



STUDY OF RELATIONSHIP BETWEEN PERSONALITY TRAITS AND SEVERITY OF ALCOHOL DEPENDENCE IN ALCOHOL DEPENDENCE SYNDROME CASES

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ABSTRACT

Background: An observational study of relationship between personality traits and severity of alcohol dependence in Alcohol dependence syndrome cases.

Methods: This was an observational study done on 100 patients to study the relationship between personality traits and severity of alcohol dependence in alcohol dependence syndrome cases. They were assessed for personality traits using neuroticism, extraversion, openness Five-factor inventory (NEO-FFI). The five personality factors central to the model are Extraversion, Agreeableness, Conscientiousness, Neuroticism and Openness to experience. Severity of Alcohol Dependence was assessed using severity of Alcohol dependence questionnaire (SADQ). The data was analysed and Pearson's Chi Square test was used as statistical test of significance.

Results: This study showed that the personality traits of Extraversion ($p=0.0495$) and Conscientiousness ($p<0.0001$) have an inverse relationship with severity of alcohol dependence and were statistically significant. The association between remaining personality traits and severity of alcohol dependence were not statistically significant.

Conclusion: The personality trait of Neuroticism was found to be directly associated to the severity of Alcohol dependence while Extraversion, Openness, Agreeableness and Conscientiousness were inversely associated with severity of Alcohol Dependence.

KEYWORDS : Personality traits, Alcohol dependence severity, Five factor, NEO-FFI, SADQ

INTRODUCTION:

Alcohol Dependence Syndrome is a major public health problem and it impacts the social, psychological, medical, economic and religious spheres of our existence^[1]. The effects of chronic heavy use of alcohol leads to damage to almost all the organs including oesophagus, stomach, liver, pancreas, heart, and brain as well as sexual dysfunction^[2]. There are multiple causes proposed for Alcohol Dependence and one of the significant factors is personality of the individual. Latest research shows evidence for the importance of impulsivity /disinhibition and Neuroticism/negative affectivity in the development of Alcohol Dependence^[3]. Significant zeal has been expressed regarding the possibility that personality traits may help us to understand mental disorder including substance abuse, as evidenced by the publication of a special issue of the Journal of Abnormal Psychology in Feb 1994 devoted to exploring this idea and its implications^[4]. In the recent past, the Five-Factor Model of personality has become very popular and widely acceptable because these five factors explain a good deal of the variance in personality across cultures, age, gender, and within same individual over time^[5,6]. The five personality factors central to the model are Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to experience^[7].

This study was conducted to study the relationship between personality traits and severity of alcohol dependence in alcohol dependence syndrome cases

MATERIALS AND METHODS:

Criteria for Selection of Subjects:

1. All consecutive cases of Alcohol Dependence Syndrome admitted to psychiatry ward of a tertiary care general hospital psychiatry unit, across all age groups.
2. Willingness to give consent to be a part of study.

Criteria for Exclusion:

1. Presence of co-morbid major psychiatric disorders.

Study Population: The study was carried out in a tertiary care hospital over a period of 01 year with a total of 100 Alcohol Dependent male patients meeting the inclusion and exclusion criteria who were consecutively admitted during the study period.

METHODOLOGY:

A total of 139 consecutive cases of Alcohol Dependence Syndrome admitted to a tertiary care hospital psychiatry ward were taken up for

the study. But out of these, 39 patients were excluded due to comorbid major psychiatric conditions. Baseline demographic data of cases along with relevant investigations were entered in a customised semi-structured proforma on admission. They were assessed for personality traits using Neuroticism, Extraversion, Openness Five-factor inventory (NEO-FFI). Severity of Alcohol Dependence was assessed using severity of Alcohol Dependence questionnaire (SADQ). Costa & McCrae's (1985) NEO Personality Inventory (NEO-PI) contains 240 items, assesses 30 traits and can be completed generally in about 30 minutes. But soon after its publication, the need for a briefer instrument was felt, and hence in 1989, Costa and McCrae published a short version, the NEO FFI which contains 60 items and may be used to derive only the five domain scores (12 items per domain). By December 2006, a PsycINFO search showed over 680 citations of the NEO-FFI, substantiating the research utility of brief measures of the Five Factor Model^[8] (FFM). The 60-item NEO Five-Factor Inventory (NEO-FFI) provides a concise measure of the five basic personality factors^[9]. The NEO inventories are composed of descriptive statements rated on a 5-point Likert-type scale (1 = *strongly disagree* to 5 = *strongly agree*). Test-retest reliability is uniformly high (0.86 to 0.90) for the five scales^[10] and internal consistency ranges from 0.68 to 0.86^[11]. The NEO-FFI has been translated into several different languages and has shown validity and utility in a number of different contexts and it is one of the most widely used measures of the Five-Factor Model^[12]. A paper and pen version of the NEO FFI test was used in the study.

The SADQ^[13] was developed at the Maudsley Hospital in London in the late 1970's. SADQ is a 20 item questionnaire based upon the premise formulated by Edwards and Gross^[14] that Alcohol Dependence comprises a group of symptoms which derive from a single Syndrome centred on a "drive" to consume Alcohol. The SADQ is a measure of degree of Dependence rather than presence or absence of 'Alcoholism'^[15]. Each of the twenty items is scored on a 4-point scale, 0 = never or almost never, 1 = sometimes, 2 = often, 3 = nearly always, resulting in a score range of 0 to 3. Maximum score possible is 60 and the minimum is 0. Stockwell (1983) and Meehan et al. (1985) suggested a range that a score of 31 and above should be taken to indicate severe Dependence. A score of 16-30 indicates moderate Dependence and a score of 15 and below indicates a mild physical dependency. The SADQ has the maximum evidence of reliability and validity of all the major self-report questionnaires^[16]. A paper and pen version of the SADQ questionnaire was used in the study. The data was analysed and Pearson's Chi Square test was used as statistical test of significance

RESULTS:

This study showed that the personality traits of Extraversion ($p=0.0495$) and Conscientiousness ($p<0.0001$) have an inverse relationship with severity of alcohol dependence and were statistically significant. The association between remaining personality traits and severity of alcohol dependence were not statistically significant.

DISCUSSION: The results of the study are discussed with the help of tables below.

Table 1- Association between Extraversion and SADQ severity

SADQ	EXTRAVERSION		
	LOW(≤ 45) (n=28)	AVERAGE(46-55) (n=26)	HIGH(≥ 56) (n=45)
MILD(≤ 15) (n=41)	08(28%)	10(38.5%)	23(51%)
MODERATE(16-30) (n=31)	07(24%)	10(38.5%)	14(31%)
SEVERE (≥ 31) (n=28)	14(48%)	06(23%)	08(18%)

df=4 $\chi^2= 9.51$ $p=0.0495$ (S) S= Significant

Table 1 shows the association of Extraversion with SADQ severity. 29 patients had low Extraversion, out of which 14 (48%) had severe Alcohol Dependence, 26 patients had average Extraversion out of which 06 (23%) had severe Alcohol Dependence and 45 patients had high Extraversion out of which 08 (18%) had severe Alcohol Dependence. The association between Extraversion and severity of SADQ score was statistically significant (p value=0.0495). The results show that Extraversion has an inverse relationship with severity of alcohol dependence. Similar findings of negative correlation of extraversion and severity of Alcohol Dependence was found in a meta-analysis by Malouff et al [17]. Another study in a sample of college students by Martsh CT and Miller showed Extraversion to be consistent predictor of Alcohol use [18].

Table 2- Association between Conscientiousness and SADQ severity

SADQ	CONSCIENTIOUSNESS		
	LOW(≤ 45) (n=28)	AVERAGE(46-55) (n=32)	HIGH(≥ 56) (n=40)
MILD(≤ 15) (n=41)	02(07%)	11(34%)	28(70%)
MODERATE(16-30) (n=31)	08(29%)	13(41%)	10(25%)
SEVERE (≥ 31) (n=28)	18(64%)	08(25%)	02(05%)

df=4 $\chi^2= 38.68$ $p<0.0001$ (S) S= significant

Table 2 shows the association of Conscientiousness with SADQ severity. 28 patients had low Conscientiousness, out of which 18 (64%) had severe Alcohol Dependence, 32 patients had average Conscientiousness out of which 08 (25%) had severe Alcohol Dependence and 40 patients had high Conscientiousness out of which 02 (5%) had severe Alcohol Dependence. The results show that Conscientiousness has a strongly inverse relationship with severity of Alcohol Dependence. A statistically significant result ($p<0.0001$) value was obtained in the study sample. In a meta-analysis by Kotov et al, to study the personality traits in all axes I disorders, investigators found that all disorders examined were defined by high Neuroticism and low Conscientiousness. Overall, Conscientiousness emerged as the second most powerful personality trait correlate of psychopathology as it yielded consistently strong effects, the majority of which remained unaffected after adjusting for Neuroticism. This study further corroborated the existing research on low Conscientiousness being the strongest predictor of poor health behaviour and mortality (Bogg & Roberts, 2004; Roberts et al., 2007) [19]. Another meta-analysis by Malouff et al [17] which included 20 studies, 119 effect sizes and 7,886 participants, showed Alcohol involvement associated with low Conscientiousness. Lemos et al and Miller et al studied the associations between the Big five personality dimensions, health locus of control and various high-risk behaviours (smoking, Alcohol consumption, exercise, dietary practices, stressors and attitude towards health hazards etc). Conscientiousness was noted to be negatively correlated with almost all high-risk behaviours [20,21].

Conflicts of interest

All authors have none to declare.

CONCLUSION

The personality traits of Neuroticism was found to be directly associated to the severity of Alcohol Dependence while all other personality traits (especially Conscientiousness) were inversely associated with severity of Alcohol Dependence.

The purpose of this study was to understand the role played by the underlying personality traits in alcoholism so as to integrate the Personality processes to forward our understanding of alcoholism as proposed by Sher et al [150]. This would enable the therapist to design trait specific psychotherapeutic interventions.

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