Iranian J Publ Health, Vol. 38, No.3, 2009, pp.113-117

Short Communication

Simple and Multiple Relationships between Big-Five Personality Dimensions and Addiction in University Students

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(Received 30 Oct 2008; accepted 18 Apr 2009)

Abstract

Background: This study aimed at investigating the simple and multiple relationships between personality traits and addiction potential in university students.

Methods: Three hundred and forty two students were selected by cluster sampling from the Shahid Chamran University (Iran). The scales used for this descriptive study were NEO-FFI personality inventory and Iranian Addiction Potential Scale (IAPS). To analyze the data, we used descriptive and inferential statistic test via spss-13.

Results: There were simple and multiple relationships between personality traits and addiction potential. Multiple regression analysis (stepwise method) showed that neuroticism, conscientiousness and agreeableness had significant multiple correlation with addiction potential ($F=32.89$, $P< 0.001$). The components of openness and extroversion eliminated from regression.

Conclusion: Personality traits predicted addiction potential in university students. The most important suggestion of this research was to pay attention scientifically to personality characters as a fundamental factor of this difficulty, rather than just emphasizing on the cessation of drug or alcohol using.

Keywords: *Personality traits, Addiction potential, University Students, Iran*

Introduction

In the recent decades, drug problems such as abuse, dependency etc., are the most important problems in human society, especially in adolescents and young population. There are a lot of factors make someone be addicted such as individual readiness, drug availability, environmental conditions and so on. Addictions seem to mirror the relatively enduring characteristics of personality. Persons, who are ready to be addicted, may be addicted earlier than others may. The depressed, anxious and agitated young have a tendency for drug dependency. Moreover, idealism and unrealistic thoughts predispose persons to be addicted. Drug dependency is due to personality traits such as neuroticism and sexual problems (1).

Antisocial and borderline personality disorders and the adult antisocial behavior syndrome are frequent concomitants with addictions (2). The adult antisocial behavior syndrome was found in 30.3% of men and 26.4% of women (3). The study of at-risk individuals has the advantages of separating cause from consequence, clarifying predictive factors, and even determining operative, interactive, and feedback mechanisms (2). The findings showed that addicted subjects got high scores in neuroticism, extroversion, impulsiveness and good natured by Eysenck Personality Inventory (4). In addition, people who had attempted to suicide had more drug problems and got high scores in neuroticism and borderline personality disorder (5). In a research the personality characters of women addicted to chemical drugs (26 subjects), food (20 subjects) and sadistic relationships (20 subjects) was taken into considering in order to determining similarities and differences among those groups. The main hypothesis of the research was there are similarities in the women's personality characters (apart from their addiction). The results showed that there are a lot of similarities among these three groups. Personality pattern in these women were

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neuroticism such as generalized anxiety, depression, affective sensitivity and low self esteem, and antisocial traits such as aggression, sensitivity, job unstable and interpersonal relationship problems (6).

The main research question was whether there is a relationship between personality traits and addiction potential. To answer this question, the following hypotheses are proposed:

Hypothesis 1: There is a positive relationship between neuroticism and addiction potential in university students.

Hypothesis 2: There is a negative relationship between conscientiousness and addiction potential in university students.

Hypothesis 3: There is a relationship between agreeableness and addiction potential in university students.

Hypothesis 4: There is a positive relationship between openness and addiction potential in university students.

Hypothesis 5: There is a positive relationship between extroversion and addiction potential in university students.

Hypothesis 6: There is a multiple relationship between neuroticism, conscientiousness, agreeableness, openness and extroversion with addiction potential in university students.

Materials and Methods

The research population consisted of all the students of Shahid Chamran University (about 10,000 students) in the academic year of 2006-2007. Three hundred and forty two university students (145 boys and 197 girls) were selected randomly through cluster sampling. The scales used in this study were: 1) Neo Five Factor Inventory (NEO-FFI): This scale was made by McCrae and Costa in 1985. At first the scale was considered three main subscales (neuroticism, extroversion and openness). In 1989, agreeableness and conscientiousness were added. Findings showed that this test evaluates normal personality characters. This version consists of 60-items. Its validity and reliability is admitted in many researches (7-9).2) Iranian Form of Addiction Potential Scale (IAPS): This scale was made by Zargar in 2006 based on psycho-social situation of Iran (10). This scale is consisted of 41 items and two factors. By the first factor (active potential), most of items were related orderly to antisocial behaviors, tendency to drug consume, positive attitude to drugs, depression, and sensation seeking. By the second factor (passive potential), most of items were related to non-assertiveness and depression. Its validity and reliability was calculated by various methods. This scale can differentiate not only the addicted persons from non-addicted ones, but also it can differentiate smokers from non-smokers. Moreover, a significant correlation obtained between AP and SCL-25. Using Cronbach's alpha, reliability of the total scale was 0.90; the active subscale and passive subscale were respectively 0.91 and 0.75.

Results

Table 1 shows the means and standard deviations of the scales.

As shown in Table 2 there are significant simple correlation between neuroticism, extroversion, agreeableness and conscientiousness with AP. There is no significant correlation between openness and addiction potential (AP).

As shown in Table 3 multiple regression analysis (enter method) showed that the five components of NEO-FFI had significant multiple correlation with addiction potential (F=19.99, P< 0.001). These five components of personality inventory determine 54% of addiction potential variance.

The results from multiple regression analysis (stepwise model) showed that the three components of neuroticism, conscientiousness and agreeableness had significant multiple correlation with addiction potential (F= 32.89, P< 0.001). These three components of personality are predictors of addiction potential. Based on the obtained results, the components of openness and extroversion eliminated from regression (Table4).

Table1: Means and standard deviations of the scales

Scale	M	SD
IAPS (total)	29.02	13.97
IAPS (active subscale)	17.74	11.72
IAPS (passive subscale)	11.32	4.07
Neuroticism	22.10	8.28
Extroversion	27.6	5.42
Openness	26.27	4.05
Agreeableness	28.77	4.99
conscientiousness	32.3	6.6

Table 2: The correlations between the NEO and AP

Predictor variables	AP : dependent variable		
	IAPS (total)	IAPS (passive)	IAPS (active)
Neuroticism	r = .46**	r = .66**	r = .32**
Extroversion	r = - .33**	r =- .43**	r =- .24**
Openness	r = - .03	r = - .02	r =- .017
Agreeableness	r = - .35**	r =.33**	r =- .29**
Conscientiousness	r = - .46**	r =- .29**	r =- .44**

** Correlation significant at the 0.01 level

Table 3: The results of multiple regression analysis AP and NEO-FFI subscales with enter model

Dependent variable	Predictors	MR	RS	F P	Regression coefficients				
					1	2	3	4	5
(AP) addiction potential	Neuroticism	0.45	.204	F=61.75 *P*<.001	β =.45 t=7.86 *P*<.001				
	Extroversion	0.471	.222	F=34.22 *P*<.001	β =.36 t=5.44 *P*<.001	β =.16 t=2.35 *P*=.019			
	Openness	0.472	.223	F=22.86 *P*<.001	β =.36 t=5.44 *P*<.001	β =.16 t=2.35 P=.019	β =.03 t=.57 P=.57		
	Agreeableness	0.503	.253	F=20.15 *P*<.001	β =.30 t=4.30 *P*<.001	β =.12 t=1.83 *P*=.068	β =.03 t=.63 *P*=.53	β =.19 t=3.09 *P*=.002	
	Conscientiousness	0.545	.297	F=19.99 *P*<.001	β =.24 t=3.43 *P*=.001	β =.07 t=1.12 *P*=.26	β =.03 t=.51 *P*=.61	β =.15 t=2.43 *P*=.16	β =.24 t=3.83 *P*<.001

Table 4: The results of multiple regression analysis AP and NEP-PI subscales with stepwise model

Dependent variable	Predictors	MR	RS	*F*	Regression coefficients		
				P	1	2	3
(AP) addiction potential	Neuroticism	0.45	0.20	*F*=61.75 *P*< .001	β =.45 t=7.86 *P*< .001		
	Conscientiousness	0.52	0.27	*F*=44.89 *P*< .001	β =.32 t=5.26 *P*< .001	β =.29 t=4.75 *P*< .001	
	Agreeableness	0.54	0.29	*F*=32.89 *P*< .001	β =.27 t=4.17 *P*< .001	β =.26 t=4.15 *P*< .001	β =.16 t=2.59 *P*< .001

Discussion

As shown in Table 2, there was a positive significant relationship between neuroticism (N) and addiction potential (AP). Persons who are more neurotic are more prone to be addicted. This result is similar to other findings (2-4, 6). A significant relationship was found among N and both subscales of AP. Neurotic people may have more active and passive potential addiction. Bearing in mind negative feelings such as fear, dysphoria, arousal, anger, and guilt feeling which are the basis of N, the possibility of having illogical thoughts, less ability to impulse control, weaker adjustment with others, and stressful conditions are higher for the person who has high score in N. This person may use drugs to decrease mental pains and control these negative feelings.

Furthermore, the results showed that there was a significant negative correlation between conscientiousness (C) and AP, this indicates that persons who have less responsibility may harm him/her or others easily. In other words, drug abuse is also a kind of harm to him/her and others. This finding is in line with previous findings (2-4, 6).

Pointing to the fact that as agreeableness A decreases, the AP increases. Results showed that persons who got low scores in this subscale were more ready to be addicted. Since A is attended to interpersonal relationship tendencies, persons who have fewer feelings of empathy and cooperation are more ready to be addicted. There is not a significant relationship between openness (O) and AP. It is implied that the fourth hypothesis is not proved. Moreover, there is a negative significant correlation between extroversion E and AP. Since E is attended to some characters such as preferring to association, being active, decisive in act, and interpersonal relationships, if their emotions are not satisfied through social relationships, they are more susceptible to addiction. These results are in correspondence with the previous findings (4-6).

Regression analysis (enter method) indicates that predictive variables determined 53% of addiction potential variance (Table 3). These variables are very important because they determine more than half of addiction potential variance. Using stepwise method showed that extroversion, and openness should be omitted (Table 4). It means neuroticism, conscientiousness, and agreeablenesses are respectively important variables to determine addiction potential variance. In this research, the most important predictor variable is neuroticism. Since N consist of anxiety, anger, depression, impulsivity, and vulnerability, it makes the person vulnerable to stressors such as educational and financial conditions, as well as unemployment, marriage, and the situation of being far from family. Such student may have a misunderstanding that drugs would help him/her to be free from his problems and leads him/her to use drugs temporarily, and then continually. He/she tries to solve his/her problems illogically instead of seeking support from family, friends and counselors.

The most important suggestion of this research is to pay attention scientifically to personality characters as a fundamental factor of this difficulty, rather than just emphasizing the cessation of drug or alcohol using. Moreover, quantitative and qualitative development of student counseling centers, training of mental health, and social skills are suggested.

Acknowledgements

This research has been supported by Shahid Chamran University, and Young Researchers Club of Ahvaz, Iran. The authors declare that there is no conflict of interests.

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