



Original research article

Health as a value in the context of smoking and alcohol consumption among university students

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Abstract

Introduction: The study of smoking and alcohol consumption habits is one of the most relevant and common elements of health behaviour assessment. According to European Health Interview Survey data, 27% of women aged 18–34 years and 35% of men smoke daily. According to the WHO, alcohol consumption also presents a negative picture and is responsible for 3 million deaths worldwide each year. **Objective:** Our primary objective was to examine how university students' health values relate to smoking and alcohol consumption habits.

Methods: Our data collection method was interviewing, and our questionnaire consisted of nearly 30 questions that could be divided into several main groups. For data collection, we used a validated questionnaire, the IRVS Values Importance and Achievement Scale. For the assessment of smoking habits, we used the questionnaire from the National Population Survey (2003), compiled by the National Center for Epidemiology. A total of 380 university students completed the questionnaire. Data were processed using SPSS 26.0 statistical software. Differences were considered significant at $p < 0.05$.

Results: Using principal component analysis, we obtained the eight-item variable, 'Importance of health value', with the highest loading of the value 'Health importance' (0.711 points). Our results showed a significant negative association between the health value and the number of cigarettes smoked per day, $r_s = -0.089$, $p = 0.041$ (1-tailed), using Spearman correlation.

Conclusion: Promoting a healthier lifestyle among university-aged individuals should be encouraged and prioritized. We believe that it is important to develop a preventive approach and create an inclusive educational environment.

Keywords: Alcohol; Health behaviour; IRVS; Smoking; University students; Value list

Introduction

There are universal values that transcend cultures, and health can be considered a core value (Eibel-Spányi and Hofmeister-Tóth, 2013; Hofmeister-Tóth and Neulinger, 2009; Losonczi, 1989; Pál, 2016). There are universally valid values that are the same in all social contexts (Grünhut et al., 2019). Our lives are characterised by multiple choices determined by our values (Eibel-Spányi and Hofmeister-Tóth, 2013; Demir et al., 2023; Hofmeister-Tóth and Neulinger, 2009; Hofmeister et al., 2020; Kalina, 2020; Meleg, 2002).

The health is a value, but data on health status and behavioural risks in health behaviour show the opposite (Benkő, 2011). Education should promote health as a value. This helps to develop health-conscious behaviour (Demir et al., 2023). Varga (2003) argues that values are collective preferences that play a role in generating and controlling context. Bocsi (2015) argues that the concept of value can be derived from macro community traits. All these concepts agree that values have

normative effects that are “grounded in the biological, survival, and co-existence conditions of the community” (Bocsi, 2015, p. 14).

The value can help to response to life situations (Bocsi, 2015). Therefore, it is also a community-specific phenomenon. The school years are important. The educational institution also has a protective function (Demir et al., 2023). The health inequalities are constantly being reproduced (Meleg, 2015). In his view, it is during the years of education that the relationship with health becomes a social advantage or disadvantage. He argues that neither public education nor healthcare has “developed a toolkit for communicating health values” (Meleg, 2015, p. 30). Health behaviours refer to actions that serve to protect, and restore health. These behaviours may not be conscious actions (Kovács and Nagy, 2021).

The value of health define a positive change in health behavioural indicators. The indicators of overweight or obesity, alcohol consumption and smoking are indicators of health risk (Vitrai, 2022). Conner (2015) describes how health behaviours have important consequences for quality of life, longevity, and

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disease development. This has been confirmed in the study by Rossman et al. (2019), who argue that health behaviours have a direct impact on health indicators. To effectively change behaviour, policy choices that influence social norms and practices would need to be made.

Based on the literature, we formulated the following research aims: to determine whether there is a negative relationship between respondents' health values and their alcohol and smoking habits. We also wanted to find out whether it can be concluded that the higher the importance of health values of respondents, the lower their smoking and alcohol habits.

Our aim was to get a comprehensive picture of the university students' value system, how health presents itself in their lives in terms of value importance, what characterises their health behaviour, and whether smoking and alcohol consumption are prevalent in their lives.

Materials and methods

Data collection was implemented using a survey. The survey was carried out with a self-completed questionnaire in November 2022. Our pilot analysis aimed to obtain a minimum of 100 respondents. Respondents received a participant information sheet on the website homepage explaining the purpose, subject, and circumstances of the investigation, including the professional ethics license number. The respondents indicated their intention to participate by accepting the online consent form.

Our questionnaire contained nearly 30 questions. There were a lot of sociodemographic questions. We looked at the values of the respondents. The scores were measured on a Likert scale from 1 to 5. This was the IRVS scale. The questionnaire measures values separately for importance and implementation. The IRVS was subjected to principal component analysis (Hofmeister-Tóth and Neulinger, 2009). The reliability of the IRVS was found to be appropriate. The realisability of the Importance dimension of the Values List is relevant, with a Cronbach alpha of 0.907 (24 items), while that of the Reliability dimension is 0.941 (24 items). In terms of reliability, our sample was found to be excellent, in line with standard research (Hofmeister et al., 2020).

In our study, we merged the 24–24 items of the Importance and Achievement dimensions of the Importance and Realisation of Values Scale. Based on the analysis of principal components on the IRVS value scale, the health value is the one with the strongest load. A new variable is created by principal component analysis. This is the health as a value variable (0.711 points). To assess smoking habits, we used the results of the National Centre for Epidemiology Individual Questionnaire National Population Health Survey (2003) questionnaire compiled by the Hungary National Centre for Epidemiology, which included several questions on smoking, but five questions were added to the questionnaire. The questions started with whether the respondent smokes cigarettes, e-cigarettes, iqos, cigars, or pipes. If so, further answers examined the respondent's smoking habits: how often he/she smokes cigarettes, e-cigarettes, iqos, cigars, or pipes per day, per week, per month, and whether he/she smokes more or less than two years ago (National Centre for Epidemiology Individual Questionnaire National Population Health Survey, 2003). Finally, questions related to alcohol consumption were included (National Centre for Epidemiology Individual Questionnaire National Population Health Survey, 2005). To investigate alcohol

consumption habits, questions from the questionnaire of the National Population Health Survey (2005), compiled by the National Center for Epidemiology, were used. A total of five questions were included in the questionnaire, asking about alcohol consumption and its frequency. Additional questions about alcohol measured, for example, whether in the last 12 months, alcohol had helped the respondent to solve problems, express feelings, get closer to someone, solve a work-related problem, have more fun, relax in the company of others, get to know someone better, and whether there had been any signals from the environment to drink less alcohol, criticism for drinking alcohol, or perhaps whether they had lost someone due to excessive alcohol consumption.

The reliability of the questionnaire, which included the helping effects of alcohol consumption in the last 12 months, was found to be reliable based on a Cronbach alpha of 0.821. One question asked about the consequences of excessive alcohol consumption (e.g., injury, accident, drink-driving) (National Centre for Epidemiology Individual Questionnaire National Population Health Survey, 2003, 2005). The questionnaire on the consequences of alcohol consumption was found to be reliable with a Cronbach alpha of 0.771. A 7-item questionnaire assessed the consequences of alcohol consumption. We found no data in the literature on the Cronbach alpha of questions related to alcohol consumption, but the reliability of the scales we obtained is relevant.

We used Microsoft Word and Excel for data processing, and SPSS 26 for statistical analysis. Frequency and standard deviation were calculated within the framework of descriptive statistical methods. To compare the relationships between the variables and the groups (according to the conditions), we applied the Spearman correlation, the Pearson point-biserial correlation, and the analysis of variance. Correlations between variables and differences between the means of the group were considered significant at $p < 0.05$. During data cleaning, outliers were filtered out using the outlier labelling rule, and eliminated where necessary.

As the first instance authority, The Scientific and Research Ethics Committee of the Scientific Council for Research, granted the professional ethics approval for the non-interventional study requested by the application submitted to them. The decision was received on 08 September 2022. Authorisation number: BMEÜ/1575-1/2002/ECU.

Sample

The sample of 380 respondents was made up of 36 men (9.5%) and 342 women (90%) [2 (0.5%) did not answer this question]. The questionnaire was open to anyone to fill in, it was not sent to specific individuals. Due to the low distribution, the results were not treated separately but were aggregated. The average age was 25.6 years ($SD = 9.43$), with a mode value of 19. The average age of the men was 27.1 years ($SD = 1.66$), while the average age of the women was 25.481 years ($SD = 0.5$). Most of the respondents (296 people; 78%) were between 18 and 29 years old, but there were also university students between 50 and 55 years old. The correspondence courses also attract university students aged between 50 and 55. They were included in the sample because of their status as university students. Data for respondents older than 50 years have been deleted. Most of them live in cities (206 people, 54%), with a high proportion of respondents also living in the county (86 people, 23%). Most respondents had a school leaving certificate (242 people, 64%), which is in line with the fact that most of them are currently enrolled in full-time education (285 people, 75%).

Results

To study smoking habits, we looked at cigarettes, e-cigarettes, iqos, cigars, and pipes. In our work, we use the collective term 'smoking' to refer to cigarettes, e-cigarettes, iqos, cigars, and pipes. 58.2% (221 people) of the respondents had never smoked, 16.1% (61 people) smoked daily, and 7.1% (27 people) less frequently than monthly. 6.8% (26 people) used to smoke but have now quit, and there are only a few smokers who smoke monthly (4.7%, 18 people) and weekly (3.7%, 14 people). 2.4% (9 people) of the respondents did not want answer. 1.1% (4 people) could not answer. The results of our study are in close agreement with those reported in the literature, where 220 participants were surveyed, 20% of whom responded that they were habitual smokers (Dinnyés, 2018).

20.3% (77 people) of smokers (this includes cigarettes, e-cigarettes, iqos, cigars, pipes) smoke less than a pack (<20 packs/day), 2.1% (8 people) smoke around a pack, and one person said they smoke up to two packs a day. In both weekly (8.7%; 33 people) and monthly (7.1%; 27 people) breakdowns, 'less than a pack' was the most common response option. Our questionnaire also asked about their smoking habits two years ago. 8.9% (34 people) chose not to answer, 5.5% (21 people) did not smoke at that time, 12.1% (46 people) smoked about the same, 10.8% (41 people) smoked less, and 9.7% (37 people) smoked more.

52.9% of the respondents (201 people) drink alcohol, with the question specifically referring to beer, wine, and brandy. 33.4% of the respondents (127 people) rarely drink alcohol, while 13.7% (52 people) do not drink alcohol at all. In the last 12 months, 34.2% of respondents (130 people) drink alcohol 1–3 times a month or less than once a month (34.2%, 130 people). There are also respondents who drink alcohol 1–2 times a week (16.3%, 62 respondents) and 3–4 times a week (3.4%, 13 people). There are a small number of daily drinkers (1.1%, 4 people).

The questionnaire asked whether alcohol had helped in the past 12 months to solve problems, express their feelings better, get closer to someone, or maybe get to know someone better. 54% of the respondents (207 people) think that alcohol helps them to relax in the company of others and remove inhibitions. 61.8% (235 people) said that alcohol helps them have fun. 261 (68.7%) disagree that alcohol helps them get to know someone better, while 119 (31.3%) said that it does. 63.7% (242 people) said that it does not help them to feel better, and 36.3% (138) said that drinking alcohol helps them to feel better. 40.3% (153 respondents) said that alcohol helps to make people funnier and more fun.

4.5% of the respondents (17 people) said that their friends thought they should drink less, 7.6% (29 people) had been criticised by a relative for drinking alcohol, and one person had been told by their doctor that they should cut down significantly. 1.1% of the respondents (4 people) had been criticised for drinking by someone around them, and 0.8% (3 people) had been threatened with a breakup by their spouse or partner.

A series of questions covering the consequences of alcohol consumption included questions about how often respondents had had an argument or disagreement, a fight, an injury or accident, lost money or other valuables, damaged clothing or property, driven drunk, or regretted something they had said or done. When asked if they had ever regretted something, 24.2% (92) of the respondents said they had regretted something once or twice, and 6.1% (23) said they had regretted something three or more times. 14.7% (56) of the respondents

had had an argument or fight with someone once or twice in the past 12 months due to alcohol, and 2.9% (11) had done so three or more times.

Discussion

The purpose of our study was to verify the role of health values of university students in relation to their smoking and alcohol consumption habits (Pápai et al., 2019). According to Varga (2003), values are collective preferences that play a role in both generating and driving contexts. The development of healthy lifestyles among young adults is associated with the perception of health as a value (Demir et al., 2023). We hypothesized that there would be a significant negative correlation between the importance of health maintenance and smoking and alcohol consumption; the more important the respondent considers health maintenance, the lower the smoking and alcohol consumption.

When analysing the principal component of the IRVS, a component called the "Importance of Health Value" was created by strongly loading the health value. To support our hypothesis, we compared this new variable as a health value with smoking and alcohol consumption habits.

When discussing smoking and alcohol consumption habits, our respondents generally presented a health-conscious picture. Our results show a *significant negative* association between the health value and the number of cigarettes smoked per day using the Spearman correlation, $r_s = -0.089$, $p = 0.041$ (1-tailed), so the more important the health value, the fewer cigarettes smoked per day.

According to Lampek et al. (2022), initiation into smoking begins before young adulthood, so 15–19 years is considered a critical period. In our country, men are more affected by smoking than women. According to the European Health Interview Survey 2019 report, the number of men aged 18 to 34 years who smoke daily increased who smoke daily fell from 44% (2000), 43% (2003), 36% (2009), 39% (2014) to 34.5% in 2019. For women in this age group, the figures were 29% in 2000, 34% in 2003, 27% in 2009, 24.5% in 2014, and 28% in 2019 (Lampek et al., 2022). According to the 2003 National Centre for Epidemiology Individual Questionnaire National Population Health Survey report, 52% of 18–34-year-olds had never smoked, 10.4% had quit, 5.1% were occasional smokers, 18.6% were regular daily smokers, and 13.9% smoked more than 20 cigarettes per day. According to European Health Interview Survey data for 2019, 27% of women aged 18–34 years smoke daily and 58% have never smoked. While for men aged 18–34 years, 35% smoke daily and 49% have never smoked. The European Population Survey shows an inverse correlation between daily smokers and educational attainment. One third of people with lower education levels smoke daily, compared to one-tenth of those with higher education levels. People living in the capital have the highest number of high educational attainments and the lowest number of smokers (European Health Interview Survey, 2021a). The uptake of electronic devices that substitute or mimic smoking has increased significantly when compared to the five years before 2019. The use of e-cigarettes by people aged 15 and over has almost doubled compared to 2014, with only 0.6% of people aged 15 and over using such devices in 2014 (compared to 2% in 2019). Men are more likely to use electronic devices. They are almost twice as likely to use them as women and, by age group, such devices are most prevalent among those under 35 years of age (European Health Interview Survey, 2021a).

The health score also has a positive effect on the frequency of alcohol consumption in the past 12 months, as there is a *significant negative* association between the two $r_s = -0.108$, $p = 0.041$ (1-tailed), so the higher the health score, the less often someone has consumed alcohol in the past year. There is also a *significant negative* association with arguing or fighting as a result of alcohol, so the more important the health score for someone, the less likely they are to argue or fight due to alcohol, $r_s = -0.108$, $p = 0.017$ (1-tailed).

Measuring alcohol consumption is always difficult because our results are based on self-reporting. It's likely that fewer people admit to consuming alcohol than actually do. The 2003 *per capita* net alcohol consumption data of the National Centre for Epidemiology Individual Questionnaire National Population Health Survey shows that it rose from 11.26 litres in 2001 to 11.27 litres in 2002, and 11.6 litres in 2003. The proportion of heavy drinkers among women is 2.5%, compared to 17.7% among men. Social support and being in a good financial position have a positive effect on alcohol consumption (National Centre for Epidemiology Individual Questionnaire National Population Health Survey, 2003). According to the World Health Organization, alcohol consumption is responsible for 3 million deaths worldwide each year. According to the 2019 European Health Interview Survey report, the number of heavy drinkers aged 15 years and older is 420,000, of which 9.3% are men and 1.5% are women (European Health Interview Survey, 2021b). One fifth of those surveyed in the 15–29 age group declared themselves abstinent. 8% of male respondents aged 15 to 29 years declared themselves heavy drinkers and 3% of women. The European Health Interview Survey 2019 report indicates that weekly binge drinking rates in the 15–29 age group are 5% for men and 1.9% for women. In the 30–44 age group, 9% of men and 1% of women binge drink. Among men aged 15 and over who drink at least weekly, beer was the most commonly consumed among. Women in all age groups preferred wine. Young women had the highest consumption of cider and short drinks. All data on alcohol consumption show that Hungary is above the EU average (Lampék et al., 2022).

Among our young adult respondents, Spearman's correlation did not suggest that a high health value had a positive effect on not drinking alcohol to improve mood, have fun or relax, since a significant positive association was found between health value and whether alcohol helped respondents have more fun $r_s = 0.113$, $p = 0.014$ (1-tailed), to have fun $r_s = 0.161$, $p = 0.001$ (1-tailed) or loosen up during a party $r_s = 0.116$, $p = 0.012$ (1-tailed). All this suggests that the higher the health score of the respondent, the more often they use alcohol to have fun or relax.

It should not be overlooked that, in addition to health, there can be many other values in one's life. Our results showed that the health as a result the lower their smoking and alcohol consumption. The importance of the holistic value did not positively influence some alcohol consumption. The results confirmed our hypothesis that the more important a respondent considers the maintenance of health to be, the lower the rates of smoking and alcohol consumption.

Conclusion

In general, our value system is a complex structure. Based on the national and international literature and our own experience, we believe that health education and the preference for preventive activities are important, as young adults are more

likely to do more to maintain their health when they have knowledge, and our study shows that health values are related to smoking and alcohol consumption habits. The role of value is vital in the interrelationships between people. There are in the individual's own life, as it also acts as an organizing medium.

Values have various functions; they mark a point of support, they can provide security, they are social psychological tools, and they are also constitutive elements of society. Meleg (2002) describes the use of the concept of health as being interpreted along territorial, settlement, social, and demographic dimensions. In principle, everyone has the right to physical and mental health. Providing university-age students with the right knowledge can be a way to emphasize the development of health-promoting attitudes, which is a worthwhile investment in terms of both health policy and the economy. Fundamentally, the primary goal of our society is to educate healthy youth, making the promotion of health in schools a key element. Knowledge gained at school is taken home and influences the development of family health. During adolescence, habits are established that are associated with adult morbidity. These habits include smoking, alcohol consumption, and the use of illicit substances. Health is one of the most important values that we can all contribute to developing and is a long-term investment.

According to our results, health as a value ranks high on the IRVS list of values. If the health value is high, then alcohol consumption and anti-smoking attitudes are also more positive. There is also an innovative aspect of research in that health as a value is associated with health attitudes. This is to demonstrate the need for value-based health promotion sessions. It is recommended that health promotion activities that have a lasting impact on the lifestyle of young people should be integrated into primary, secondary and tertiary education. School is one of the most important socialisation arenas where the value of health can be transmitted. The importance of health education or health promotion activities in university education should also be emphasised. In the future, our aim is to examine the effectiveness of existing health promotion activities within the educational system.

There are many ideas for further reflection on this study. We plan to continue this study in the future to assess the quality, depth, existence, and impact of health-related knowledge on health values, health status, and health behaviour. A particular aim is to establish the role and importance of values in the daily lives, health status, and health culture of the participants in a series of value-based sessions. The health promotion sessions would be implemented using methodologically rich tools, and the survey would be conducted at the beginning and end of the session to determine the role of each value.

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Ethical aspects and conflict of interest

The authors have no conflict of interest to declare.

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