

**Role of the Big Five Factors and Impulsivity in Alcohol Abuse**

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Correspondence Author: Monika Mahla, M. Phil, Clinical Psychologist, National Mental Health Survey, Government of India.**Type of Publication:** Original Research Paper**Conflicts of Interest:** Nil**Abstract**

Alcohol is the most commonly used drugs all over the world and alcohol abuse is very evident in all cultures. Personality in the field of addiction has been the subject of several researches. Big Five Factor and Impulsive Personality as determinants of alcohol abuse in India have received little attention. The present study was carried out to fill up this research gap.

This investigation was carried out on 40 alcohol abuse patients (based on ICD-10 diagnosis criteria) selected from De-addiction Center SMS Psychiatric Center, Jaipur and equal number of normal controls.

They were all males with age range 25-45 without history of other drug abuse. They were administered (1) Alcohol Use Disorders Identification Test (2) G.H.Q. (3) NEO Five Factor Inventory and (4) Barrett Impulsiveness Scale.

Results disclosed that alcohol abusers were significantly more on neuroticism, extra-version and impulsivity than their normal counterparts.

Furthermore they were significantly less open and conscientiousness than controls. The importance of these factors in the development of alcohol abuse is discussed in Indian context.

Introduction

Alcohol prohibition has come down significantly in our country, especially in metro cities, where it has been accepted as a way of socializing, not only among adults but also among adolescents. WHO observes that 30% of India's population consumes alcohol regularly. Easy availability liquor, access to alcohol at home, curiosity, pressure and its linkage with some kind of lifestyle have contributed this shift in drinking habits. Further WHO report indicated that 38.3 % of the global population consumed alcohol. The report also discloses that in 2012, about 3.3 million deaths, or 5.9% all global deaths, were due to alcohol consumption. Alcohol abuse also has significant psychological, social and physical health consequences as it has been found to be a mediator in 60 different types of disease. Furthermore, alcohol abuse also contributes to about 10% of the disease burden to tuberculosis, epilepsy, hemorrhagic stroke and hypertensive heart disease in the world. Therefore it is important to study what motivates people to drink alcohol and examine Big Five Personality Factors and impulsivity influence alcohol abuse.

The studies on relationship between Big Five-Factor and alcohol abuse have indicated that alcohol involvement is significantly associated with low conscientiousness, low

agreeableness and high neuroticism (Malouff et al., 2007). On the other hand other studies reported that individual traits of the Five-Factor model of personality offer only a small amount of explanation of alcohol involvement. However, conscientiousness ($r = -.20$; 95% CI's = $-.17, -.28$) was close to being moderate in effect in size according to Cohen's (1988) standards (minimum $r = .243$). The specific type of alcohol involvement assessed did not affect the personality profile of low agreeableness, low conscientiousness, and high neuroticism, except that the measures of alcohol diagnosis and alcohol problem level indicated a higher relationship with neuroticism.

Coeffec's observations (2010) showed that Alcohol consumption among young adults can be predicted through a high level of "Neuroticism" linked with a low level of "Agreeableness". Persons having been addicted to alcohol (present or past) have a high level of "Neuroticism", a low "Agreeableness" and a low level of "Conscientiousness", contrary to patients who have never been addicted to alcohol. The NEO-PI-R also enables a more accurate analysis of the personality, since each of these five big dimensions is divided into six facets. Among the patients with a past or present diagnosis of alcohol abuse, we found a low score on facets "trust", "achievement striving", "self-discipline" and "dutifulness" and a high score on "impulsiveness", "vulnerability", and "excitement-seeking".

Betkowska-Korpala (2011) in his study on Big Five-Factors and maintaining abstinence after one year follow up found that group maintaining abstinence were attributed by a higher Agreeableness and Conscientiousness than patients who relapsed within a year following therapy. Moreover, low scores on Neuroticism were considered to higher adaptability and greater therapy participation than in a relapsed group.

It is also reported that impulsivity and alcohol abuse were also associated. Impulsivity can be described as failing to resist a sudden urge that can harm the self or others; this is when being too impulsive can cause psychiatric disorders including alcohol use or misuse (Dick et al., 2010). Ibanez and his associates (2008) observed a strong relationship between impulsive behaviour and alcohol use and abuse in teenagers and adults. Unplanned drinking and individuals with a lack of impulse control have demonstrated to mediate alcohol use, alcohol-related problems and negative urgency (Pearson et al., 2012). A meta-analysis of the five factor model of impulsivity and alcohol use by Stautz and Cooper (2013) found positive and negative urgency to have high correlation with problematic drinking, sensation seeking and positive urgency to have the greater relationship with binge drinking. A positive correlation was observed with all impulsive traits and alcohol consumption in teenagers. Coskunpinar, Dir & Cyder (2013) found positive and negative urgency to be highly correlated with alcohol dependency. In general, research tends to observe impulsivity to be associated to alcohol use. However, it is uncertain whether individuals' drinking motives cause them to be impulsive or whether their impulsive personality influences their drinking motives and the quantity of alcohol consumed (Jones et al., 2013). Dunn et al., (2008) suggest the impulsivity of an individual is a stronger predictor of alcohol consumption and alcohol-related problems than other expectancies or evaluations.

Objectives

In view of the scarcity of research studies on Big Five-Factors and impulsivity in alcohol abuse, this study was planned to understand the differences if any in the Big Five-Factors and impulsivity in male alcohol abuse patients and matched normal controls.

Hypotheses

1. There would be a significant difference on the measures of Big Five-Factors in alcohol abuse patients and normal controls (Non-alcoholics).
2. There would be significant difference on measure of impulsivity in these two groups.

Research Design

Between two groups design was employed wherein experimental group was consisted of alcohol abuse patients and control group was of normal subjects.

Method

Sample

A sample of 40 alcohol abuse patients based on ICD-10 criteria was selected from SMS Psychiatric Centre Jaipur once they were identified as alcohol users on Alcohol Use Disorders Identification Test (AUDIT) with following inclusion and exclusion criteria.

Inclusion criteria for alcohol abuse patients

- Males in the age range of 25-45 years.
- Diagnostic cases of alcohol abuse as per ICD-10.

Exclusion criteria for alcohol abuse patients

- No history of other drug abuse.
- No history of other mental illnesses.
- No history of organicity or head injury.

Equal number of normal controls (non-alcoholics) were also selected with following inclusion and exclusion criteria.

Inclusion and Exclusion criteria for the normal controls.

- Healthy males in the age range 25-45 years.
- No history of alcohol or other drug abuse.
- Subjects scoring below cutoff points 5/6 on 12 item General Health Questionnaire.

Tools Used

1. Alcohol Use Disorders Identification Test (Babor et al., 2001)

Alcohol Use Disorders Identification Test (AUDIT) is a type of alcohol screening test by WHO. It is reliable and simple screening tool which is sensitive to early detection of risky and risk drinking. It has three questions of alcohol consumption (1-3), three questions on drinking behavior and dependence (4-6) and four questions on the consequences or problems related to drinking (7-10). The AUDIT was validated on primary health care patients in six countries.

2. General Health Questionnaire (Goldberg, 1972)

General Health Questionnaire (GHQ) is a type of general health questionnaire developed by Goldberg. It is a screening tool to determine whether an individual is at risk of developing a psychiatric disorder. It contains twelve items. The scoring method is (0-0-1-1) in place of simple Likert scale of 0-1-2-3. The scores were summed up by adding all the items on the scale ranging from 0-12. The cutoff point was considered as 5/6.

3. Neo Five-Factor Inventory (Costa and McCare, 2010)

Neo Five-Factor Inventory (NEO-FFI) was developed by Costa and Robert McCrae, 1992. The short version of the NEO Five-Factor Inventory (Costa and McCrae, 1992) was used for the study. It has 60 items(12 items per domain) answered on a 5 point scale ranging from strongly disagree to strongly agree and yields scores on the five major domains of personality- Neuroticism, Extraversion, Openness, Agreeableness, Conscientiousness. Its reliability was checked by alpha coefficient for each dimension of Five-Factor model of personality as obtained as follows, 0.81, 0.82, 0.73, 0.80 and 0.84 respectively. Validity and item total correlations of this inventory was also obtained ranged between 0.21-0.86.

4. Barratt Impulsiveness Scale (Barratt, 1995)

Barratt Impulsiveness Scale (BIS-II) was developed by E. Barratt and widely used scale in the area of impulsivity. It has three domains: Motor Impulsiveness, Non-planning Impulsiveness and Attention Impulsiveness. It is a self administered, 30 item questionnaire scored on 4 point scale (1 = rarely/never to 4= almost/always). It consists of 30 statements. It usually takes 10-15 minutes to be completed. The scale has been tested in both clinical and non-clinical populations including psychiatric patients with substance abuse. It has good internal consistency ranges from 0.79-0.83. It also reports good validity and moderate correlations with other measures of impulsive-related traits.

Results And Discussion

The Socio-Demographic attributes of the sample showed that all the 40 subjects were males in both the groups. Their education was evenly distributed from primary education to graduation. So was the case in both the groups with respect to their occupation level which ranged from self employed to businessmen and professionals, majority being businessmen. In both the groups most of the subjects were married.

Table 1

Means and SDs on measures of NEO-FFI of Alcohol Abuse Patients and Normal Controls.

NEO-FFI Factors	Alcohol Abuse Patients(N=40) Means (S.Ds*)	Normal Controls (N=40) Means (S.Ds)	t	Sig. level
Neuroticism	68.37 (6.34)	63.37 (5.70)	3.707	.02
Extraversion	65.87 (9.39)	73.25 (5.37)	4.308	.01
Openness	62.75 (6.78)	65.37 (5.92)	1.842	.05
Agreeableness	60.37 (7.01)	61.37 (6.79)	.648	n.s.
Conscientiousness	59.25 (9.51)	64.75 (5.76)	3.127	.02

S.Ds* are given in parentheses

Table 1 shows Means and S.Ds with level of significance of Alcohol Abuse Patients and their normal counterparts on each of the five factors of NEO-FFI of the Five NEO

FFI Factors significant mean differences were observed on four of them. It is clear that alcohol abuse patients have scored significantly high on neuroticism than the normals. Whereas, they significantly scored less on Extraversion, Openness and Conscientiousness than their normal counterparts. However, mean differences on Agreeableness turns out to be insignificant. Based on these findings it can be inferred that Alcohol Abuse Patients are characteristically high on Neuroticism, low on Conscientiousness, Openness as well as on Extraversion as compared to Non-alcoholics.

Table 2

Means and SDs on measures of Impulsivity of Alcohol Abuse Patients and Normal Controls.

Measure of Barratt Impulsiveness Scale- II	Alcohol Abuse Patients(N=40) Means (S.Ds*)	Normal Controls (N=40) Means (S.Ds)	t	Sig level
	70.62 (10.89)	55.95 (7.57)	6.997	.02

S.Ds* are given in parentheses

The above table (2) presents Mean Impulsivity scores of Alcohol Abuse Patients and Normal Controls. It may be seen that Alcohol Abuse Patients have scored significantly higher on impulsivity (Mean =70.62) & (S.D =10.89) when compared to Normal controls (Mean= 55.95) & (S.D =7.57). This Mean difference on the measure of Impulsivity is significant at .02 level. Thus it can be safely inferred that Alcohol Abuse Patients are prone to impulsive behavior leading alcohol dependency and vulnerability.

Discussion

Some of the significant finding emerged from this study is that NEO-FFI profile of alcohol abuse patients' characterize with high neuroticism, low extraversion conscientiousness & openness. They were also significantly more impulsive than the nonalcoholic normal. These findings are in harmony with earlier researches by some of the investigators including Malonff et al (2007), Korner

and Nordvick (2007), Encephale (2010), Dick et al (2010), tautz and Cooper (2013), Dir and Cyder (2013), Dunne et al (2013) etc. Time and again, it is observed that alcohol abuses are basically neurotic, impulsive and without conscious. However, it cannot be explicitly inferred whether impulsive personality of alcoholics affect their drinking behavior or drinking habit of alcoholics made them impulsive. Be as it may neurotic and impulsive personality are well linked with one way or the other.

Conclusion

The big factors and impulsivity were found to be significantly related with alcoholic abuses when compared to non-alcoholics thus, it is possible to predict alcoholic abusers with prior information about their personality make up & big five factors and impulsive behavior.

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