

Personality Traits and Craving as Predictors of Relapse in Alcohol-Dependent Individuals: A Cross-Sectional Study

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Abstract

Alcohol dependence syndrome (ADS) is a chronic, relapsing disorder with a high rate of relapse despite adequate treatment. Psychological factors, such as personality traits and craving intensity, are increasingly recognized as important contributors to relapse vulnerability. This study aimed to examine the relationship between personality traits and alcohol craving among individuals with ADS who had recently relapsed into drinking.

Materials and methods: A cross-sectional study was conducted over three months among 100 male patients with AADS at a tertiary care hospital in Rajasthan, India. All participants had relapsed within the preceding few weeks following a period of abstinence. Sociodemographic and clinical details were collected using a semi-structured pro forma. Personality traits were assessed using the International Personality Item Pool-NEO (IPIP-NEO-60), and alcohol craving was measured using the Penn Alcohol Craving Scale (PACS). Data were analysed using SPSS, with $p < 0.05$ considered statistically significant.

Results: The mean duration of abstinence prior to relapse was 2.4 months. The mean PACS score was 22.4, indicating a high craving severity. Personality assessment revealed elevated neuroticism and reduced conscientiousness scores, whereas extraversion, agreeableness, and openness were in the moderate range. Higher neuroticism and lower conscientiousness were significantly associated with greater cravings.

Conclusion: Higher levels of neuroticism and lower levels of conscientiousness were significantly associated with increased craving among recently relapsed individuals with ADS. These findings suggest that specific personality traits may contribute to relapse vulnerability. Incorporating personality assessment into routine clinical practice may aid in the development of individualized relapse-prevention strategies.

INTRODUCTION

Alcohol dependence syndrome is a chronic, relapsing psychiatric disorder characterized by compulsive alcohol use, impaired control over drinking, and the emergence of negative emotional and physiological states during periods of abstinence. Contemporary models conceptualize substance dependence as a chronic medical illness, with relapse representing a common and often expected outcome rather than a treatment failure.^[1] Despite advances in detoxification, pharmacotherapy, and psychosocial interventions, relapse rates

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in alcohol dependence remain high, with a substantial proportion of individuals resuming alcohol use within the first year of treatment.^[1]

Alcohol dependence relapse is a multifactorial phenomenon influenced by biological vulnerability, environmental stressors, and psychological factors. Among these, stable personality traits have been increasingly recognized as important contributors to the initiation, maintenance, and recurrence of substance-use disorders. The Five-Factor Model of personality comprising neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness, provides a comprehensive framework for understanding enduring personality characteristics that may predispose individuals to maladaptive coping strategies, including substance use.^[2,3] Meta-analytic and cohort studies have demonstrated that higher neuroticism and lower conscientiousness are associated with an increased risk of substance use disorders and poorer clinical outcomes, including alcohol-related problems.^[4-7]

Craving is a central component of the relapse process and is characterized by a subjective urge or desire to consume alcohol. Elevated craving has been associated with an increased risk of continued drinking and early relapse following periods of abstinence. Although craving is a dynamic and potentially modifiable state, emerging evidence suggests that its intensity may be influenced by underlying personality traits related to emotional dysregulation and impulse control.^[4,6]

While several studies have examined personality traits or alcohol consumption patterns independently, Indian literature exploring the relationship between personality dimensions and craving in recently relapsed individuals remains limited.^[8] Understanding this association may help identify psychological risk markers for relapse and inform individualized relapse prevention strategies. Therefore, the present study aimed to assess personality traits using the IPIP-NEO-60, measure craving severity using the Penn Alcohol Craving Scale, and examine the association between personality dimensions and craving among individuals with alcohol dependence syndrome who had recently relapsed.

MATERIALS AND METHODS

This cross-sectional, questionnaire-based study was conducted over three months at a tertiary care teaching hospital in Rajasthan, India. The study included 100 male patients diagnosed with alcohol dependence syndrome according to the DSM-5 criteria, who had relapsed within the preceding few weeks following a period of abstinence. Participants were recruited using convenience sampling from patients attending or admitted to the Department of Psychiatry during the study period. Ethical approval was obtained from the Institutional Ethics Committee (Approval No: MGMCH/IEC/JPR/2022/790), and written informed consent was obtained from all participants prior to their inclusion in the study. Patients aged ≥ 18 years who met the diagnostic criteria and provided consent were included in the study. Patients with current dependence on substances other than alcohol (except nicotine), severe cognitive impairment, delirium, or acute psychosis interfering with assessment; serious medical or neurological illnesses affecting personality assessment or craving severity; or those unwilling or unable to provide informed consent were excluded. The following tools were used to collect data:

Socio-demographic Questionnaire

Information on age (in completed years), marital status, educational status, occupation, residence (urban/rural), and relevant clinical variables, including age at onset of alcohol use, duration of alcohol use, duration of abstinence prior to relapse, and treatment history, were collected.

International Personality Item Pool – NEO (IPIP-NEO-60)

The IPIP-NEO-60 is a validated self-report instrument based on the Five-Factor Model of personality, used to assess stable personality traits in adults. It evaluates five domains: Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. The scale consists of 60 items, with 12 items assessing each domain, rated on a Likert scale that reflects the degree of agreement with each statement. Domain scores were calculated by summing the item responses, with higher scores

indicating greater expression of the respective personality traits. The IPIP-NEO-60 has demonstrated good reliability and validity in clinical and research settings.

Penn Alcohol Craving Scale (PACS)

The Penn Alcohol Craving Scale is a validated self-report measure designed to assess the severity of alcohol cravings over the preceding week. It consists of five items that evaluate the frequency, intensity, and duration of craving, as well as the perceived ability to resist alcohol use and overall craving severity. Each item is scored on a 7-point Likert scale ranging from 0–6, yielding a total score between 0 and 30. Higher scores indicate greater craving severity, with scores above 20 suggesting high craving and increased relapse vulnerability. The PACS is widely used in clinical and research settings to assess cravings in individuals with alcohol dependence.

The participants completed the socio-demographic and clinical proforma, IPIP-NEO-60, and Penn Alcohol Craving Scale in a single sitting. Assessments were conducted under the supervision of the investigator to ensure the clarity of instructions, completeness of responses, and accuracy of data collection.

DATA ANALYSIS

Data were entered into Microsoft Excel and analyzed using SPSS software. Descriptive statistics were used to summarize the socio-demographic and clinical variables, as well as the scores on the IPIP-NEO-60 and the Penn Alcohol Craving Scale. Associations between personality trait scores and craving severity were examined using Pearson's correlation coefficients. Statistical significance was set at $p < 0.05$.

RESULTS

Participant Characteristics

The study included 100 male patients diagnosed with alcohol dependence syndrome who had recently relapsed. Sociodemographic and clinical

characteristics, including age, marital status, educational status, occupation, residence, and alcohol-use-related variables, are presented in Table 1.

Distribution of Personality Traits

The distribution of personality trait scores assessed using the IPIP-NEO-60 is shown in Table 2. Participants demonstrated elevated neuroticism and lower conscientiousness, indicating greater emotional reactivity and reduced self-discipline. Scores for Extraversion, Openness to Experience, and Agreeableness were largely within the moderate range, suggesting relatively preserved sociability, cognitive flexibility, and interpersonal functioning despite recent relapse.

Craving Severity Distribution

Alcohol craving severity, assessed using the Penn Alcohol Craving Scale, is presented in Table 3. The mean PACS score was 22.4 ± 4.6 , with a median score of 23 (IQR: 20–26), indicating high craving levels among the participants. These findings suggest a substantial craving intensity in the post-relapse period, reflecting increased vulnerability to continued alcohol use and early re-relapse.

Association Between Personality Traits and Alcohol Craving

The correlation between personality traits assessed using the IPIP-NEO-60 and alcohol craving severity measured using the Penn Alcohol Craving Scale is presented in Table 4. Neuroticism showed a moderate positive correlation with craving severity, indicating that higher emotional reactivity was associated with increased craving. Conscientiousness showed a moderate negative correlation, suggesting that lower self-discipline and lack of organization were associated with greater craving severity. Agreeableness showed a weak but statistically significant negative correlation with cravings. Extraversion and Openness to Experience did not show statistically significant associations with craving severity. These findings highlight the role of specific personality traits in influencing craving intensity among individuals with recently relapsed alcohol dependence syndrome.

Table 1: Sociodemographic characteristics of the study population

Parameter	Value (n / Mean $\pm$ SD)	Percentage (%)
Age (years)		
Mean $\pm$ SD	38.8 $\pm$ 4.9	—
Min–Max	26–50	—
Gender		
Male	100	100
Marital Status		
Married	76	76
Unmarried	24	24
Educational Status		
Primary education	18	18
Secondary education	46	46
Graduate and above	36	36
Occupation		
Employed	72	72
Unemployed	28	28
Residence		
Urban	58	58
Rural	42	42
Clinical Variables		
Age at onset of alcohol use (years), Mean $\pm$ SD	21.6 $\pm$ 4.1	—
Duration of alcohol use (years), Mean $\pm$ SD	14.2 $\pm$ 6.3	—
Duration of abstinence before relapse (months), Mean $\pm$ SD	4.4 $\pm$ 1.1	—
Previous treatment history present	79	79
No prior treatment	21	21

Table 2: IPIP-NEO-60 Personality Trait Scores of the study participants (N=100)

Personality Trait	Mean $\pm$ SD	Median (IQR)	Interpretation
Neuroticism	38.9 $\pm$ 6.1	39 (35–43)	Above-average emotional reactivity
Extraversion	29.8 $\pm$ 5.5	30 (26–33)	Moderate sociability and energy
Openness to Experience	32.5 $\pm$ 6.4	33 (28–37)	Moderate-to-high intellectual curiosity
Agreeableness	28.2 $\pm$ 5.7	34 (30–38)	Lower to moderate cooperativeness
Conscientiousness	26.8 $\pm$ 6.0	27 (23–30)	Lower self-discipline and organization

Table 3: Distribution of alcohol craving severity (N=100) in patients with alcohol dependence syndrome

PACS Category	Score Range	Number (n)	Percentage (%)
Low craving	≤15	10	10
Moderate craving	16–20	22	22
High craving	≥21	68	68
Total		100	100

PACS-Penn Alcohol Craving Scale (PACS).

Table 4: Correlation between personality traits and alcohol craving severity in patients with alcohol dependence syndrome

Personality Trait	Correlation Coefficient (r)	p-value	Interpretation
Neuroticism	+0.47	0.001	Moderate positive correlation (significant)
Extraversion	–0.18	0.072	Weak negative correlation (not significant)
Openness to Experience	+0.10	0.305	No significant correlation
Agreeableness	–0.23	0.021	Weak negative correlation (significant)
Conscientiousness	–0.39	0.002	Moderate negative correlation (significant)

DISCUSSION

The present study examined the relationship between personality traits and alcohol craving among individuals with Alcohol Dependence Syndrome who had recently relapsed. The findings highlight high levels of craving severity, along with a distinct personality profile characterized by elevated neuroticism and lower conscientiousness, suggesting that enduring psychological traits may play a significant role in post-relapse vulnerability. These observations are consistent with the conceptualization of substance dependence as a chronic, relapsing medical illness in which relapse reflects ongoing vulnerability rather than treatment failure.

[1] Neuroticism was moderately positively correlated with craving severity, indicating that individuals with greater emotional reactivity and stress sensitivity experienced higher craving levels. This finding aligns with the prior literature linking neuroticism to negative affectivity, maladaptive coping, and increased susceptibility to substance use disorders.[3] Meta-analytic evidence has consistently shown that neuroticism is strongly associated with alcohol and other substance use disorders, likely mediated by heightened emotional distress and poor stress tolerance.[3] Individuals high in neuroticism may therefore be more prone to using alcohol as a means of

emotional regulation, thereby intensifying cravings during periods of abstinence or relapse. Conscientiousness showed a moderate negative correlation with craving, suggesting that lower levels of self-discipline, impulse control, and goal-directed behavior were associated with greater craving severity. This finding is in agreement with earlier studies demonstrating that low conscientiousness is associated with poorer treatment adherence, difficulty maintaining abstinence, and higher relapse risk.[6,7] Longitudinal evidence indicates that conscientiousness may act as a protective factor in substance use trajectories, with lower levels predisposing individuals to persistent alcohol use and relapse.[7] Reduced organizational ability and impaired self-regulation may limit the effective use of coping strategies during craving episodes, thereby increasing the vulnerability to continued alcohol use. Agreeableness showed a weak but statistically significant negative correlation with craving severity. Lower Agreeableness, which reflects reduced cooperativeness and interpersonal trust, may indirectly influence relapse vulnerability by impairing social support utilization, therapeutic alliance, and engagement with psychosocial interventions.[2] In contrast, Extraversion and Openness to Experience did not show significant associations with craving severity in the present study. These findings suggest that while

these traits may influence alcohol use patterns at the population level, they may be less relevant to craving intensity in the immediate post-relapse period.^[5] The high mean PACS score observed in this study underscores the persistence of craving, even after relapse, reinforcing the chronic and relapsing nature of alcohol dependence.^[1] It is important to note that the cross-sectional design limits causal inference because personality traits and craving were assessed after relapse. Therefore, the observed relationships represent associations rather than relapse predictors. Nonetheless, these findings provide clinically meaningful insights into the psychological characteristics that may sustain relapse cycles. From a clinical perspective, the results support the utility of integrating personality assessment into routine addiction evaluation, as recommended in earlier Indian and international studies.^[2,8] Identifying individuals with high neuroticism and low conscientiousness may allow clinicians to tailor relapse-prevention strategies with greater emphasis on emotional regulation, stress management, impulse control, and structured behavioral planning. Personality-informed psychosocial interventions combined with pharmacological craving management may improve long-term outcomes in alcohol dependence syndrome. The present study has several strengths and limitations. Among its strengths are the inclusion of a well-defined clinical sample of recently relapsed individuals with alcohol dependence syndrome and the use of validated and widely employed instruments, namely the IPIP-NEO-60 and the Penn Alcohol Craving Scale, for the assessment of personality traits and craving. The study also addresses an underexplored area in the Indian context by examining personality correlates of relapse. Furthermore, assessments were conducted systematically under supervision, enhancing the completeness and reliability of the data. However, certain limitations need to be acknowledged. The cross-sectional design precludes any inference regarding causal or predictive relationships between personality traits, craving, and relapse. The reliance on self-report measures introduces the possibility of recall and social desirability biases. In addition, the study was conducted at a single center and included only male participants, thereby limiting

the generalizability of the findings. Finally, other potentially relevant psychosocial variables, such as marital status, family dynamics, life stressors, and socioeconomic factors, were not assessed and may have influenced craving and relapse outcomes.

CONCLUSION

This study highlights the association between specific personality traits and alcohol craving among individuals with Alcohol Dependence Syndrome who have recently relapsed. Elevated Neuroticism and lower conscientiousness were significantly associated with greater craving severity, underscoring the role of enduring psychological traits in relapse vulnerability. These findings emphasize the importance of incorporating personality assessment into the routine clinical evaluation of individuals with alcohol dependence. Personality-informed interventions focusing on emotional regulation, stress management, impulse control, and structured relapse prevention planning may enhance treatment outcomes. Future longitudinal and multicenter studies are warranted to clarify the predictive role of personality traits and craving in relapse and to evaluate the effectiveness of targeted, trait-based interventions for sustaining long-term abstinence.

CONFLICTS OF INTEREST

None.

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