ERUDITIO – EDUCATIO 2025/3 (20. vol.)
Tanulmányok / Studies 12-20

The relationship between the health-centred working environment of school health services and students' health behaviour

Ilona Karácsony – Mónika Ferenczy

Abstract
For students in full-time secondary education, school health services provide an ongoing preventive service with a major role in promoting health-preserving pathways. Our research aimed to assess the orientation of information materials in the school health services environment and their relationship with students' health, risk behaviours and subjective health perceptions. A cross-sectional, quantitative research was conducted in Western Transdanubia using convenience sampling among students attending full-time secondary school education (n=448). Our data, collected with standardised (SF 36, HBSC - health behaviour, ESPAD - risk behaviour) and self-designed questionnaires, were analysed with SPSS Statistics 26 using Chi-square test and t-test ($p<0.05$). The results of the research showed that compared to the normal mean health status of the healthy population under 18, the overall health perception of the students was almost the same, but the vitality and mental health levels were lower. Further, 14.54% of students perceived the information materials in the school health services workroom and waiting room environment as health-centred, which reduced the lifetime prevalence of smoking ($p<0.05$) and had a positive effect on the quality of physical activity ($p<0.05$), while the lifetime and monthly prevalence of alcohol consumption, monthly frequency of smoking, amount of physical activity, quality and regularity of diet ($p>0.05$) were not affected. A health-oriented environment was associated with higher health status indicators (vitality, general health perception $p<0.05$). Our research results demonstrated the strong role of the orientation of health-promoting work environment and the impact of the hidden messages it sends. The choice of posters and leaflets to be placed in the workrooms and waiting rooms of school health service facilities will also require special attention in the future, which should focus on health promotion and health preservation.
Keywords: health-promoting work environment; health behaviours; subjective health perceptions; students
Subject-Affiliation in New CEEOL: Social Sciences – Education – School Education
DOI: 10.36007/eruedu.2025.3.012-020

Introduction, objective

Based on health indicators, we have a significant disadvantage in terms of morbidity and mortality that can be avoided with health service and prevented by public health interventions. Regarding on the data of Hungarian Health Report prepared

Copyright © ERUDITIO – EDUCATIO

in 2016, every fourth (26%) death could have been prevented by an appropriate public health intervention (Varsányi et al. 2017).

Health losses can be attributed to the environment surrounding the individual and 80% to the risks associated with behavior (Vitrai et al. 2015; Németh et al. 2016; Bauer et al. 2017; Varsányi et al. 2017). Public health interventions to prevent deaths also include measures to change lifestyles, improve the socio-economic situation as well as measures to improve the environment, where the health service system and public education institutions have and can have decisive tasks.

School is an extremely important area of influencing health behavior and increasing health gains, with the family as the primary socialization area. The school has a direct relationship with nearly one hundred percent of young people aged 6–16 (including the age of compulsory schooling). Students spend at least six to eight hours a day at different levels of educational institutions during the most sensitive period of their somatic, mental, emotional, cognitive, and social development. Schools play a significant role in shaping health-related values and shaping patterns that affect lifelong health (Hideg 2020.a; Hideg 2020.b).

Based on the results of the "School Healthy Lifestyle Research and Survey" conducted in 2015 in Hungarian schools by interviewing school principals (n = 535), teachers (n = 569) and school health professionals (n = 400), respondents considered the development of health culture to be a multi-stakeholder task as a joint activity of school, health services staff and family. From the school side, 88% of teachers and 87% of school leaders attributed an important role to school health service in school health development (Járomi et al. 2016). For students in secondary full-time school education, school health service provides a continuous preventive service that has significant responsibilities in facilitating and supporting the choice of health-preserving pathways.

Our research aimed to assess the orientation of information-bearing materials placed in the environment of school health services, and its relation to students' health, risk behavior and subjective sense of health.

Test methodology

We conducted quantitative cross-sectional research in public education institutions with full-time secondary education in Western Transdanubia. Sampling was carried out by a single convenience sample within the target group (Pakai et al., 2013; Petőné Csima, 2013; Karamánné Pakai et al., 2015; Boncz, 2015.). In 5 grammar schools, we had the opportunity to reach out to 18 classes and analyze the responses of 448 students. We informed the directors of the selected school district centers about the research, and we also asked for the permission of the selected school directors to carry out the survey. We informed the parents of the students concerned in writing about the research and asked for the passive consent of the parents. The questionnaire was voluntary for students and was done anonymously, which did not contain any information to identify the students. After the data has been processed, the results obtained will be published only in aggregate form.

The measure used for our research included questions on general health, vitality, and mental health from the SF-36 health-related quality of life standardized questionnaire on health status (Fábián 2014). Health Behavior – Risk Behavior was studied using the questions of the HBSC (Health Behavior in School-aged Children) research tool on dietary habits and physical activity (Németh et al. 2016) and ESPAD (European School Survey Project on Alcohol and Other Drugs) was implemented with the items of the questionnaire aimed at examining smoking and alcohol consumption habits (Elekes 2016.). Demographic and sociological data were measured using 7 questions. Our self-edited questions focused on surveying the school health service environment. Questionnaires were recorded manually using Microsoft Excel 2016. Statistical processing was implemented with SPSS software package version 26.0. In addition to descriptive statistics tests, we also used mathematical (chi-square test and t-test) statistical methods to analyze our data ($p<0.05$). Frequency and average values were presented using frequency and average confidence intervals.

Results

The average age of the respondents was 16.87 years (SD: 0.82), 2/3 was female (67.79%), more than half lived in cities (county seat 31.46%, city 27.46%). Most of the sample (69.87%) lived in a complete family.

An important element of dietary habits is the frequency of main meals, of which we studied the regularity of breakfast meals, while the quality was studied with the daily consumption frequency of two types of food, which are appropriate indicators of healthy eating (Németh et al., 2016). Nearly half of the students (48.88%) had breakfast regularly every day on weekdays, while 1/4 completely skipped this meal (27.73%). At weekends, this eating habit was more favourable, with 3/4 (72.1%) of those surveyed having breakfast on Both Saturdays and Sundays, but 12.72% of students still did not eat breakfast. Regarding the quality of nutrition, the consumption of vegetables and fruits was realized with almost the same frequency, the proportion of daily and weekly consumers was approximately 40% -40%. The appearance of empty calories in the diet was achieved on a daily basis in 20% of the respondents.

The World Health Organization recommends that 5 to 17 year olds should exercise at least 60 minutes of moderate intensity per day, but should be at least three times a week of vigorous intensity movement, which strengthens muscles and bones (World Health Organization, 2010). According to WHO recommendation, the amount of appropriate physical activity was 60 minutes per day, and the classification into school categories was based on the classification of the Health Behavior of School-Age Children (almost sufficient if at least 5-6 days per week, few if 3-4 days, and very few if 60 minutes of physical activity was achieved on 2 days or less). Examining the amount of movement, every second student moved with the appropriate frequency or nearly enough amount.

Among the risk behaviors, we examined the prevalence of smoking and alcohol

consumption habits, and measured their frequency in relation to life so far and the previous month. The lifetime prevalence of smoking was nearly 50%, the monthly prevalence was half that, for alcohol consumption the lifetime prevalence was close to 100%, and the monthly prevalence figure was almost 80%.

Compared to the representative research results in Hungary, our own data were almost identical in terms of nutrition and movement indicators. In our survey, some elements of risk behaviour yielded higher frequency data; there was a higher proportion of regular smokers among the students surveyed, and the monthly prevalence of alcohol consumption was also higher.

The health status of students was surveyed using the standardized measuring device SF-36. The general sense of health was assessed by transformed scale values calculated from the aggregate scores of 5 questions, vitality and mental health 4 – 4 questions (Ware et al. 1993).

Studied in our sample, the overall sense of health is M: 74.94 (SD: 17.31), mental health M: 68.33 (SD: 19.06) and the average vitality is 50.47 (SD: 20.59). The normal average value of healthy population under the age of 18 in Hungary, published by Czimbalmos et al. in 1999, was 79–79 (Czimbalmos et al. 1999), which was much lower for the students in our current sample. But based on the 2014 HBSC national survey, it has been shown that compared to the 2002, 2006 and 2010 surveys, the results of the mental health of young school-age people are on a significantly decreasing trend (Németh et al., 2016). Based on the results, it can be seen that the subjective indicator of general health did not deviate significantly from the national average. Based on the results, it can be seen that the subjective indicator of general health did not deviate significantly from the national average. In parallel with mental health, vitality standards were also lower. The overall health level assessed by the SF 36 questionnaire did not differ significantly from the average of students of similar age groups in Hungary.

The examination of the environment of the school-health services workroom and waiting room was aimed at assessing the risk-oriented and/or health-oriented orientation of the posters, leaflets and information materials therein; 2 item more typically salutogenetic 3 item indicated risk factors. Further, 8.95% of respondents cited information-bearing posters and other printed warning materials in school health service premises as entirely aimed at avoiding and reducing diseases, compared to 14.54% who described it as health-oriented.

We assumed that the immediate environment of school health services could affect the general health and health behaviour of the students. The average of the self-reported health status indicators of the students in terms of assessing the health-promoting or risk-warning effect of the work environment of school health workers, tested by t-test, proved a significant difference, vitality ($t(445) = -0.1899$, $p = 0.047$), for general health ($t(445) = -3.969$, $p < 0.001$), except for mental health ($t(445) = -0.1421$, $p = 0.156$), where there was no significant difference between the means of the variables. The average values measured in each area are presented precisely in Figure 1, from which a significant difference is highlighted: in case of a risk-warning assessment of the workrooms of primary health services professionals and the waiting room, the average general health sensation

measured on the basis of students' self-declaration is 70.31, while the average values of the health-focused environment are significantly higher than the average values for the assessment of subjective health status 77.15 (Figure 1).

Figure 1. Examination of the correlation between self-rated health indicators and the direction of the work environment of school health services (n = 447) (own editing)

When examining the working environment of the school health services, we considered it important to explore which elements of health behavior it is associated with. The results of the examined variables can be presented on a nominal scale, so we used a mathematical statistical test, a chi-square test, for categorical variables to answer our research question. After examining the correlation with the Chi-square test, based on our results, it seems that the material environment has no effect on the alcohol consumption habits and regular smoking ($p > 0.05$), in contrast to the appearance of smoking ($p<0.05$). Among the assessed health-protective behaviors, the quality and frequency of nutrition and the weekly exercise time measured in days were not related to the messages suggested by the health and risk warning environment ($p > 0.05$), but the exercise in the leisure category co-occurrence was detected ($p<0.05$) (Tables I-II).

school health service workroom, waiting room environment assessment		
smoking (n=447)	lifetime prevalence	khi distribution 8,22 p=0,042 *
	monthly prevalence	khi distribution 3,00 p=0,223
	regular consumption	khi distribution 2,98 p=0,057
alcohol (n=447)	lifetime prevalence	khi distribution 6,7 p=0,082
	monthly prevalence	khi distribution 5,51 p=0,137

Table I. Assessment of the orientation of school health services environment and the results of the examination of the correlation between students' smoking and alcohol consumption habits with the chi-square test (n = 447) (own editing)

school health service workroom, waiting room environment assessment		
quality of nutrition (n=447)	vitamin, fiber intake	khi distribution 2,98 p=0,224
	empty calories intake	khi distribution 1,83 p=0,399

regularity of nutrition (n=447)	regularity of breakfast on weekdays	khi distribution 2,56 p=0,464
	regularity of breakfast at weekend	khi distribution 5,02 p=0,081
movement	amount (n=417)	khi distribution 6,71 p=0,348
	quality (n=447)	khi distribution 16,408 p=0,006*

Table II. Assessment of the orientation of school health services environment and results of the examination of correlation between the eating and movement habits of the students with chi-square test (own editing)

The effect of the material environment on health behaviour is further explained in the two areas where a significant relationship between the variables examined was detected. In case of an environment assessment by the school health service, which prioritised health risks, the lower duration of weekly movement was more dominant. Among those who did not move anything outside physical education classes in a salutogenic-oriented environment, this affected 6.6% of those surveyed, compared with 15.86% of those who identified a school-health material atmosphere with a focus on risk. More than four hours of exercise per week in leisure time was more typically seen in the assessment of the environment aimed at protecting health, with 16.55% of respondents detecting a hazard warning environment and 23.17% of those who opted for a health-oriented material milio moving 4-6 hours a week. The proportion of those who spend more than 7 hours a week on sports is 13.79% / 23.17% - examining the risk / health-oriented environment. Based on the responses obtained, it can be seen that the more typical occurrence of environmental factors, known substances and posters warning of healthy lifestyles was related to exercise more than 4 hours a week in leisure time. As a conclusion, in the school-health environment, well-chosen information carriers can encourage more movement in leisure time, so it is advisable to focus specifically on this area.

In terms of smoking attempts, smoking on cigarettes nine or fewer times was more prevalent in a school-based environment that promotes a healthy lifestyle, but smoking more than ten cigarettes and lifetime smoking were more common in the health milieu. Based on the results, regular nicotine consumption is higher in the risk-focused physical atmosphere. On the other hand, it can be seen from the lifetime prevalence data of smoking that the appearance of a health-oriented environment predominated in case of cigarettes smoked less than 9 strands during life, which in turn may play a role in the reduction of future monthly prevalence data (Figure 2). The information materials in the environment have had an impact on the control of smoking behaviour, but it is particularly important what messages we send in the environment around us: which focuses on the dangers or prefers the behaviour that chooses health.

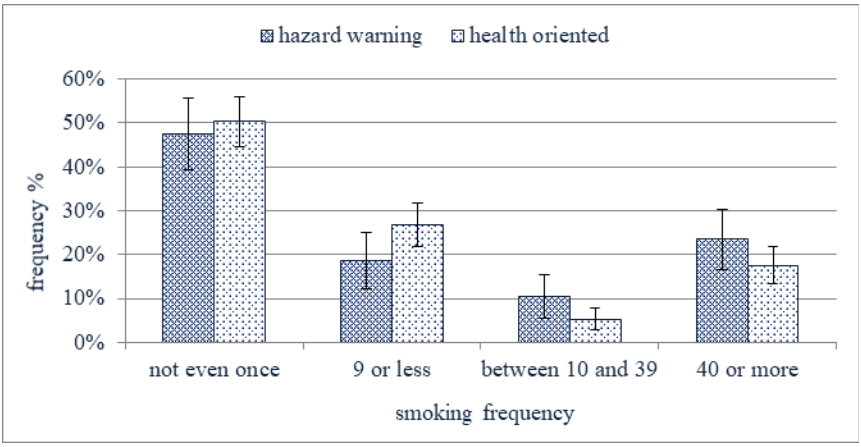

Figure 2. Investigation of relationship between the appearance of smoking in the lives of young people and the assessment of material environment of the school health services (n = 447) (own editing)

Summary, conclusions

Schools play an important role in prevention and in shaping health-related values (Karácsony et al. 2015). The impact and effectiveness of the health content mediated during school health education is realized through manifest and latent mechanisms (Petőné Csima et al. 2010). The complex, long-term process of health promotion in schools focuses on health forces and encourages actions to promote the choice of health, which are necessary to appear in the everyday life of the school, both openly and metaphorically outside the classroom (Petőné Csima 2011). The members of the school health team, both the school doctor and the school nurse, have a special role to do in improving the health of the students. The health-focused environment of the school health services was accompanied by more favourable health status indicators, significantly higher average values could be measured in the field of general health and vitality. The impact of information-bearing posters and leaflets in the work room and waiting room of the health services system had a demonstrable effect on the value of smoking prevalence and on the quality of movement in leisure time. The health-oriented environment was associated with more time spent on exercise and a lower frequency of smoking habits. Our research results have proven the important role of the orientation of the working environment supporting health, and impact of the hidden messages it sends as well. The foundations of long-term health can be strengthened in childhood, it would be very important to mitigate and stop unfavorable health behavior trends, and to strengthen and increase the favorable ones (Karácsony & Benkő 2020). A positive change in health status can be expected primarily from the shift in health behaviour in a protective direction, and one element of this can be health-oriented information materials placed in the surrounding environment. School years have a significant

impact on health behaviors and will determine adult health status. Positive effects can be a protective factor for health, while negative experiences can be a risk (Karácsony & Máté-Póhr 2020). The choice of posters and leaflets placed in the work room and waiting room of school health services requires special attention in the future, which should focus on the development and preservation of health.

Bibliography

Bauer, Béla – Pillók, Péter – Ruff, Tamás – Szabó, Andrea – Szanyi, F. Eleónora – Székely, Levente (2017): *Magyar Ifjúság Kutatás 2016. Az ifjúság kutatás első eredményei, ezek a mai magyar fiatalok!* Budapest: Új Nemzedék Központ Nonprofit Kft.

Boncz, Imre (2015): *Kutatásmódszertani alapismeretek*. Pécs: Pécsi Tudományegyetem Egészségtudományi Kar.

Czimbalmos, Ágnes – Nagy, Zsolt – Varga, Zoltán & Husztik, Péter (1999): Páciens megelégedettségi vizsgálat. *Népegészségügy*, 80.(1.), 4–19.

Elekes, Zsuzsanna (2016): *Európai iskolavizsgálat az alkohol- és egyéb drogfogyasztási szokásokról – 2015 Magyarországi eredmények*. Budapest: Budapesti Corvinus Egyetem Társadalomtudományi és Nemzetközi Kapcsolatok Kar Szociológia és Társadalompolitika Intézet.

Fábián, Gábor (2014): *Alkalmazott kutatásmódszertan*. Download date: 2024.11.15. https://www.tankonyvtar.hu/hu/tartalom/tamop412A/2010_0020_alkalmazott_magyar/12_standardizlt_krdvek_az_egszsgi_llapot_mrsre.html: Debreceni Egyetem Egészségügyi Kar.

Hideg, Gabriella (2020a): *A fair play múltja, jelene és értéke.* Budapest: Fakultás Kiadó.

Hideg, Gabriella (2020b): Általános iskolások és egyetemisták példaképválasztásának változásai. In Kozma, Tamás; Juhász, Erika & Tóth, Péter: *Tanulás és innováció a digitális korban* (62.). Budapest: Magyar Nevelés- és Oktatáskutatók Egyesülete (HERA).

Járomi, Éva – Szilágyi, Kristóf & Vitrai, József (2016): Egészséges életmóddal kapcsolatos kutatások a hazai iskolákban. *Egészségfejlesztés*, 57.(1.), 1–39.

Karamánné Pakai, Annamária & Oláh, András (2015): A theoretical overview of scientific research. In Ács, Pongrác *Data analysis in practice.* (11-34.). Pécs: University of Pécs, Faculty of Health Science.

Karácsony, Ilona & Benkő, Brigitta (2020): Pszichoszociális erőforrások (Antonovsky salutogenetikus modellje alapján) és a szabadidőben végzett testmozgás kapcsolatának vizsgálata 16-18 éves fiatalok körében. In Varga, Zoltán; Komáromy, Márk & Csákvári Tímea, *III. Zalaegerszegi Egészségturizmus Konferencia Tanulmánykötet*. Zalaegerszeg. 72–81.

Karácsony, Ilona & Máté-Póhr, Kitti (2020): Az iskola pszichoszociális komponenseinek és a rizikómagatartás - egészségmagatartás összefüggésének vizsgálata gimnáziumi tanulók körében. In Józsa, Krisztián: *Neveléstudomány- válaszlehetőségek az új évezred kihívásaira*. Gödöllő: Szent István Egyetem.

Karácsony, Ilona – Nemes, Anna & Harjánné Brantmüller, Éva (2015): Netfogyasztási szokások veszélye középiskolás fokon. In Nagyházi, Bernadett *Nevelés és tudomány, neveléstudomány a 21. században. Tanulmánykötet*. Kaposvár: Kaposvári Egyetem Pedagógiai Kar, Nyugat-magyarországi Egyetem Benedek Elek Pedagógiai Kar, 308–321.

Németh, Ágens & Költő, András (2016): *Egészség és egészségmagatartás iskoláskorban 2014*. Az Iskoláskorú gyermekek egészségmagatartása elnevezésű, az Egészségügyi Világszervezettel együttműködésben megvalósuló nemzetközi kutatás 2014. évi felméréséről készült nemzeti jelentés. Budapest: NEFI.

Pakai, Annamária; Kívés, Zsuzsanna (2013): Kutatásról ápolóknak. Mintavétel és adatgyűjtési módszerek az egészségtudományi kutatásokban. *Nővér*, 26.(3.), 20–43.

Petőné Csima, Melinda (2013): Kvalitatív kutatási módszerek alkalmazásának szerepe a serdülőkorúak egészségmagatartás vizsgálatában. In Karlovitz, János Tibor & Torgyik, Judit *Oktatás, kutatás és módszertan*. Komárno: International Research Institute s.r.o., 149–154.

Petőné Csima, Melinda (2011): A szubjektív életminőség és az egészségmagatartás vizsgálata középiskolások körében. In Barkóczy, László & Hajdicsné Varga, Katalin *Nevelés és társadalom: Hagyomány és megújulás*. Kaposvár: Kaposvári Egyetem Pedagógiai Kar, 241–253.

Petőné Csima, Melinda & Harjánné Brantmüller, Éva (2010): Az iskolai egészségnevelés szerepe a leendő életminőség formálásában. *Magyar Tudomány Hete a Dunaújvárosi Főiskolán. Határok nélküli tudomány. Kihívások és lehetőségek a tudományterületek határán*. Dunaújváros. 6–12.

Varsányi, Péter Péter & Vitrai, József (2017): *Egészségjelentés 2016.* Információk a népegészségügyi beavatkozások célterületeinek azonosításához a nem fertőző betegségek és az egészségmagatartási mutatók elemzése alapján. Budapest: Nemzeti Egészségfejlesztési Intézet.

Vitrai, József & Varsányi, Péter (2015): *Egészségjelentés 2015*. Információk a hazai egészségveszteségek csökkentéséhez. Budapest: Nemzeti Egészségfejlesztési Intézet.

Ware, John E; Snow, Kristin; Kosinski, Mark & Gandek, Barabara (1993): *SF-36 Health Survey Manual and Interpretation Guide*. Boston: The Health Institute; Boston, MAB.

World Health Organization (2010): *Global Recommendations on Physical Activity for Health*. Switzerland: World Health Organization.