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**Territorial differences in the health
awareness of students learning in sport
schools in Hungary**

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Karolina Eszter Kovacs¹ & Beata Erika Nagy²

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Proposal Information

In sport, healthy lifestyle and psychological well-being are indispensable factors for good performance. Generally, healthy lifestyle consists of more components: appropriate nutrition, regular physical activity, healthcare (prevention), and avoidance of risky behavior are determinant factors as well. Risk behavior includes regular alcohol consumption, smoking and substance use, lack of physical activity, regular sexuality (without protection), promiscuity, and aggressive behavior (fighting, bullying, and committing a crime; [Steinberg, 2008](#)). These risky types of behaviors are frequent in adolescence because children at this age think it is a kind of adults' behavior, which improves self-esteem and rises recognition among peers ([Müller, Juhász, Boda, Nagy, & Bíró, 2018](#)). In Hungary, the most common risk behaviors are smoking, alcohol consumption, and illegal substance use. Regarding the results of the HBSC 2014 study, the try-out rate of smoking is 5.6% in 5th grade, 21.6% in the 7th grade, 45.8% in the

¹ Faculty of Arts, Institute of Educational Studies and Cultural Management, University of Debrecen, Debrecen, Hungary, Email address: karolina92.kovacs@gmail.com, ORCID: 0000-0002-1186-7836

² Faculty of Medicine, Department of Pediatrics, University of Debrecen, Debrecen, Hungary, Email address: drbeatanagy@gmail.com, ORCID: 0000-0002-5019-5809

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9th grade, and 60.8% in the 11th grade (Inchley et al., 2016; Nemeth & Kolto, 2014). The try-out rate of alcohol consumption is 25.8% in the 5th grade, 48.6% in the 7th grade, 82.6% in the 9th grade, and 92.6% in the 11th grade (Inchley et al., 2016; Nemeth & Kolto, 2014). Furthermore, almost one fourth of the secondary school students have already tried out some kind of illegal substance. About 8.1% of students learning in the 9th grade and 10.1% of those belonging to the 11th grade have abusively consumed some kind of legal substance; 15.5% of students in the 9th grade and 24.9% of those learning in the 11th grade have tried out some kind of illegal substance; and 18.2% of 9th grade students and 28% of 11th grade students have tried out some kind of drug (Inchley et al., 2016; Nemeth & Kolto, 2014). However, sport participation protects against some health-risk behavior during adolescence, but not others (Taliaferro, Rienzo, & Donovan, 2010). High-school athletes are 25%–36% less likely to smoke than non-athletes but are more likely to consuming alcohol and binge drinking. Psychological well-being has been described as representing experiences of personal growth, mastery, and self-acceptance, which can be measured by such factors as self-esteem, positive and negative affect, vitality, depression, anxiety, and life satisfaction (Patrick, Knee, Canevello, & Lonsbary, 2007). Athletes reported greater well-being in heightened subjective vitality (Adie, Duda, & Ntoumanis, 2008); furthermore, the level of anxiety is lower, whereas the efficacy of coping is higher among athletes (Kovacs & Nagy, 2016).

The investigation of students learning in special sport schools is limited in Hungary; however, the new sport school system was introduced in 2012. According to this system, two main types can be separated namely educational sport schools and non-educational sport schools. The educational sport school subsystem contains sport schools at the elementary and secondary level and sport dormitories, whereas the associational sport school subsystem contains associational sport schools, municipal sport schools, recruitment centers, and sport academies (Lehmann, 2011). The sport school system is influenced by political factors (government, political parties, educational policy, etc.), economic factors (financing of educational sport schools and funding of non-educational sport schools, the decisions of the sport governments, etc.), social factors (the attitudes of the society, appropriate communication, territorial differences, etc.), and technological environmental factors (funding for the development and innovation of the institutions, marketing, and prioritizing the support of the adult athletes and teams instead of children and youth; Lehmann, 2011). Furthermore, the diversity of the educational sport school system in Europe and around the world makes it more difficult to investigate the Hungarian system in an international context. As researches related to health were not targeted students learning specifically in sport schools, the aim of the investigation is to fulfill the gap of this special research area.

Methods

The aim of the study was to investigate the territorial differences in health awareness of students learning in sport schools in Hungary; thus, the research question is whether any territorial differences in health behavior among sport school students can be detected. The sample consists of students learning at 9th, 10th, 11th, and 12th grades in sport schools (grammar or vocational schools) in the seven regions of Hungary and from Budapest, involving three institutions from each part. Thus, current investigation has 1,654 participants. The gender distribution is representative regarding the Hungarian population, 44.6% of the participants are male, whereas 55.4% of them are female. The mean age of the sample is 16.44 years ($SD = 1,122$). About 12.6% of the participants live in Budapest, 25.6% of them live in county seats, 10.1% of them in other big cities, 28.3% of them in small cities, 22.5% of them in villages, and 0.9% of them in farms. Regarding the territorial distribution, 10.1% of the students live in the North Hungarian Region, 16.4% of them in the North-Great-Plain, 11.5% of them in the South-Great-Plain, 10.9% of them in the South-Transdanubia Region, 17.7% of them in the Central Transdanubia Region, 6.7% of them in the Central Hungarian Region, 8.5% in the West-Transdanubia region, and 18.1% of them in Budapest. Regarding the methodology, adapted and non-adapted questionnaires and further questions were applied. Subjective health status ("How could you evaluate your health status?"), subjective physical fitness ("How could you evaluate your physical fitness?"), health awareness (Health Awareness Inventory; Nagy & Kovacs, 2017; Cronbach's $\alpha = .823$), coping flexibility (Coping Flexibility Scale; Kato, 2012, Cronbach's $\alpha = .810$), anxiety (Child Anxiety Life Interference Scale; Lyneham et al., 2013, Cronbach's $\alpha = .899$), well-being (WHO Wellbeing Inventory; Susanszky, Konkoly Thege, Stauder, & Kopp, 2006, Cronbach's $\alpha = .828$), and spiritual well-being (Spiritual Well-Being Scale; Cotton, Larkin, Hoopes, Cromer, & Rosenthal, 2005, Cronbach's $\alpha = .791$) were measured. Parents were informed and they gave their consent in accordance with research ethics. The questionnaire data were typed into Excel and then analyzed in SPSS for Windows, version 22 (IBM Corp., Armonk, NY, USA). For the analysis, one-way analysis of variance was applied regarding the normal distribution of the data.

Conclusions

Our analysis shows that significant territorial differences can be detected in almost all of the measured variables. The national average of the subjective health status is 3.9 points; students learning in Budapest report (4.4 points) the highest level, and those learning in the Central Hungarian Region (3.8 points) report the lowest level of subjective health status ($p < .001$). The average of the subjective physical fitness is 3.9 points; its highest level can be detected in Budapest (4.2 points), whereas its lowest level can be measured in the Central and North Hungarian Regions (3.6 points; $p = .001$). The average of the health awareness index is 127.3 points; its lowest value can be

measured in the Central Hungarian Region (119.5 points), whereas its highest level can be detected in the South Transdanubia Region (135.4 points; $p < .001$). Regarding anxiety, the national average is 8.7 points and the territorial differences are significant ($p < .001$): it is the lowest in the Central Transdanubia (7.4 points), whereas it is the highest in the Central Hungarian Region (12.2 points). The national average of the subjective well-being is 9.1 points; the highest level can be detected in the Central Transdanubia Region and the lowest in North and South Great Plains ($p < .001$). Furthermore, significant territorial differences could be detected regarding spiritual well-being as well ($p < .001$). Its national average is 37.4 points; the highest value can be measured in Budapest, whereas the lowest level can be explored in the Central Transdanubia Region. Regarding coping flexibility, no significant differences were found ($p = .286$). Its mean was 17.8 points; students learning in the Central Hungarian Region reported the lowest level and those learning in the South Transdanubia Region reported the highest level of coping flexibility. Our results draw the attention to the territorial differences of health awareness as it can be crucial regarding the academic and sport achievements of students learning in sport schools as well.

Keywords: health behavior, coping, well-being, sport schools

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