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Comparison of Personality Traits among the Cigarette-user and Non-cigarette-user Undergraduate Students

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ABSTRACT

Using the Minnesota Multiphasic Personality Inventory (MMPI), the present study was conducted to compare personality traits between cigarette-user and non-cigarette-user undergraduate students studying at Zahedan University of Medical Sciences. The population, in the present descriptive-analytical study, consisted of all medical students studying at Zahedan University of Medical Sciences (386 students).The whole population was considered as a census sample and entered the study. The short form of MMPI was used for data collection. Content validity of the MMPI has been confirmed. The results indicated that, the average scores of smokers were higher than those of non-smokers in 6 clinical scales of the MMPI (Hypochondriasis (Hs), Social Introversion (Si), Paranoia (Pa), Psychasthenia (Pt), Hypomania (Ma) & Schizophrenia (Sc)) and except for the Hs scale, there were significant differences between smokers and non-smokers. Considering the two other clinical scales of the MMPI (Depression (D) & Hysteria (Hy)), the average scores of non-smokers were higher than those of smokers and the difference in the scale of Hy was significant.

Keywords *Personality traits, Undergraduate student, Smoker, Non-smoker*

INTRODUCTION

Today, substance abuse and tobacco addiction have become global problems. Statistics released by international organizations, especially the World Health Organization (WHO), the International Narcotics Control Board (INCB) and the United Nations Educational, Scientific and Cultural Organization (UNESCO), have shown a worldwide upward trend in substance abuse. One of the most important and the most threatening behaviors of the youth population is substance abuse [1,2].

Scientists believe that tobacco use is among the leading causes of mortality in the world [3]and more than 5 million people die annually due to tobacco addiction. Therefore, preventing tobacco use has become the main priority of the WHO [4,5]. In Iran, the prevalence of tobacco addiction among men is %26 and among women is %6.3 indicating a much higher prevalence of tobacco addiction in the Iranian male population[6]. National studies have indicated that tobacco is mostly used by the adolescent population (Centers for Disease Control and Prevention, 2006). Thus, currently, there are 3.1 billion smokers worldwide and the figure will reach to 5.1 billion by the year 2025 [7]. Divsalar and colleagues (2007) showed that almost %40 of male and %6 of female undergraduate students are cigarette-users. Hence, considering the high prevalence of tobacco addition, it seems that the rates of mortality in developing counties will significantly increase in the near future [8].

Tobacco use initiation among youth or middle ages may not have much impact on their personality; however, smoking initiation in adolescence (i.e. before the age 20) can significantly affect people's personality and future [9].

Therefore, substance abuse, especially daily cigarette use, among adults is highly related to genetic factors [10], social factors [11] and individual differences [12]. Some personality traits, such as neuroticism [13], sensation-seeking, openness to experience [14] and impulsivity [15]are associated with substance abuse.Theoreticians in the field of personality psychology have tried to explain individual differences and personality disorders; accordingly, they have defined personality disorders as non-adaptive patterns of behavior that an individual deeply accepts as true. It has been estimated that almost %9.6 of the world population are suffering from personality disorders. People with personality disorders are unable to recognize that their behavioral patterns are considered abnormal and disturbing by other people. Studies have also indicated that biological, psychological, psychosocial and family-related factors are associated with substance abuse [12]. Sociologists and psychologists believe that personality/neurotic/psychotic disorders along with family-related and social issues and lack of proper relationships gradually make individuals unable to cope with their problems. As a consequent, these individuals try to escape from reality and find something that helps them ignore the outside world's problems, even for a short period of time [16]. Primary sociopathic personality and criminal behaviors (such as conduct disorder) are also related to primary substance abuse and addiction.

Given the social importance of educated people, analysis of their problems and failures is very important. Researchers believe that students are highly affected by the university environment. University is actually a stressful place, especially for undergraduate students. Going to university is considered as a sudden change for many students and some students have to leave their families and hometowns in order to study at a university. In fact, a small amount of tension is required for people's development; however, high levels of tension have negative impacts on their ability to adjust. Due to issues such as separation from family, lack of familiarity with the university atmosphere, lack of adequate welfare facilities, difficulty in adapting to the education system, an uncertain future, new way of life, parental expectations of progress, exams and assignments, many of university students face incompatibility problems [17] that finally lead to poor academic performance, lack of educational commitment and an increasing tendency to use tobacco and cigarette. Some studies have shown that %33 of students smoking cigarettes believe that their university-related problems are the causes of their addiction [18].

Given the importance of the issue and the lack of sufficient data, the present studyaimed to compare personality traits of cigarette-user undergraduate students with non-cigarette-user undergraduate students through a multifaceted approach. Regarding personality disorders among undergraduate students, little research has been conducted in Iran. Accordingly, the present study focused on medical students who are responsible for the whole community's health. Hopefully, the results of this study can be effective in the diagnosis and treatment of personality disorders leading to substance abuse and tobacco addiction in medical students. In this study, 8 scales of the MMPI were examined: Hypochondriasis (Hs), Social Introversion (Si), Paranoia (Pa), Psychasthenia (Pt), Hypomania (Ma) & Schizophrenia (Sc), Depression (D) and Hysteria (Hy).

MATERIALS AND METHODS

The population, in the present descriptive-analytical study, consisted of all medical students were studying at Zahedan University of Medical Sciences (386 students). The whole population was considered as a census sample and entered the study. Short form of the MMPI (71 items)and a questionnaire covering the participants' demographic characteristics were used as the study's instruments. The MMPI is a self-report questionnaire containing eight clinical scales and three validity scales. Validity scales of the MMPI provide information about respondents approach to the MMPI (e.g. tendency to create a favorable impression). The eight clinical scales of the MMPI are used to indicate different psychological conditions (i.e. Hypochondriasis (Hs), Social Introversion (Si), Paranoia (Pa), Psychasthenia (Pt), Hypomania (Ma) & Schizophrenia (Sc), Depression (D) and Hysteria (Hy)). Validity of each scale has been confirmed by the psychologists and psychiatrists. A score higher than the scaled score in each scale indicates a disorder. In order to distinguish cigarette-users from non-cigarette-users, questions regarding having histories of smoking in the last month, unsuccessful quitting and the desire to smoke were asked. Those who had quitted smoking were also asked if they were experiencing interpersonal, occupational and academic problems. After obtaining informed consent forms and coordination with the Training Unit, the questionnaires were distributed among interns (327 individuals).Finally, using the SPSS software, the collected data were analyzed through descriptive and inferential statistics.

RESULTS

Out of the whole 327 respondents, %42.5 were male and %57.5 were female; %5.5 were cigarette-users and %94.5 were non-cigarette-users.

Table (1) shows the comparison of means, SDs and significance levels between the two groups in terms of validity scales

Validity scales	Smokers		Nonsmokers		t-test	Degree of freedom	Sig.
	M	SD	M	SD			
L scale	0.88	0.67	1.08	1.23	2.37	325	0.01
K scale	7.66	2.86	4.45	2.74	4.82	325	0.00
S scale	4.05	2.36	6.60	3.02	3.51	325	0.00

Table 1. Comparison of means, SDs and significance levels between the two groups in terms of validity scales

As shown in table (1), average scores of both L scale and S scale were higher in nonsmokers; however the K scale was higher in smokers. All calculated t-test results were higher than 1.64 rejecting the null hypothesis. Thus, significant differences were observed between the two groups in terms of validity scales at a %95 confidence level.

Table 2. Comparison of means, SDs and significance levels between the two groups in terms of clinical scales

Clinical scales	Smokers		Nonsmokers		t-test	Degree of freedom	Sig.
	M	SD	M	SD			
Hypochondriasis	5.00	1.78	4.81	2.36	0.31	325	0.75
Social Introversion	8.66	2.40	6.91	2.48	2.91	325	0.00
Paranoia	7.38	2.09	5.14	2.45	3.79	325	0.00
Psychasthenia	10.38	2.63	7.66	3.83	2.97	325	0.00
Hypomania	7.55	1.72	5.39	2.33	3.86	325	0.00
Hysteria	8.22	2.71	10.2	3.18	2.65	325	0.00
Depression	7.61	3.51	8.15	3.33	0.67	325	0.50
Schizophrenia	11.7	2.46	8.08	3.72	4.09	325	0.00

As shown in table (2), except for the Depression and Hysteria scales, average scores of all clinical scales were higher in cigarette-users; however, except for the Depression scale, SDs of all clinical scales were higher in non-cigarette-users. Except for the Depression and Hypochondriasis scales, all calculated t-test results were higher than 1.64 rejecting the null hypothesis. Thus, significant differences were observed between the two groups in terms of clinical scales of Social Introversion, Paranoia, Psychasthenia, Hypomania, Hysteria and Schizophrenia at a %95 confidence level.

DISCUSSION AND CONCLUSION

As the results indicated, the mean score of nonsmokers (1.80) was higher than the mean score of smokers (0.88) in the L scale of validity. In the K scale of validity, the mean score of smokers (7.66) was higher than the mean score of nonsmokers (4.45). Regarding the S scale of validity, the mean score of smokers (4.05) was lower than the mean score of nonsmokers (6.60). The participants' overall scores in the S and L validity scales were low which were consistent with basic standardization of the MMPI conducted by Okhovvat and [19]. These findings indicated low levels of psychological defensiveness among the respondents. In fact, smokers were less psychologically defensive indicating that they had admitted that they had problems; accordingly, they did not deny their weaknesses and expressed them freely. In a study, Jazayeri[20] stated that patients with psychological disorders and at high risk for substance abuse are more likely to follow the interaction principle. In other words, adolescents experiencing substance abuse probably have abnormal behavioral patterns that are intensified by the initiation of their addiction. This vicious circle, also influenced by many other factors, may finally lead to clinical syndromes and personality disorders.

The results also indicated that the mean scores of all clinical scales, except for the scales of Hysteria and Depression, were higher in smokers. Moreover, except for the Depression and Hypochondriasis scales, all calculated t-test results were higher than 1.64 rejecting the null hypothesis. Thus, significant differences were observed between the two groups in terms of clinical scales of Social Introversion, Paranoia, Psychasthenia, Hypomania, Hysteria and Schizophrenia at a %95 confidence level. In accordance with a review of the related literature and results of the

present study, the MMPI is a proper scale for the diagnosis of psychological and personality disorders and can be validly used to examine cigarette-users. It seems that regardless of time and place, cigarette-users have relatively similar types of personality. The analysis of smokers' psychological profiles indicated that some disorders can be considered risk factors for addiction. Therefore, therapists must always consider the possibility of substance abuse or tobacco addiction when diagnosing affective disorders.

Generally, the results showed that, except for the Depression and Hypochondriasis scales, average scores of all MMPI clinical scales were higher in cigarette-users. These findings were in line with results of a study conducted by Razavi and Shakiba[21]. In a study entitled 'Comparative analysis of the MMPI scales between addicts and non-addicts referred to Zahedan Psychiatric Hospital', they concluded that mean scores of addicts are higher than non-addicts in all clinical scales. Based on t-test results, they also found significant differences in all clinical scales (except for the Hysteria scale) between the two groups.

Among the limitations of the present study, the following issues can be mentioned: a number of students were not cooperative in completing the questionnaires; the researchers did not have access to all participants when they needed; and little research was found on the use of the MMPI in Iran.

Given that the use of nicotine and other substances has followed a relatively stable trend in recent years, it is recommended to conduct future studies on substance abuse protection factors.

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