The relationship between personality traits and anxiety/depression levels in different drug abusers’ groups

Tatalović Vorkapić Sanja\(^{(a)}\), Dadić-Hero Elizabeta\(^{(b)}\) and Ružić Klementina\(^{(c)}\)

\(^{(a)}\) Educational Sciences, Faculty of Teacher Education, University of Rijeka, Croatia
\(^{(b)}\) Department of Social Medicine and Epidemiology, School of Medicine, Rijeka, Croatia
\(^{(c)}\) University Psychiatric Clinic Rijeka, Clinical Hospital Centre, Rijeka, Croatia

Abstract

\textbf{Aim.} Since psychosocial characteristics of drug abuse involve mainly specific personality and emotional changes, it is very important to investigate characteristics of addictive personality in relationship with emotional state of the individual. Considering that, the objective of this study was to analyse the relationship between personality structure and emotional state of two different groups: heroin addicts and recreate drug abusers.

\textbf{Methods.} The total of 288 (219 males and 69 females; 191 heroin addicts and 97 recreate drug users) clients of Centre for the prevention and treatment of drug abuse in Rijeka completed Eysenck’s Personality Questionnaire (EPQ R/A), Beck’s Anxiety Inventory (BAI) and Beck’s Depression Inventory (BDI). Their average age was 22.

\textbf{Results.} In the group of heroin addicts, higher levels of anxiety and depression were significantly correlated with higher levels of psychotism, neuroticism, criminality and addiction. In the group of recreate drug users, higher extraversion and social conformity were determined. Furthermore, in the first group was found even higher depression. However when the anxiety level was compared between these two groups, there was no significant difference.

\textbf{Conclusion.} Overall, the findings implied that the used measurement instruments could serve as the useful diagnostic tools that could ensure advantageous treatment directions.

INTRODUCTION

In order to ensure higher level of understanding, it is very important to analyse the relevant factors associated with the development of substance abuse in adolescents for several reasons. One of them is based on the fact that adolescent substance abuse and developed drug addiction presents a major public health concern due to its frequency and wide range of negative consequences: disrupted psychosocial development, academic failure, high-risk sexual behaviour, accidental injury, violent and criminal behaviour, suicidality, psychopathology in adulthood, etc. [1]. Although the DSM-defined substance use disorder is more prevalent in psychiatric patients [2] and among individuals with non-substance-related psychiatric disorders, there is evidence that coexisting substance abuse may result in poor response to treatment and worsening psychopathology [3]. Psychosocial characteristics of drug abuse mainly involve specific personality change with affective and behaviour deregulation, which includes depressed mood, irritability, inattention, impulsivity, and antisocial tendencies [4]. Therefore, it is very important to investigate characteristics of addictive personality in relation to emotional state of the individual.

In a relevant scientific literature, very often one can find the presence of anxiety/depression as the risk factors that “push” adolescent to the drug abuse. Studies have determined that anxiety and depression could be described as pre-existing factors or as coexisting, substance-related factors [5]. As it was earlier mentioned in co-morbidity case, when depression appears during substance abuse treatment, especially when the depression is present at the time of its entry, the one has been significantly linked to poorer post treatment outcomes [6]. A great number of studies showed that 15% to 50% of clinical samples of adolescents with substance use disorders have had co-occurring depressive disorders [7-10]. Furthermore, similar processes will appear if higher levels of anxiety are present during treatment. In addition, when analysing the neurobiology of addiction in his integrative review, Goodman [11] stated that beside others, addictive disorders are characterized by having mood-altering effects on behaviour. Other studies have confirmed this by determining that affective disorders, primarily major depression and anxiety disorders have a significant degree of co-morbidity with psychoactive substance use disorders [12-14]. The co-morbidity between anxiety, depressive and substance use disorders is
very common, because at some point in their lives a one-third to a half of persons with any mental disorder meet the
criteria for another mental or substance use disorder [15,
16]. Nevertheless, while answering the question why does
cob-morbidityn matter, Hall, Degenhardt and Teesson [17],
have put their accent on the co-morbidity as the most sig-
nificant factor concerning the expected result of treatment
or creating the program of drug abuse prevention.

Taken all into account, it is very important to analyse
the depression/anxiety level in adolescents with substance
abuse disorder, because it can serve as a fine preventive,
diagnostic and therapeutic tool. Therefore, in order to
investigate personality traits structure in recreate drug us-
er's who did not developed substance disorder, and drug
addicts who already develop addiction, this study uses
well-known Eysenck Personality Questionnaire – Revised
Version [18] that measures psychoticism, neuroticism,
extraversion, social desirability tendency, criminality
and addiction. According to Eysenck's personality theory,
addictive personality type has higher levels of psychoticism
and neuroticism [19-23]. Furthermore, drug abusers
showed higher results on Eysenck's criminality and addic-
tion subscales than controls [24], which emphasise their
importance as valuable diagnostic and preventive tools.
In addition, similar study determined that addicts showed sig-
ificantly higher results on psychoticism and neuroticism
scales, and significantly lower results on extraversion and
on the lie-scale [25]. Even though certain temperamental
traits are one of the risk factors for developing one of two
substance-related disorders, it could not be said that there
is such a thing as an addictive personality, because sub-
stance abusers represent very heterogeneous population.
However, as Feldman and Eysenck [22] stated, there is a
great certainty that all addicts demonstrate a great amount
of different difficulties in psychological functioning, and
thus have certain similarities in their personality traits.

OBJECTIVE

The main objective of this study was to analyse the re-
lationship between personality structure and emotional
state of two different types of drug abusers. In order to
answer this main objective, the following problems have
been identified:
a) to determine the levels of Eysenck's personality di-
mensions the levels of anxiety and depression of heroin
addicts and recreate drug users;
b) to analyse the relationship between personality and
emotional variables; and
c) to analyse differences between these two groups of
subjects concerning their personality traits and emo-
tional state.

Hypothesis

On one side, it is expected to find higher levels of psy-
choticism, neuroticism, addiction, criminality, depression
and anxiety levels in the group of opiate addicts. On the
other side, it is expected to establish the higher levels of
extraversion and social desirability in the group of the re-
create drug abusers, who still have not developed addiction
problem. According to that, relevant differences are ex-
pected to be found between those two groups of subjects
concerning their personality traits and emotional state.

METHODS

Subjects

288 subjects (219 males and 69 females) participated in
this study. All of them have been enrolled at the ambula-
tory treatment of the Centre for the prevention and treat-
ment of drug abuse in Rijeka, Croatia. Their average age
was 22, ranged from 14 to 44. According to DSM-IV dis-
order classification N = 191 of subjects were in the group
of heroin addicts with diagnosis of Mental and behavioral
disorders due to use of opioids: Harmful use (F11.1) and
Dependence syndrome (F11.2). N = 97 participants were
in the group of recreate drug abusers without developed
clinical picture of addiction, so that group had the next
diagnoses: F12-Mental and behavioral disorders due to
use of cannabinoids: Harmful use (F12.1) and Depend-
ence syndrome (F12.2); F13-Mental and behavioral dis-
orders due to use of sedatives or hypnotics – Harmful
use (F13.1); F15-Mental and behavioral disorders due to
use of other stimulants, including caffeine: Harmful use
(F15.1) and Dependence syndrome (F15.2); F18-Mental
and behavioral disorders due to use of volatile solvents
– Harmful use (F18.1); and F19-Mental and behavioral
disorders due to multiple-drug use and use of other psy-
chotropic substances – Harmful use (F19.1).

Measuring instruments

In order to measure personality traits, Eysenck's Per-
nality Questionnaire (EPQ R/A) has been used in this
study. This questionnaire measures level of extraversion,
neuroticism, psychoticism and social desirability. Furth-
more, this questionnaire showed satisfactory psychomet-
ric characteristics [18]. Considering the depression and
anxiety variables and in order to measure their levels in
two groups of substance users, two questionnaires, Beck's
Anxiety Inventory (BAI) and Beck's Depression Inventory
(BDI) have been used in this study. Finally, these ques-
tionnaires also showed satisfactory level of reliability and
clinical utility [5].

Procedure

During their ambulatory admission, 288 patients com-
pleted 3 questionnaires previously described. All patients
were informed about the purpose of questionnaires used
for the purpose of this particular study and they gave their
verbal consent to participate in this research. In the case of
the underage patient (under 18 years), his or her parents
were informed about the aim of this research and they also
gave their verbal consent about his/her son or daughter
participation in the study. The data have been collected
during the period of three years. Every time when a new
patient came in the Centre for the prevention and treat-
ment of drug abuse in Rijeka, he or she completed rel-
vant questionnaires, while getting through the admission
procedure in the Centre.

RESULTS AND DISCUSSION

Descriptive statistics and the analyses of significant differences

Concerning the analysis of personality traits, when com-
pared to the group of the recreate drug users, the results of
the group of the heroin addicts showed significantly high-
ner levels of psychoticism (t = 6.92, p < 0.01), neuroticism
Personality traits and anxiety/depression in substance abusers

Even though all results in this study were higher than those determined in normal population [18], the major difference could be seen at two personality dimensions: psychoticism and neuroticism. As Gossop and Eysenck [25] tried to identify which specific temperament items best distinguished alcohol and drug addicts from non-addicts which subsequently led to construct of the scale how to measure the “addictive personality”, it could be stated that the results in this study confirmed their hypothesis.

So it follows that, there are indeed a certain personality traits such as high psychoticism and neuroticism, which especially characterize an addictive personality, or could present a personality traits which have very high level of risk to develop one of the substance-related disorders. These data have also confirmed the structure of addiction psychopathology according to the DSM IV, where specific temperamental traits such as: impulsiveness, novelty seeking, behavioral disinhibition, antisociality, mood instability, hyperthymic and cyclothymic temperaments, all present clinical manifestations of developed substance-related disorder [26].

Furthermore, significantly higher levels of extraversion (t = 8.36, p < 0.01) and social conformity (t = 12.28, p < 0.01) were determined in the group of recreate drug users who still had dispositions to resist developing the addiction problem (see Table 1). According to the Eysenck’s personality theory [21], extraversion is the personality trait that shows a great positive relationship with lots of other positive traits, such as positive emotionality, qualitative interpersonal relationships and overall higher level of psycho-physiological health of the person. Also, considering great number of mental illness, extraversion is one of the protective factors [18]. Thus, it is understandable that young people who tried some drugs once or twice, or smoke marihuana once a month, still have not generated addiction problems and kept their personality within their normality frame. Finally, significantly higher results in social conformity scale suggest that these young people still care about opinions of others, social values and thus they still have respect for making clear differentiation between good or bad behaviour. Furthermore, in prior studies, the pattern of high addiction scores (high psychoticism, high neuroticism and low social conformity) has been substantiated in subsequent studies involving drug addicts [27, 28], and also eating disorders (e.g. bulimia; [22]), anorexia and bulimia [27-29].

Concerning the findings of depression and anxiety levels in those two groups of subjects, that could be seen in Table 1, the levels of depression and anxiety were higher in the group of the opiate addicts group, while on the other side, same levels were lower in the group of recreate drug users. Although, both differences were expected to be significant as prior studies showed [26], the difference was significant only in the depression results. The possible explanation of these findings could lie on the fact that addicts have already developed very high level of depression that is closely connected with the feelings of helpless and hopeless because of their failures in abstinence attempts. On the other hand, anxiety and narrowness are very often recognized in the case of young people that showed problematic behaviour pattern such as experimenting with (il)legal drugs. Therefore, it could be easily understood why their level of anxiety was similar to the anxiety level of opiate addicts. As Pani and his colleagues ([26], p. 185) proposed: “...mood, anxiety and impulse-control dysregulation is at the very core of both the origins and clinical manifestations of addiction and should be incorporated into the nosology of the same, emphasising how addiction is a relapsing chronic condition in which psychiatric manifestations play a crucial role”. Therefore, from that proposition, the explanation for similar anxiety level in recreate drug users and opiate addicts rely on the fact that in the first group, it presented the psychological/psychiatric precursor of addictive disorder, and in the second group, it presented the clinical manifestation of addiction. Furthermore, expert’s work experiences in the Centre for the prevention and treatment of drug abuse in Rijeka, emphasized the fact that unfortunately most of the recreate drug users, could be seen in the later years as drug addicts, what confirmed the Pani’s proposal reliability [26].

Table 1

<table>
<thead>
<tr>
<th>Subjects’ groups differences</th>
<th>Opiate addicts (N = 191)</th>
<th>Recreate drug users (N = 97)</th>
<th>Differences</th>
<th>All subjects (N = 288)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personality and emotional variables</td>
<td>M (SD)</td>
<td>Range</td>
<td>M (SD)</td>
<td>Range</td>
</tr>
<tr>
<td>Extraversion</td>
<td>15.21 (4.27)</td>
<td>1-22</td>
<td>16.71 (3.69)</td>
<td>3-23</td>
</tr>
<tr>
<td>Psychoticism</td>
<td>9.88 (4.13)</td>
<td>2-27</td>
<td>8.53 (3.59)</td>
<td>2-22</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>13.76 (5.73)</td>
<td>0-24</td>
<td>9.99 (5.51)</td>
<td>2-23</td>
</tr>
<tr>
<td>Social desirability</td>
<td>6.99 (3.8)</td>
<td>1-17</td>
<td>8.81 (4.46)</td>
<td>1-20</td>
</tr>
<tr>
<td>Addiction</td>
<td>4.77 (5.96)</td>
<td>2-26</td>
<td>9.71 (5.38)</td>
<td>11-24</td>
</tr>
<tr>
<td>Criminality</td>
<td>16.4 (6.29)</td>
<td>4-28</td>
<td>11.72 (5.49)</td>
<td>2-26</td>
</tr>
<tr>
<td>Depression</td>
<td>17.64 (14.01)</td>
<td>1-68</td>
<td>9.74 (9.28)</td>
<td>0-40</td>
</tr>
<tr>
<td>Anxiety</td>
<td>13.67 (10.19)</td>
<td>0-43</td>
<td>11.89 (9.68)</td>
<td>0-35</td>
</tr>
</tbody>
</table>

M: means; SD: standard deviations; Range: Results’ range; p: Probability level of KS-z result; T-test: T-test of mean differences; p: Probability level of T-test result.
Correlation analyses

Furthermore, higher levels of psychoticism, neuroticism, criminality and addiction significantly and positively correlate with the higher levels of anxiety and depression in both groups, and this could be seen in Table 2. In another words, all subjects: recreate drug users and opiate addicts who showed higher levels of psychoticism, neuroticism, criminality and addiction also showed higher levels of depression and anxiety. The results confirmed earlier findings [26], whether the explanation lied on the co-morbidity of addiction and anxiety/depression [30] or on the model of addiction as the product of the interaction between psychological/psychiatric precursors and addictive processes [26].

In addition, these findings confirmed the hypothesis that includes the diagnostic and therapeutic need to detect the existing level of addiction, anxiety and depression in the young people who were admitted in the Centre for the prevention and treatment of drug abuse. This kind of diagnostic ability of the instrument is very important since, the appropriate medication therapy and psychotherapeutic approach for the patients could be determined. This is especially important in the cases of addicts with very high level of depression and great possibility of presented suicidal thoughts and behaviour. Therefore, in the Centre, during the psychodiagnostic processes the use of diagnostic tools such as BAI and BDI has great significance, what should be taken into consideration within future empirical studies.

CONCLUSION

Finally, it could be concluded that all presented findings confirmed expected higher levels of psychoticism, neuroticism, addiction, criminality, depression and anxiety in opiate addicts, and higher levels of extraversion and social desirability in recreate drug users. Even there was a great chance that recreate drug users develop one of two substance-related disorders, high level of their extraversion and social conformity present their protective personality factors. So, in the psychotherapeutic approach it would be very useful to use them as such. Furthermore, as it was expected, the strongest correlation has been found between negative aspects of personality and higher levels of depression and anxiety. These findings confirmed prior empirical findings and the possibility of understand anxiety/depression not as totally independent variables, but rather more as one crucial element of addiction, as it was discussed earlier. Finally, the results implied that the used measurement instruments in this study could serve as very useful diagnostic tools that could provide with advantageous treatment directions.

Acknowledgements

We would like to thank all clients that have participated in this study, and Homolka Maja for her contribution in proofreading.

Conflict of interest statement

There are no potential conflicts of interest or any financial/personal relationship with other people/organizations that could inappropriately bias conduct and findings of this study.

Received on 22 October 2012.
Accepted on 10 October 2013.

Table 2
Correlations between all personality and emotional variables: for all subjects above diagonal and for recreate drug users (first line) and opiate addicts (second line) under diagonal

<table>
<thead>
<tr>
<th></th>
<th>Extraversion</th>
<th>Psychoticism</th>
<th>Neuroticism</th>
<th>Social desirability</th>
<th>Addiction</th>
<th>Criminality</th>
<th>Depression</th>
<th>Anxiety</th>
<th>Sex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extraversion</td>
<td></td>
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<tr>
<td>Psychoticism</td>
<td>-0.05</td>
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<tr>
<td>Neuroticism</td>
<td>0.13</td>
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<tr>
<td>Social desirability</td>
<td>0.03</td>
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<tr>
<td>Addiction</td>
<td>-0.05</td>
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</tr>
<tr>
<td>Criminality</td>
<td>0.04</td>
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<td></td>
<td></td>
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<tr>
<td>Depression</td>
<td>-0.01</td>
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<tr>
<td>Anxiety</td>
<td>0.29</td>
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<tr>
<td>Sex</td>
<td>0.15</td>
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</table>

*p < 0.05; **p < 0.01.
REFERENCES


