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Personality Traits among Patients with Absent, Current, and Remitted Substance Use Disorders

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Abstract

Personality traits may provide underlying risk factors for and/or sequalae to substance use disorders (SUDs). In this study Schedule for Nonadaptive and Adaptive Personality (SNAP) traits were compared in a clinical sample (N = 704, age 18-45) with current, past, or no historical alcohol or non-alcohol substance use disorders (AUD and NASUD) as assessed by DSM-IV semi-structured interview. Results corroborated previous research in showing associations of *negative temperament* and *disinhibition* to SUD, highlighting the importance of these traits for indicating substance use proclivity or the chronic effects of substance use. Certain traits (*manipulativeness, self-harm, disinhibition*, and *impulsivity* for AUD, and *disinhibition* and *exhibitionism* for NASUD) were higher among individuals with current relative to past diagnoses, perhaps

indicating concurrent effects of substance abuse on personality. The positive temperament characteristics *detachment* and *entitlement* distinguished AUDs and NASUDs, respectively, perhaps clarifying why this higher order trait tends to show limited relations to SUD generally. These findings suggest the importance of systematically integrating pathological and normative traits in reference to substance-related diagnosis.

Keywords

personality; personality disorders; alcohol use disorders; substance use disorders; SNAP

1.0 Introduction

Personality traits such as *negative temperament* and *disinhibition* consistently relate to alcohol and non-alcohol substance use disorders (AUDs and NASUDs, respectively) (Ball, 2005; Elkin et al., 2006; Ruiz, Pincus, & Schinka, 2008). The nature of this association is unclear, however (Sher et al., 2005). For example, although traits are commonly considered diatheses for AUDs (Krueger et al., 2002; McGue et al., 1997), some have suggested that substance use disorder (SUD) patterns may also influence personality (Oscar-Berman et al., 1997; Sher et al., 1999; Sutherland, 1997). This debate points to the need for longitudinal research. It is also unclear whether previous findings regarding personality correlates of AUDs generalize to NASUDs. Patterns might diverge for at least two reasons. First, alcohol differs from other drugs because its use is legal, unlike most other drugs (e.g., illicit drugs, or misused medication). Thus, personality traits of known relation to a propensity for criminal behavior (e.g., *impulsivity*; Samuels et al., 2004) may be more likely to predispose NASUDs. Second, alcohol and drugs differ in neurobiological pathways and substrates, which may in turn link to varying personality trait profiles (Williams, Suchy, & Rau, 2009). However, previous research with normative traits has generally found similar profiles for individuals with AUDs and NASUDs (Elkin et al., 2006; Hopwood et al., 2007).

Further compounding the complexity of this issue, AUDs and NASUDs systematically relate to personality disorders (PDs; Bowden-Jones et al., 2004; Grilo et al., 1997; McGlashan et al., 2000), which in turn relate to normative traits (Samuel & Widiger, 2008). Krueger and Tackett (2003, p. 120) declared “a clear need for an empirically based, comprehensive descriptive system that transcends [traditional] boundaries [and] can account for the patterning of personality and its psychopathological manifestations.” From this perspective, research relating personality, personality pathology, and SUDs should use an integrative, multivariate framework that represents normative personality traits and personality pathology features in a single system, such as the *Schedule for Nonadaptive and Adaptive Personality* (SNAP; Clark, 1993). The SNAP assesses *negative temperament* and *disinhibition* as well as pathological features of these domains (e.g., *mistrust, dependency*), and thus represents an important tool for studying personality-substance links integratively. For instance, while evidence consistently relates *negative temperament* and *disinhibition* to SUD proclivity, it is unclear whether these findings derive from more specific elements of these broad traits. The role of traits related to *positive temperament* is also ambiguous. Findings have been inconsistent, perhaps because some elements of this broad trait represent risk factors for SUDs whereas others may be protective (Hopwood et al., 2007), or because these elements differentially relate to AUDs and NASUDs.

SNAP trait differences as a function of SUDs have received limited empirical attention. Ball et al. (2006) reported that *disinhibition, mistrust* and *self-harm* were a standard deviation higher than the normative mean in a sample of recent dropouts from a residential substance abuse facility. Ready, Watson, & Clark (2006) found that *disinhibition, impulsivity*, and

manipulativeness predicted both self- and other-reported substance-related problems (with problems associated with alcohol and other drugs collapsed) in an outpatient sample. However, these investigations were limited by relatively small sample sizes and the absence of formal diagnostic substance variables. Further, no study has compared pathological trait differences across alcohol, other substances, and comorbid cases or across individuals with current or remitted diagnoses.

The purposes of this study were to identify a) SNAP trait differences between individuals with current alcohol and substance use diagnoses, past diagnoses in remission, and no historical SUD diagnoses, and b) varying personality trait profiles across participants with alcohol, other substance, and comorbid diagnoses in a relatively large clinical sample in which SUDs were diagnosed by structured interview. We anticipated based on previous research that elements of *negative temperament* and *disinhibition* would mark all SUDs and be highest in comorbid cases. We expected that *positive temperament* would not show significant effects, although elements of this trait might vary in the direction of their relations to disorders. Given limited research examining temporal dynamics between substance abuse and personality, we had no hypotheses regarding traits that might distinguish individuals with current or past SUDs.

2.0 Methods

Participants were 704 (450 women; 485 Caucasian, 104 African-American, 91 Hispanic, 15 Asian-American, 9 other ethnicities) individuals between the ages of 18-45 recruited through clinical settings with one of four PDs (avoidant, borderline, obsessive-compulsive, and/or schizotypal) or major depression without PD in the Collaborative Longitudinal Personality Disorder Study (see Gunderson et al., 2000). These diagnoses as well as AUDs and SUDs were established by semi-structured diagnostic interviews (First et al., 1996). The median inter-rater κ reliability coefficients were 1.0 for both alcohol and drug abuse and dependence, and the test-retest κ coefficients were .77 and .76 for these respective disorders (Zanarini et al., 2000). At initial study assessment, 422 participants had never received an AUD diagnosis, 232 had a past but not current diagnosis, and 50 had a current diagnosis. For other SUDs, 446 had never been diagnosed, 209 had a past but not current diagnosis, and 49 had a current diagnosis. Ratings distinguished neither between abuse and dependence (see Sher et al., 2005) nor among type of NASUD in order to preserve statistical power and in the absence of hypotheses regarding moderating roles of specific substance use diagnosis on personality-course relations. The SNAP (Clark, 1993) assessed normative and pathological traits (listed in Tables 1 and 2). The median coefficient alpha for the three normative trait scales in this sample was .89 and for the 12 pathological trait scales was .84. SUD diagnostic groups were unrelated to study diagnostic assignment, sex, or ethnicity.

In the first set of analyses designed to test temporal trends in traits across diagnostic groups, ANOVAs with Tukey's HSD post-hoc tests compared trait scores for individuals who had never had an AUD or NASUD, had a remitted diagnosis, or had a current diagnosis. A second strategy was employed to depict differences between AUD and NASUD personality traits independent of current or past use. For these analyses, participants with past and current SUDs were collapsed to create groups with no lifetime SUD diagnosis, lifetime AUD, lifetime NASUD, and lifetime comorbid diagnoses, and ANOVAs were used to test trait differences across these groups. A conservative Type I error rate of .01 was employed to adjust for multiple significance tests. Post-hoc testing used the more conventional alpha of .05.

3.0 Results

Table 1 shows trait differences for participants with no, past, or current AUDs. Participants with and without a lifetime AUD were distinguished primarily by *negative temperament* and related features (*mistrust, aggression*, and *eccentric perceptions*) as well as *detachment*. These traits may represent diatheses or long-term consequences but not contemporaneous effects of use. Aspects of *negative temperament* (*manipulativeness* and *self-harm*) and *disinhibition* (*disinhibition* and *impulsivity*) distinguished participants with current and past AUDs, suggesting that such personality features may be affected by concurrent alcohol problems.

Table 1 also depicts trait differences for participants with no, past, or current NASUDs. Only *disinhibition* differed across all three groups: it was highest in those currently diagnosed, followed by remitters, followed by those never diagnosed, perhaps suggesting both diathetic influences/chronic consequences of personality and short-term effects of use. This trait also showed the strongest effects across both AUD and NASUD analyses, indicating that it may be particularly important in evaluating the potential for substance use problems and/or potential personality consequences of use. Importantly, *disinhibition* has been associated with alterations in neurobiological pathways increasing the risk for substance use (Goldstein & Volkow, 2002; Oswald et al., 2007). *Negative temperament* and several of its elements, as well as *impulsivity* were higher in the currently diagnosed than those with no NASUD history, suggesting these traits might represent diathetic influences on or consequences of chronic substance use. *Exhibitionism* was higher among current NASUDs than either past or non-diagnoses. This trait might be unique in representing a concurrent consequence but not a predictor or long term result of NASUD.

Table 2 shows SNAP scores for individuals with no SUD, lifetime AUD only, lifetime NASUD only, or comorbid lifetime SUD diagnoses. *Negative temperament* was significantly higher for the AUD and comorbid groups than the no SUD group, with each of its lower-order elements (except *dependency*) also sensitive to SUD. *Disinhibition* was significantly higher in the comorbid group than the AUD and NASUD groups, whose scores were higher than those of the no SUD group. *Impulsivity* was also sensitive to SUD. These findings are generally consistent with previous research suggesting the non-specific but important associations of *negative temperament* and *disinhibition* with SUDs (Elkin et al., 2006; Hopwood et al., 2007; Schinka et al., 2008). In contrast, two elements of *positive temperament* distinguished the AUD and NASUD groups: the NASUD group had higher *entitlement* scores but lower *detachment* scores. These findings may help clarify previous ambiguities regarding the role of *positive temperament* in that lower-order elements of this trait differentially related to AUD and NASUD.

4.0 Discussion

These findings provide new evidence of dynamic personality-SUD relations and highlight the utility of examining normative and pathological personality characteristics in an integrative framework. In a previous paper (Hopwood et al., 2007), we found essentially identical normative trait profiles for participants with AUDs and NASUDs. Only one trait, NEO-PI-R *impulsivity*, differed across individuals with current and past diagnoses, generally suggesting that normative traits, when relevant, represent diatheses or chronic effects but do not shift as a consequence of use. In this study, various traits were sensitive to both temporal dynamics (e.g., current vs. past use) and diagnosis (AUD vs. NASUD) and yielded more differentiated patterns, particularly for elements of *negative temperament* and *disinhibition*. In the case of *positive temperament*, patterns involving lower-order dimensions also clarified null results at the higher-order level.

Because most patients in this study had PDs, personality differences across these groups would be anticipated to be greater among non-clinical control groups or individuals with milder psychopathology. Strengths of the study include the use of an integrative personality measure and structured diagnostic interviews for SUDs, the comparison of past and current individuals with past or current SUDs to subjects with no SUDs in a moderately large clinical sample, and the separation of AUDs and NASUDS. These strengths promote confidence in the results. Several limitations also merit notice. First, although separating individuals with remitted and current diagnoses can help to identify when traits may represent concurrent consequences of use, this design does not permit conclusions about whether traits represent diatheses or the effects of chronic use when they are elevated in both remitted and those currently diagnosed. Second, although similar results generally emerge regardless of informant (Ready et al., 2006), all personality ratings were self-reported. Future work should explore the influence of measurement method on obtained results. Third, despite the moderately large sample, some interesting null effects may reflect the relatively small sample of currently diagnosed individuals, uneven distributions in group comparisons, and resulting limited power. Fourth, although different substances may have differential relations to personality, the sample size and other factors precluded investigating relations across different types of NASUD or simultaneous considerations of diagnostic and temporal effects. Finally, the existence of qualitatively different SUD subtypes (e.g., Morey, Skinner, & Blashfield, 1984) may implicate non-linear substance abuse-personality relations that the current study design could not identify.

Overall, these results have practical implications that call for further investigation and clinical consideration. This study and previous research (e.g., Ruiz et al., 2009) suggest that traits related to *negative temperament* and *disinhibition* represent risk factors for alcohol and substance abuse. Patients with these traits therefore may warrant increased attention for potential substance use problems. The current findings imply that increased behaviors related to certain traits, such as *manipulativeness, self-harm, disinhibition*, and *impulsivity*, may reflect current AUDs. For NASUDs, greater *exhibitionism* and *disinhibition* may occur. As current AUDs and NASUDs may be anticipated to generate certain personality consequences that can have other problematic correlates, personality assessment may importantly augment risk assessments in individuals with these disorders. Finally, results suggest that pathological aspects of *positive temperament* can distinguish AUDs (*detachment*) from NASUDs (*entitlement*).

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Table 1

Mean SNAP T-scores and standard deviations for individuals from a clinical sample who have, used to have, or never had an abuse or dependence diagnosis.

Trait	Never	Past	Current	*F*	Post-hoc
		Alcohol Use Disorder			
N	422	232	50		
Negative Temperament	61.89 (9.30)	64.71(7.49)	65.36 (8.52)	9.80*	P, C > N
Mistrust	60.55 (12.55)	64.97 (12.86)	67.07 (12.37)	12.74*	P, C > N
Manipulativeness	53.67 (11.23)	57.35 (11.90)	63.75 (13.89)	20.61*	C > P > N
Aggression	57.70 (13.49)	63.15 (14.60)	65.26 (15.56)	15.03*	P, C > N
Self-harm	70.09 (16.89)	76.25 (15.66)	82.69 (16.81)	19.71*	C > P > N
Eccentric Perceptions	54.88 (12.13)	59.08 (13.15)	61.25 (13.85)	11.84*	P, C > N
Dependency	56.63 (12.93)	57.29 (12.65)	60.97 (15.40)	2.50	C > N
Positive Temperament	40.69 (11.51)	39.62 (12.20)	40.25 (12.62)	0.6	
Exhibitionism	46.18 (9.10)	47.16 (9.98)	47.35 (9.86)	0.99	
Entitlement	46.98 (11.67)	46.45 (11.45)	46.94 (14.56)	0.15	
Detachment	58.70 (11.08)	62.32 (10.39)	62.49 (9.44)	9.73*	P, C > N
Disinhibition	51.88 (8.57)	57.15 (10.06)	64.80 (10.64)	57.49*	C > P > N
Impulsivity	52.71 (9.53)	56.91 (10.33)	62.31 (10.38)	29.27*	C > P > N
Propriety	48.72 (10.05)	48.85 (9.07)	46.70 (9.96)	1.07	
Workaholism	54.10 (12.20)	53.85 (11.84)	53.14 (13.31)	0.15	
		Non-Alcohol Substance Use Disorder			
N	446	209	49		
Negative Temperament	62.36 (9.19)	63.80 (7.99)	66.28 (7.54)	5.48*	C > N
Mistrust	60.82 (12.67)	64.87 (12.82)	67.15 (12.01)	10.87*	P, C > N
Manipulativeness	53.99 (11.58)	57.70 (12.01)	61.29 (12.56)	13.19*	C > N
Aggression	58.14 (13.74)	62.90 (14.74)	65.06 (14.43)	11.48*	P, C > N
Self-harm	69.74 (16.76)	78.06 (15.74)	81.38 (15.34)	25.18*	P, C > N
Eccentric Perceptions	54.59 (12.35)	60.22 (12.83)	60.08 (12.38)	17.67*	P, C > N

Trait	Never	Past	Current	*F*	Post-hoc
Dependency	56.82 (13.22)	57.61 (12.87)	58.23 (12.48)	0.44	
Positive Temperament	40.19 (11.64)	39.79 (11.64)	43.61 (13.34)	2.15	
Exhibitionism	45.92 (9.05)	46.98 (9.68)	50.98 (10.97)	6.68*	C > P, N
Entitlement	46.11 (11.60)	47.72 (11.64)	49.21 (13.95)	2.42	
Detachment	59.58 (11.21)	61.58 (10.29)	59.43 (9.87)	2.54	
Disinhibition	52.22 (9.17)	57.77 (9.94)	61.82 (9.75)	40.27*	C > P > N
Impulsivity	52.73 (9.64)	57.80 (10.18)	60.54 (10.71	27.72*	P, C > N
Propriety	48.76 (9.83)	48.25 (9.48)	48.87 (10.08)	0.22	
Workaholism	54.63 (12.11)	52.32 (12.06)	54.71 (12.50)	2.68	

Note.

* = $p < .01$. Tukey's HSD used for post-hoc testing.

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Table 2

Mean SNAP T-scores and standard deviations for individuals from a clinical sample who vary in lifetime substance use diagnoses.

Trait	No Lifetime AUD or SUD	Lifetime AUD Only	Lifetime NASUD Only	Lifetime Comorbid	*F*	Post-hoc
N	347	99	75	183		
Negative Temperament	61.57 (9.47)	65.16 (7.50)	63.35 (8.36)	64.65 (7.78)	7.41*	A, C > N
Mistrust	59.51 (12.25)	65.44 (13.08)	65.35 (12.85)	65.29 (12.64)	12.70*	A, S, C > N
Manipulativeness	52.95 (10.97)	57.64 (12.90)	57.00 (11.90)	58.95 (12.27)	12.27*	A, S, C > N
Aggression	57.28 (13.49)	61.15 (14.23)	59.66 (13.44)	64.80 (14.93)	11.83*	C > N, A
Self-harm	68.27 (16.49)	74.86 (16.77)	78.49 (16.27)	78.76 (15.49)	20.72*	A, S, C > N
Eccentric Perceptions	54.02 (12.05)	56.59 (13.24)	58.83 (11.79)	61.02 (13.07)	13.42*	S, C > N; C > A
Dependency	56.67 (13.14)	57.33 (13.54)	56.41 (12.02)	58.27 (13.07)	0.69	
Positive Temperament	40.70 (11.64)	38.40 (11.53)	40.65 (10.99)	40.46 (12.60)	1.02	
Exhibitionism	46.01 (8.99)	45.62 (9.29)	46.99 (9.64)	48.05 (10.21)	2.30	
Entitlement	46.73 (11.67)	43.94 (11.15)	48.14 (11.70)	47.95 (12.29)	2.86	S > A
Detachment	58.54 (11.17)	63.24 (10.62)	59.48 (10.70)	61.87 (9.98)	7.00*	A > N, S
Disinhibition	51.16 (8.26)	55.92 (11.10)	55.22 (9.24)	59.90 (10.02)	36.57*	C > A, S > N
Impulsivity	52.09 (9.30)	54.93 (10.52)	55.56 (10.11)	59.45 (10.21)	22.68*	S, C > N; C > A
Propriety	48.60 (9.95)	49.33 (9.40)	49.25 (10.54)	48.01 (9.16)	0.52	
Workaholism	54.52 (12.18)	55.01 (11.89)	52.16 (12.19)	53.02 (12.17)	1.40	

Note.

* = $p < .01$. Tukey's HSD used for post-hoc testing.

AUD = alcohol use disorder, NASUD = non-alcohol substance use disorder; N = No diagnosis, A = alcohol only, S = other substance only, C = comorbid.