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Behavioural problems and personality correlation in high school children

Abstract: The main objective of this article is to show the differences between the intensity of the personality traits of high school students' exhibiting behavioral problems associated with the use of drugs and those abstaining from such substances. The differences in the intensity of three of the five personality traits are presented based on the NEO FFI model. The presented results are of practical value and can have an impact on the efficacy of therapeutic, prophylactic or social rehabilitation programs. **Keywords:** personality, behavioural problems, psychoactive substances, adolescents.

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For some time now we can see growing behavioral changes in Polish society associated with the use of psychoactive substances. The taking of legal substances such as alcohol and tobacco, as well as illegal ones, i.e. narcotics, carries a risk of mental, physical and social damage.¹ Young people are often unaware of the risks they are taking. However, awareness does not always protect against the use of such substances, and what's more, may sometimes lead to such behavior. The number of adolescents getting involved with drug use in Poland is similar to the European average, but the average is still alarmingly high.² ESPAD (European School Survey

¹ B.T. Woronowicz, *Uzależnienia. Geneza, terapia, powrót do zdrowia*, Media Rodzina i Wydawnictwo Edukacyjne PAMPAMEDIA, Warsaw 2009, p. 13.

² H. Hibell, U.A. Guttormsson. *Supplement The 2011 ESPAD Report*, http://www.espad.org/Uploads/ESPAD_reports/2011/FULL%20REPORT%20-%20Supplement%20to%20The%202011%20ESPAD%20Report%20-%20WEB.pdf, p. 10.

Project on Alcohol and Other Drugs) data clearly indicate there is a major problem associated with the use of psychoactive substances by Polish youth.³ The increase in the number of people smoking cigarettes every day, the growing popularity of marijuana (consumption above the European average), and the prevalence of alcohol use among adolescents (comparable with adults) are just some of the problems highlighted in the report. The results of another study, which involved young high school students, and which also indicate a serious problem with the use of psychoactive substances are contained in the report for schools and education authorities in Warsaw on the implementation of the third stage of research entitled "The role of risk factors and protective factors in the development of problem behavior among adolescents. A study of high school students in Warsaw."⁴ The report indicates that the number of people who use psychoactive substances increases with age. In contrast, aggressive behavior, violence, delinquency and school problems remain stable or show a slight upward trend.⁵ Problem behaviors tend to co-occurrence, which means that the appearance of one behavior increases the likelihood of another.⁶ This was also confirmed in K. Ostaszewski's studies, which showed a significant correlation between school problems and cigarette smoking, alcohol use, drug use and delinquency and between alcohol and aggression.⁷ The test results contained in these reports clearly indicate a significant problem connected with the use of psychoactive substances by adolescents.

In the subject literature, one most often comes across two groups of factors conditioning the use of psychoactive substances, i.e. social factors – with particular emphasis on the influence of peers, and personality traits/factors.⁸ Among the personality traits mentioned by researchers is the ability to cope with stress. The author of the "Stress response dampening," model, K.J. Sher, has shown that the dampening response to stress levels proceeds differently depending on personality traits. Aggressive, impulsive and extravert people very quickly and easily experience a sense of relief from drinking alcohol. The research also shows that in those people who have developed an addiction, these personality traits were very severe.⁹ H. Eysenck draws attention to the extreme neurotic, psychotic and

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³ J. Sierosławski, *Używanie alkoholu i narkotyków przez młodzież szkolną. Raport z ogólnopolskich badań ankietowych realizowanych w 2011 r.*, Instytut Psychiatrii i Neurologii, Warsaw 2011.

⁴ K. Ostaszewski, A. Rustecka-Krawczyk, M. Wójcik, *Czynniki chroniące i czynniki ryzyka związane z zachowaniami problemowymi warszawskich gimnazjalistów: klasy I-III*, Instytut Psychiatrii i Neurologii, Warsaw 2011.

⁵ Ibidem, pp. 49–53.

⁶ R. Jessor, J.E. Donovan, F. Costa, *Beyond Adolescence: Problem Behavior and Young Adult Development*, Cambridge University Press, New York 1991, p. 24.

⁷ K. Ostaszewski, A. Rustecka-Krawczyk, M. Wójcik, op. cit., pp. 58–59.

⁸ J.J. McWhirter, B.T. McWhirter, A.M. McWhirter, E.H. McWhirter, *Zagrożona młodzież*, Państwowa Agencja Rozwiązywania Problemów Alkoholowych, Warsaw 2005, pp. 192–199.

⁹ K.J. Sher, *Stress response dampening*, [in:] *Psychological theories of drinking and alcoholism*, H.T. Blane, K.E. Leonard (eds.), The Guilford Press, New York 1987, pp. 227–272.

extravert character of people who exhibit anti-social behavior.¹⁰ The research of Costa and McCrae, in turn, shows that people with higher neuroticism and low agreeableness and conscientiousness may develop an antisocial personality disorder¹¹, increasing the likelihood of substance abuse.¹² Personality can therefore play an important role in the formation of problem behaviors associated with substance abuse.

The aim of the paper is to show the differences in the intensity of the personality traits of high school students exhibiting behavior problems associated with the use of addictive drugs and of those who abstain from such substances. The analyses relate to the intensity of the five personality traits according to the NEO FFI (*Neuroticism Extraversion Openness Five-Factor Inventory*) model. In this study, "personality" is understood in accordance with the Costa and McCrae's Five-factor Model. Reference is also made to Problem Behavior Theory (PBT), which describes the tendency of a large number of young people to engage in problem behaviour. The creators of this theory of problem behaviour (risky) recognised behaviour that is incompatible with social norms, and behaviour that threatens the health and lives of young people.¹³ The typical problem behaviours in the framework of Problem Behaviour Theory include:

- The use of psychoactive substances (tobacco, alcohol, drugs);
- Premature sexual activity;
- Aggressive behaviour, use of violence;
- Minor crimes, offenses, acts of hooliganism, vandalism;
- Neglect of school duties, truancy;
- Suicide attempts;
- Improper fulfilment of social roles.¹⁴

The presented study includes an analysis of one type of problem behaviour: substance abuse, broken down into the following categories: smoking, drinking and drug use.

The main research question addressed was: Do young people undertaking certain categories of problem behaviour associated with substance abuse or abstinence differ from one another in terms of the intensity of their personality traits?

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¹⁰ J. Strelau, *Psychologia temperamentu*, PWN, Warsaw 2009, p. 89.

¹¹ B. Zawadzki, J. Strelau, P. Szczepaniak, M. Śliwińska, *Inwentarz osobowości NEO-FFI Costa and McCrae*, Pracownia Testów Psychologicznych Polskiego Towarzystwa Psychologicznego, Warsaw 1998, pp. 30–31.

¹² T. Millon, R. Davis, *Zaburzenia osobowości we współczesnym świecie*, Instytut Psychologii Zdrowia, Polskie Towarzystwo Psychologiczne, Warsaw 2005, p. 185.

¹³ R. Jessor, J.E. Donovan, F. Costa, op. cit., pp. 23–24.

¹⁴ K. Ostaszewski, *Podstawy teoretyczne profilaktyki zachowań problemowych młodzieży*, [in:] *Diagnostyka, profilaktyka, socjoterapia w teorii i praktyce pedagogicznej*, M. Deptuła (ed.), Wydawnictwo Uniwersytetu Kazimierza Wielkiego, Bydgoszcz 2005, p. 112.

- Using tobacco and drugs – never tried to drink alcoholic beverages while being taking drugs several dozen times or more often and actually smoke a few cigarettes or more per week;
- Using tobacco and alcohol – never used drugs however drank alcohol 1–2 times in the last month or more frequently, and who have been drunk a few or a dozen or more times and lost consciousness a dozen or more times as a result of drinking and who currently smoke a dozen or so cigarettes a week or per day;
- Using alcohol and drugs – never tried to smoke but drank alcohol 1–2 times in the last month or more frequently, and who have been drunk a few or a dozen times or lost consciousness a dozen or so times as a result of drinking and have taken drugs several, or a dozen or more times;
- Using tobacco, alcohol and drugs – drank 1–2 times or more in the last month, and were drunk a few or a dozen or more times or lost consciousness a few, or a dozen or so times as a result of drinking and have been taking drugs several or a dozen times or more and actually smoke several, or a dozen or more cigarettes a week or per day;
- Abstainers – never tried alcoholic drinks, drugs and cigarettes.

After the conducted qualification the percentage distribution of these groups shown in the following diagram.

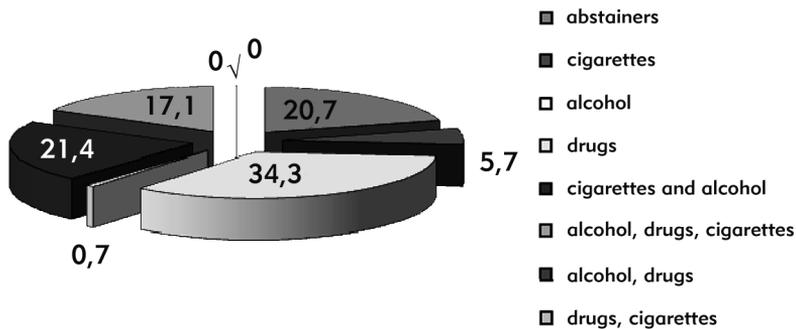


Diagram 1. The co-occurrence of problem behaviours

Source: own research.

Among the respondents, the largest group was that of young people drinking alcohol only. It consisted of 48 individuals, representing 34.3% of the study population. The risk group combining cigarette and alcohol use was in second place (30 individuals – 21.4% of the study group), while 17.1% of respondents had used all three substances in a risky way (24 people). The abstainers group accounted for 20.7% of the sample population – 29 people. None of the subjects was qualified to groups of drugs and alcohol, and of drugs and cigarettes. Smokers, 5.7% – 8 people, and drug users, 0.7% – 1 person, were not included

further in the study due to their small number. The remaining groups (131 persons in total) were included for further study to determine the severity of their personality traits.

Results

To verify whether abstainers and those engaged in certain categories of problem behaviour differ in the severity of examined personality traits, a univariate analysis of variance (ANOVA) was used – Table 1.

The results indicate statistically insignificant differences in the severity of extraversion and neuroticism. Significant differences in intensity occurred, however, regarding personality traits such as openness, agreeableness and conscientiousness. In order to determine between which groups there were significant differences, the Tukey Post-Hoc test was used. The test results are presented in Tables 2, 3, 4.

Table 1. The intensity of personality traits in groups of people adopting different categories of problem behaviour – analysis of variance results

| Personality traits | Category of problem behaviour | Mean | F | p | N |
|--------------------|-------------------------------|------|-------|--------|----|
| Neuroticism | abstainers | 4,52 | 2,12 | insig. | 29 |
| | alcohol | 5,06 | | | 48 |
| | cigarettes and alcohol | 5,40 | | | 30 |
| | cigarettes, alcohol, drugs | 5,58 | | | 24 |
| Extroversion | abstainers | 5,71 | 0,75 | insig. | 29 |
| | alcohol | 6,02 | | | 48 |
| | cigarettes and alcohol | 6,48 | | | 30 |
| | cigarettes, alcohol, drugs | 6,13 | | | 24 |
| Openness | abstainers | 4,79 | 6,73 | 0,000 | 29 |
| | alcohol | 4,19 | | | 48 |
| | cigarettes and alcohol | 3,27 | | | 30 |
| | cigarettes, alcohol, drugs | 3,25 | | | 24 |
| Agreeableness | abstainers | 7,03 | 3,23 | 0,025 | 29 |
| | alcohol | 6,48 | | | 48 |
| | cigarettes and alcohol | 6,13 | | | 30 |
| | cigarettes, alcohol, drugs | 5,46 | | | 24 |
| Conscientiousness | abstainers | 7,48 | 12,16 | 0,000 | 29 |
| | alcohol | 6,73 | | | 48 |
| | cigarettes and alcohol | 5,90 | | | 30 |
| | cigarettes, alcohol, drugs | 4,71 | | | 24 |

F – statistical value; p – significance level; N – number of people.

Source: own research.

Table 2. Univariate analysis of variance (ANOVA) including Tukey's Post-Hoc test for variable openness

| Openness to experiences | | | | F | p |
|-------------------------|----------------|----------------------------|-----------------------------------|------|------|
| Abstainers (1) | Alcohol (2) | Cigarettes, alcohol (3) | Cigarettes, alcohol, drugs (4) | | |
| 4,79 _(3,4) | 4,19 | 3,27 ₍₁₎ | 3,25 ₍₁₎ | 6,73 | 0,00 |

The lower indices in parentheses indicate the number of the groups which differ with the given group in terms of intensity of openness to experience at a level of significance $p < 0.01$.

Source: own research.

Significant differences in the severity of openness to experience were between abstainers and those smoking cigarettes and alcohol drinkers and abstainers and those that use alcohol, cigarettes and drugs.

Table 3. Univariate analysis of variance (ANOVA) including post hoc Tukey's test for the variable agreeableness

| Amicability | | | | F | p |
|---------------------|----------------|----------------------------|-----------------------------------|------|-------|
| Abstainers (1) | Alcohol (2) | Cigarettes, alcohol (3) | Cigarettes, alcohol, drugs (4) | | |
| 7,03 ₍₄₎ | 6,48 | 6,13 | 5,46 ₍₁₎ | 3,23 | 0,025 |

The lower indices in parentheses indicate the number of the groups that differ with the given group in intensity with regard to agreeableness at a level of significance $p < 0.05$.

Source: own research.

In terms of the severity of agreeableness significant differences occurred between abstainers and the group is using alcohol, drugs and smoking.

Table 4. Arithmetic means of one-way analysis of variance (ANOVA) including Post Hoc Tukey test for the variable conscientiousness

| Diligence | | | | F | p |
|-----------------------|---------------------|----------------------------|-----------------------------------|-------|------|
| Abstainers (1) | Alcohol (2) | Cigarettes, alcohol (3) | Cigarettes, alcohol, drugs (4) | | |
| 7,48 _(3,4) | 6,73 ₍₄₎ | 5,90 ₍₁₎ | 4,71 _(1,2) | 12,16 | 0,00 |

The lower indices in parentheses indicates the number of the groups which differ with the given group in intensity of conscientiousness at an significance level $p < 0,01$.

Source: own research.

Significant differences in the intensity of conscientiousness can be seen between abstainers and the group smoking cigarettes and drinking alcohol, and between the abstainers and the alcohol, drugs and smoking group, and also between

the alcohol group and the group using alcohol, drugs and cigarettes. In order to check whether there are significant differences in strength of personality traits, including the gender variable in the study. The test results revealed a statistically significant difference between the average of boys and girls in the intensity of the openness variable. In order to determine the extent to which gender and personality variables explain the problem behaviour associated with the use of psychoactive substances a stepwise multiple regression analysis was performed. For the purpose of this study a variable problem behaviours was created, which is the total frequency of taking all categories of behaviours associated with substance use (Table 6). In the identified groups, the Student's t-test was performed. The test results are shown in Table 5.

Table 5. The intensity of personality traits in the studied group by gender

| Personality traits | Boys (N = 70) | | Girls (N = 61) | | Critical value (t) | Level of significance (p) |
|--------------------|---------------|--------------------|----------------|--------------------|--------------------|---------------------------|
| | mean | standard deviation | mean | standard deviation | | |
| Neuroticism | 5,23 | 1,67 | 4,98 | 1,77 | 0,82 | insig. |
| Extroversion | 5,90 | 1,89 | 6,28 | 2,03 | -1,11 | insig. |
| Openness | 3,64 | 1,64 | 4,28 | 1,63 | -2,23 | 0,03 |
| Agreeableness | 6,41 | 1,87 | 6,25 | 2,04 | 0,49 | insig. |
| Conscientiousness | 6,17 | 1,77 | 6,53 | 2,22 | -1,03 | insig. |

Source: own research.

Table 6. The results of multiple regression analysis for the studied variables

| Variables | Step | Beta | B | p | Multiple R | Multiple R ² | Increase R ² | F | p |
|-----------|------|-------|-------|------|------------|-------------------------|-------------------------|-------|------|
| Openness | 1 | -0,32 | -0,20 | 0,00 | 0,35 | 0,13 | 0,12 | 18,34 | 0,00 |
| Gender | 2 | -0,19 | -0,39 | 0,02 | 0,40 | 0,16 | 0,15 | 12,06 | 0,00 |

Source: own research.

The results of the stepwise multiple regression analysis showed that problem behaviour is relatively best explained by the openness variable. It allows one to explain about 13% of problem behaviour undertaken in the study group (the lower the openness, the more behaviour associated with drug use). Openness and gender variables together explain about 16% of such behaviour. Thus, it seems that gender and a low openness to experience can be predictors of behaviour associated with substance abuse.

Conclusions

Significant differences between the groups studied occurred in the intensity of openness to experience, agreeableness and conscientiousness. People who use tobacco, alcohol and drugs as well as those who drink alcohol and smoke cigarettes have a lower agreeableness and conscientiousness than their peers who abstain. Abstainers also show a greater openness to experience than those using psychoactive substances (smokers and drinkers and people who use all three substances). In addition, openness to experience best explains problem behaviour associated with substance abuse (the lower the openness, the greater such behaviour). According to Costa and McCrae, people with low openness to experience are closed and conservative in their behaviour, placing what is known above that which is new. These people are also less mature, have narrower and shallower interests and have a more practical disposition.¹⁸ If this is in fact the case, the group of people needing the most help can have great difficulty in making changes to their behaviour. Therefore, when preparing preventive, therapeutic and rehabilitative interventions, this variable should be taken into account and the form of intervention should be adapted to the individual needs of the person with special emphasis on their level of openness.

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¹⁸ J. Siuta. *Inwentarz osobowości NEO-PI-R Paula T. Costy jr i Roberta R. McCrae*, Pracownia Testów Psychologicznych, Warsaw 2009, pp. 27–28.

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