 (paranoid PP) and 0.55 (avoidant PP).

The factor loadings for the seven dependence criteria for a lifetime AD factor ranged from 0.82 (larger/longer) to 0.91 (quit attempts). Loadings were similarly high for criteria reported during the past 12 months and ranged from 0.72 (tolerance) to 0.91 (time spent, activities given up, use despite problems). The magnitude of the factor loadings for specific PD ratings based on the SIDP, self-report PD-count scores, and informant-report PD-count scores are shown in Table 2. With the exception of obsessive– compulsive PD, the ratings based on the SIDP interview and the self-report and informant-count scores from the NEO-PI generally loaded well onto the underlying PP factor. Loadings ranged from 0.25 (schizotypal SIDP score) to 0.90 (avoidant NEO-PI-R score). For obsessive-compulsive PD, the SIDP score did not cohere with the corresponding NEO-PI scores.

Results for the regression analyses are also shown in Table 2. The factor representing lifetime diagnosis of AD was positively associated with higher scores on several PP factors, including paranoid, schizotypal, antisocial, borderline, histrionic, and narcissistic types. There was an inverse relation between lifetime AD and the factor score for obsessive–compulsive PP. With regard to AD in the past 12 months, antisocial, borderline, histrionic, and narcissistic PP factors were again significantly associated with increased risk for AD. In contrast, obsessive–compulsive and schizoid PP were associated with decreased risk for AD.

Because FFM-count scores for obsessive– compulsive PP (both self-report and informant) were not significantly correlated with obsessive– compulsive PD scores based on the diagnostic interview, we ran the model again with single regressions between each of the PP variables and the AD factor. The interview-based obsessive– compulsive PD score was not associated with AD in this analysis, but both of the FFM-count scores were associated with lifetime and past 12 month AD (self: $\beta = -0.19$, standard error = 0.04 and informant: $\beta = -0.16$, standard error = 0.04).

## Discussion

Prevalence rates observed in our sample match closely those reported in other large epidemiological studies. With regard to PDs diagnosed using the SIDP diagnostic interview, we found that 8.2% of our participants met the *DSM–IV* diagnostic criteria for at least one PD, and an additional 1.8% met criteria for PD not otherwise specified. This overall figure of 10% is close to the overall PD prevalence rate of 9%, as reported from both the National Comorbidity Survey Replication (NCS-R; Lenzenweger, Lane, Loranger, & Kessler, 2007) and National Epidemiological Survey on Alcohol and Related Conditions (NESARC) (Trull et al., 2010). With regard to AD, 15.9% of our participants qualified for a lifetime diagnosis, and 2.7% qualified for a diagnosis in the past 12 months. Investigators from the much larger NESARC reported lifetime AD prevalence of 12.5% (Compton et al., 2005) and a 12-month AD prevalence rates of 3.5% for adults between the ages of 45 and 64 (Grant et al., 2004). Detailed comparisons among studies are difficult given variations in assessment instruments and age groups, but our prevalence rates for both PDs and AD are as expected in a community sample of middle-aged adults.

In order to examine the association between PP and AD, we created composite PP-factor scores using data from the semistructured diagnostic interview, as well as PD-prototype count scores from the self-report and informant FFM questionnaires. This procedure ensured that we considered information from several perspectives, while also maximizing coverage of the full range of latent traits associated with each of the PP constructs (Samuel, Simms, Clark, Livesley, & Widiger, 2010). FFM PD-count scores have demonstrated good convergent and discriminant validity in both clinical and community samples (Lawton et al., 2011; Miller et al., 2005). Correlations among these complementary sources indicated considerable convergence among measures in our sample, with the exception of those concerned with obsessive–compulsive PD; correlations between the count scores and SIDP scores for obsessive– compulsive PD were essentially zero. This aspect of our results is consistent with other reports regarding limitations of the FFM-PD prototype method for the obsessive–compulsive PD construct (Samuel, Brown, Lynam, Miller, & Widiger, 2012).

Does the link between PP and AD persist into later middle age? Our results suggest that the answer is yes. All of the factors indexing liability for Cluster B PDs demonstrated significant connections with both lifetime and 12-month diagnoses of AD, and the effects involving antisocial and borderline PP were most pronounced. Schizotypal and paranoid PP were also associated with a lifetime diagnosis of AD, but they were not significantly related to AD when only recent problems with alcohol were considered (12-month diagnoses). The

overall pattern suggests that, consistent with previous reports, a relatively wide spectrum of PP is associated with liability for serious alcohol-use disorders (Jahng et al., 2011), and many of those effects persist into later middle age.

This pattern of results fits well with prior speculation regarding a primary externalizing spectrum connecting antisocial PD and alcoholism (Krueger et al., 2007; Lejuez et al., 2010). Although older adults tend to show lower prevalence rates for antisocial and borderline PD when official diagnostic thresholds are employed, our ability to identify this effect was presumably enhanced by our use of continuously distributed scores that captured the entire range of the antisocial and borderline PP constructs. This underscores the role of impulsivity and angry hostility, traits that contribute to neuroticism, in relation to AD (Ruiz et al., 2008; Sher, Grekin, & Williams, 2005). The spectrum of personality traits depicted by these PDs, including disinhibition, antagonism, and negative affectivity, should inform clinicians who address the health needs of older adults who might benefit from the use of more sensitive assessment methods (Krueger et al., 2011).

One unique aspect of our results is that higher factor scores for obsessive– compulsive PP were associated with *decreasing* liability for lifetime AD. Previous studies have reported the opposite pattern. For example, data from the NESARC sample indicated that participants with higher scores on obsessive– compulsive PD, based on a semistructured diagnostic interview, were *more* likely to qualify for a lifetime diagnosis of AD (Trull et al., 2010). The distinction between our findings and previous studies must hinge on our use of composite PP-factor scores rather than interview-based diagnoses alone. In fact, obsessive– compulsive PD scores based solely on the SIDP interview were not significantly associated with AD. The effect for our overall obsessive– compulsive factor score was driven by the FFM-count scores (both as rated by the self and the informants). Personality-trait dimensions that produce the FFM obsessive– compulsive count scores include, primarily, facets of conscientiousness (e.g., competence, dutifulness, self-discipline), which are known to be associated with positive health outcomes across the life span (Roberts, Walton, & Boggs, 2005). Increasing conscientiousness over the life span has also been demonstrated to be associated with a pattern of "maturing out" of problem drinking (Littlefield, Sher, & Wood, 2009). The maladaptive variations of personality traits associated with obsessive– compulsive PD (e.g., rigid perfectionism and perseveration as suggested by the *DSM-5* workgroup for PDs) are not well represented in the NEO-PI-R. Future studies are needed to clarify ways in which interactions among adaptive and maladaptive personality traits contribute to alcohol-use disorder liability, as well as to protection from them over the course of the lifespan.

Another somewhat surprising finding was that schizoid PP had a negative association with 12-month (recent) diagnoses of AD, although it was not significantly related to a lifetime diagnosis of AD. Previous studies have reported that schizoid PD actually increases risk for AD (Trull et al., 2010). FFM descriptions of schizoid PD emphasize extremely low facets of extraversion (e.g., warmth, gregariousness, and positive emotions). Higher levels of extraversion are associated with the onset of problem drinking among adolescents and young adults, but levels of sociability may decrease as heavy drinking is maintained (Sher et al., 2005). Therefore, it might seem reasonable to expect that low extraversion would predict higher rather than lower levels of pathological drinking. As in the case of our findings for obsessive– compulsive PP, our preliminary findings need to be expanded by considering more carefully how specific maladaptive variants of personality traits and changes in these traits over time are related to the course of alcohol-use disorders in middle age and later life.

The present results should be viewed with some limitations in mind. One concern might involve a form of criterion contamination, because participants completed the SIDP and

M.I.N.I. interviews with the same research assistant. Did the interviewers produce biased ratings of AD features after recognizing the presence of specific PD symptoms during the SIDP? For several reasons, we do not believe that this issue presents a serious problem for the interpretation of our data. First, *informant* reports of personality features were collected independent of the participants' responses to the M.I.N.I. and would therefore not be subject to rater contamination. Similar results were obtained for analyses focused only on the association between informant-based NEO-PI-R scores and participant-reported lifetime AD (see Table S1). Second, the M.I.N.I. is a completely structured interview, allowing only yes and no answers to each item. The interviewer does not make ratings that could be influenced by his or her own intuitive hypotheses regarding the connection between certain types of PP and AD. Given the length and complexity of the 3-hr assessment process, as well as the highly structured nature of the interview for alcohol-use disorders, it does not seem possible that the interviewers' impressions from the SIDP would be responsible for the correlations that were found between PP symptoms and the diagnosis of AD.

Another limitation of the present findings is that the structure of the relationship between PP and alcohol-use disorders may vary as a function of gender and ethnicity. These are complex and critical issues that are beyond the scope of the present paper. Perhaps more important is the fact that the analyses presented here were based on cross-sectional rather than longitudinal data. We cannot be certain whether features and symptoms of PDs that are associated with AD are antecedents or consequences of problems with alcohol. The developmental trajectory of these problems obviously carries important consequences for our understanding of psychopathology and for the design of programs designed to treat alcohol-use disorders in older adults. As our study unfolds over time, we plan to explore the temporal relationships among maladaptive personality traits and changes in pathological drinking patterns, as our participants face the challenges of later life.

## Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

## Acknowledgments

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**Table 1**

Zero-Order Correlations and Standard Errors Between Mean Personality-Disorder Scores Based on SIDP Interviews and PD-Count Scores From the NEO-PI-R Using Self-and Informant Reports

| PD type | SIDP interview with self-report PD-count score | SIDP interview with informant-report PD-count score | Self-report PD-count score with informant-report PD count score |
|---|---|---|---|
| Paranoid | 0.33 (0.02) | 0.20 (0.03) | 0.42 (0.02) |
| Schizoid | 0.41 (0.02) | 0.32 (0.02) | 0.53 (0.02) |
| Schizotypal | 0.21 (0.02) | 0.13 (0.03) | 0.52 (0.02) |
| Antisocial | 0.25 (0.02) | 0.22 (0.03) | 0.46 (0.02) |
| Borderline | 0.46 (0.02) | 0.37 (0.02) | 0.45 (0.02) |
| Histrionic | 0.30 (0.02) | 0.20 (0.03) | 0.53 (0.02) |
| Narcissistic | 0.34 (0.02) | 0.28 (0.03) | 0.44 (0.02) |
| Avoidant | 0.50 (0.02) | 0.33 (0.02) | 0.55 (0.02) |
| Dependent | 0.36 (0.02) | 0.24 (0.02) | 0.50 (0.02) |
| Obsessive-compulsive | 0.02 (0.03)[ns] | 0.01 (0.03)[ns] | 0.53 (0.02) |

Note.

[ns]All correlations are significant at $p < .05$ except for obsessive–compulsive PD.

**Table 2**

Factor Loadings, Regression Coefficients and Fit Indices for Analyses Examining the Association Between Factors Representing Lifetime and Past 12-Month Alcohol Dependence (Based on Seven *DSM-IV* Dependence Criteria) and Personality Pathology Factors Constructed From the SIDP, NEO-PI-R Self and Informant Scores

| PD type | Standardized factor loadings | | | β (SE) | | CFI, RMSEA | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| | SIDP | Self NEO-PI PD count | Informant NEO-PI PD count | Lifetime alcohol dependence | Past 12-month alcohol dependence | Lifetime alcohol dependence | Past 12-month alcohol dependence |
| Paranoid | 0.42 | 0.79 | 0.49 | 0.29 (.05) * | 0.10 (0.06) ns | 0.94, 0.07 | 0.98, 0.03 |
| Schizoid | 0.50 | 0.82 | 0.64 | 0.05 (.05) ns | −0.12 (0.05) # | 0.97, 0.05 | 0.98, 0.03 |
| Schizotypal | 0.25 | 0.84 | 0.61 | 0.17 (.04) * | 0.04 (0.04) ns | 0.98, 0.05 | 0.97, 0.03 |
| Antisocial | 0.42 | 0.63 | 0.54 | 0.45 (.05) * | 0.39 (0.06) * | 0.95, 0.04 | 0.98, 0.05 |
| Borderline | 0.63 | 0.75 | 0.59 | 0.41 (.05) * | 0.33 (0.06) * | 0.98, 0.04 | 0.98, 0.03 |
| Histrionic | 0.37 | 0.85 | 0.62 | 0.13 (.04) % | 0.19 (0.05) * | 0.98, 0.04 | 0.98, 0.03 |
| Narcissistic | 0.47 | 0.75 | 0.59 | 0.24 (.05) * | 0.19 (0.06) % | 0.99, 0.03 | 0.99, 0.02 |
| Avoidant | 0.56 | 0.90 | 0.61 | 0.06 (.04) ns | −0.05 (0.06) ns | 0.99, 0.03 | 0.97, 0.03 |
| Dependent | 0.45 | 0.83 | 0.61 | 0.07 (.04) ns | 0.01 (0.05) ns | 0.99, 0.03 | 0.98, 0.03 |
| Obsess–Comp | 0.03 ns | 0.82 | 0.65 | −0.24 (.04) * | −0.26 (0.05) * | 0.98, 0.03 | 0.98, 0.03 |

Note.

ns not significant.

* $p < .0001$.

# $p < .01$.

% $p < .05$.