

Eysenck Personality Dimensions in a Sample of Cannabis Users

Mehrdad Eftekhari MD^{1,2}
 Azizeh A. Ebrahimi BSc^{1,2}
 Hamed Azimi MD¹
 Arash Vahdat¹
 Hamid Reza Ahmadkhaniha^{1,2}

1 Iran University of Medical Sciences, Tehran, Iran

2 Tehran Psychiatric Institute, Mental Health Research Center, Tehran, Iran

Corresponding Author:

Azizeh Afkhami Ebrahimi,
 Psychologist,
 Tehran Psychiatric Institute,
 Satarkhan Av., Niayesh St,
 Tehran, Iran.
 Email: afkhami@iums.ac.ir
 Tel: +982188082837.
 Fax: 982181264150

Objective: The objective of this study is to examine Eysenck personality dimensions in cannabis users

Method: 100 regular cannabis users were selected and completed Eysenck Personality Questionnaire (EPQ) which measures Neuroticism (N), Extraversion-Introversion (E-I) and Psychoticism (P) dimensions of Eysenck personality structures

Results: The scores of 51% of cannabis users were higher than mean in all dimensions of EPQ. Also the mean score of N and P were higher than the score which Eysenck has reported for Iranian population

Conclusions: This research reinforces our call for a public health information campaign about a drug which may young people still see as being risk-free. Psychiatric morbidity and cases of psychotic disorder could be prevented by discouraging cannabis use among vulnerable youths.

Keywords: Cannabis, Extraversion, Introversion, Personality, Personality inventory

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Cannabis is commonly regarded as a harmless substance and the prevalence of its recreational use has risen in many countries over the recent years (1-4).

Currently, 40-60% of the young aged 18-25 years have some experience of cannabis use in the UK, USA, Australia, New Zealand and some European countries (5-8).

Furthermore, users are starting to use this drug at a younger age and they continue using it for a longer time; thus, many people in their 20s and 30s are already long-term users (6).

There is a good evidence that taking cannabis leads to adverse mental effects in a high proportion of regular users. The most common adverse effects were feelings of anxiety, paranoia, depression, tiredness and low motivation. It is also suggested that cannabis abuse makes a direct contribution to the risk of serious self-harm either directly or by aggravation of other mental disorders (9).

A good evidence exists on the comorbidity of drug abuse and a number of personality disorders. Across different studies, the median rates of personality disorders range from a low of 44% for alcohol to a high of 79% for opioid dependent patients (10).

Due to the heterogeneity of the cannabis users' population, no single personality type or disorder is particular to these users or the users of other illegal drugs. Regier et al (2) report that some form of substance abuse was identified in 83.6% of individuals who suffered from antisocial personality disorders.

The same study demonstrated that the lifetime prevalence of antisocial personality disorder (ASPD) in cannabis abuse or dependence was 14.7%.

The interaction between ASPD is too complex to explore in this review, however, it is likely that each disorder exacerbates the adverse effects of the other. The clinical observation shows that the use of cannabis seems to be

predisposed by certain traits such as social anxiety, anxiety or dysphoria.

Anxiety disorders appear to be associated with noradrenaline, serotonin and dopamine changes in the behavioral inhibition system, the septo-hippocampal system and amygdala. These disorders may possibly undermine the reward perception and impulse control and may increase the vulnerability to substance use disorders (11).

In addition to these psychiatric comorbidity studies, researches on the role of biologically influenced temperament and personality traits (e.g., impulsivity, aggression, novelty or sensation seeking) and addictive behavior were initiated to provide powerful arguments about the role of personality in substance abuse. Theories of developmental psychopathology have described how heritable variations in behavioral disinhibition increase the risk for problematic socialization and identification with a deviant peer group within which substance use and antisocial behaviors were common.

There is a strong support for the importance of traits related to behavioral disinhibition or impulsivity and interpersonal antagonism or hostility. The biosocial theories of Cloninger (1987) on the genetics of substance use also helped to reposition personality traits in a central role. In his original model, deviations in Novelty Seeking, Harm Avoidance and Reward Dependence were related to specific neurotransmitter and behavioral systems underlying susceptibility for certain types of substance abuse and personality disorders (12). Similar in some ways to Cloninger's novelty seeking dimension, Zuckerman's sensation seeking has been consistently related to substance use and abuse and co-occurring personality disorders in adolescents and adults (13). Considering the five factor model perspective, substance abuse and personality disordered patients had high Neuroticism and low Agreeableness and Conscientiousness (10).

Due to adverse effects of cannabis use in normal people and based on informal reports and evidences suggesting the recreational use of cannabis in a number of Iranian youth, the aim of this article is to investigate the frequency distribution of neurotic, and psychotic tendencies and extraversion-introversion personality dimensions in a sample of cannabis users in the city of Tehran.

Method

Setting and participants

The study was conducted in a sylvan zone in north of Tehran (capital of Iran) where the cannabis users provided their substances. The participants consisted of 100 regular male cannabis users aged 16-46 (Mean \pm SD=23.84 \pm 5.68).

The subjects were selected by one of the research assistants. The informed consent was obtained after the Objective of the research was fully explained.

Regular cannabis use was defined as using the drug every day or every other day for At least one year. All subjects then were interviewed using a semi structured questionnaire to make inquiries about the patterns of their drug use and past medical and psychiatric illnesses. Subjects with any history of psychiatric or serious medical illnesses including significant head injury and other neurological disorders were excluded.

Other substances that were used by the subjects included cigarettes, opium and its derivatives, alcohol, ecstasy and LSD.

Following an initial clinical interview, the Eysenck Personality Questionnaire (EPQ) was administered for each participant in individual sessions after the consent was obtained.

Measures

The Eysenck Personality Questionnaire (14) was devised to succeed the Eysenck Personality Inventory by the addition of one further dimension of personality; namely, psychoticism (P). The questionnaire thus tried to measure three major personality dimensions (Psychoticism, Extraversion and Neuroticism) and also contained a lie scale to alert the investigators for dissimulation. It is intended not only for students but for random samples of the population.

The scales of this questionnaire embody the dimensional approach, in other words the intention is not to diagnose clinical neurosis or psychosis, but to measure personality dispositions which underlie the development of neurotic or psychotic disorders. This questionnaire was developed through a lengthy series of factor analytic studies that held a good internal consistency and fulfilled the validity criteria. The test-retest reliabilities were quite satisfactory ranging from 0.80 to 0.86. Barrett & Eysenck (15) reported the means of three personality traits of extraversion, neuroticism, and psychoticism for 37 nations including Iran. The aforementioned study constituted the basis of our comparisons.

Statistical analysis

The data was transferred to SPSS for analysis. Descriptive statistic was used for data analysis.

Results

The frequency distributions of age, educational level, marital status, occupational status, pattern of use and the use of other substances in addition to Cannabis is displayed in table 1. Table 1 demonstrates that 52% of the users were between 16-

Table 1. Selected characteristics of the cannabis users

Demographics	%
Age	
16-21	36
21-27	52
28-33	6
34-39	1
40-46	5
Education	
Elementary	6
Below Diploma	41
Diploma	38
University	15
Marital Status	
Married	0
Single	All
Occupation	
Employed	56
Unemployed	44
Pattern of use	
Daily use	83
Every 3-4 days	15
Weekly use	2
Use of other substances	
Cigarette	All
Opium and its derivatives	52
Alcohol	89
Ecstasy	47
Psychoactive Drugs	19
Polydrug users	48

27 years old. Six percent, 41%, 38% and 15% of the subjects held elementary, below diploma, diploma, and University degrees respectively. All the subjects were single, 44% were unemployed and were supported financially by their Family,

56% were employed, 70% were daily users and used alcohol (90%),

Opiate (59 %), ecstasy (49 %) and psychoactive drugs (19 %) in addition to Cannabis. In total, 48% were poly drug users.

The mean score of the Neuroticism (N) scale is 13.38 (SD= \pm 4.99), the mean of Psychoticism (P) scale is 8.60 (SD= \pm 2.96) and the mean score of Extraversion (E) is 13.51 (SD= \pm 4.25). Except for Extraversion dimension the mean scores are higher than the scores Eysenck has reported in the Iranian normal population (P=5.9, N= 12.1 and E= 15.4).

Discussion

The results revealed that use of illegal drugs, particularly cannabis by adolescents is widespread. The majority of our participants were between 16 to 27 years of age, daily users and consumers of other drugs in addition to cannabis.

The cannabis debate has widened in the past few years to encompass political, socioeconomic, ethical, medical and public health domains, each of which has legal implications. In relation to cannabis and health, the major issue is whether cannabis is a relatively harmless drug whose prohibition violates human rights or it poses risks to individuals and societies.

Cannabis use is associated with several types of psychological and social destruction. These relations may not be causal (16). Cannabis use is common in Iran, in spite of the strict drug policy in the country.

On the two dimensions of personality, Neuroticism and Psychoticism, the subjects' scores were found to be higher than those Eysenck had reported in the Iranian normative

population in 1984 indicating the greater trend of cannabis users to neuroticism and psychoticism. We didn't find the same pattern in the third dimension of personality structure, i.e.: extraversion, and our sample showed more introversion tendencies.

Eysenck theorizes that stimulants induce introversion and that depressants induce extraversion. However, common sense suggests the opposite. Scores on the extraversion scale of the Eysenck personality Inventory, yielded statistically significant differences among carefully matched series of heavy, chronic users of cocaine, amphetamine, opiates, barbiturate/sedative-hypnotics, and a comparable series of nonusers. Cocaine users and opiate users were found to be more introverted.

Amphetamine users, barbiturates users, and nonusers were more extraverted. These findings did not fully support the either set of hypotheses. These data also implied that if drugs influence extraversion, they do so only by suppressing it. Data from the two other measures of extraversion were consistent with this hypothesis (17).

In predicting cannabis and alcohol usage among adolescents, the findings of Kirkcaldy et al (18) were most consistent with the contribution of the personality construct addiction (a composite of psychoticism, neuroticism and introversion).

Wells and Stacey (19) found clear distinctions between those who misused drugs and those who didn't. The trend was for the drug misuse to be consistently related to elevated levels of anxiety, neuroticism and psychoticism, whereas extroversion-introversion proved to be a personality dimension unrelated to the misuse of drugs.

The result of the present study was found to be similar and consistent with western researches which suggest a common and stable core of personality types of addicts across widely varied cultures (20). In another study (21) drug use correlated positively with all the scores on the sensation scales, the extraversion and neuroticism scales of the Eysenck personality Inventory. The pattern is consistent with the proposition that a need for stimulation or change underlies experimentation with a large number of chemical substances. Within the last few years, other studies have emerged and provided the evidence to recognize cannabis as a risk factor that needs to be more systematically reviewed.

Smit et al (22) reviewed five population-based longitudinal studies on the relationship between cannabis use and psychotic symptoms in Sweden, Israel, New Zealand (two studies) and the Netherlands. They concluded that prior cannabis use appears to act as a risk factor in the onset of schizophrenia especially in vulnerable people, but also in people without a prior history in clinical terms.

Fifty one percents of the participants in this study reported the bizarre experiences included in the psychoticism scale of EPQ. Further, the mean of psychoticism score in our study ($M=8.64$) was significantly higher than the mean reported by Eysenck ($M=5.90$) in the Iranian normative sample of 1984, indicating the greater trend of cannabis users to psychoticism. Eysenck proposed a biological model of personality that gave rise to J.A Gray, C.R Cloninger and M. Zuckerman models. The role of impulsivity (a trait related to disinhibition) and novelty and sensation seeking is described in successive self-report measures of this model including Eysenck Personality Questionnaire (23). Clinically, P scale of EPQ is related not only to psychosis but also to psychopathy, alcoholism, drug taking or schizoid behavior (14). Certain Findings in experimental, cross-sectional and longitudinal researches using this measure, point to a common temperamental vulnerability factor for psychosis, substance use and other risk-taking behaviors (23, 24).

Available evidence does not strongly support an important causal relation between cannabis use of adolescents and psychological harm but it can not exclude the possibility that such a relationship exists. Less consistent associations were noted between cannabis use and both psychological health problems and problematic behavior.

The lack of evidence for robust causal relations prevents the attribution of public health detriments for illicit drug use. In viewing the extent of illegal drug use, additional and more improved evidence is needed.

Cross-sectional evidence cannot clarify questions of causality. Therefore, longitudinal or interventional evidence is needed.

This research reinforces our call for a public health information campaign on a drug that the young may view as risk free. Addressing cannabis use particularly in vulnerable populations is likely to have beneficial effects on psychiatric morbidity and cases of psychotic disorder could be prevented by discouraging cannabis use among vulnerable youths.

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