

Health Behaviour among High School Students

Investigating the Relationship between Psychosocial Components of School and Risk Behaviour

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Abstract

Propose: the aim of our research was to assess the psychosocial resources of the school and their indirect impact on health risk factors (smoking, alcohol consumption) and protective factors (nutrition, physical activity).

Methods: We conducted a quantitative, cross-sectional study in Western Transdanubia using convenience sampling among high school students ($n=448$). Data collected with a self-designed and standardized questionnaire (ESPAD – Risk Behaviour HBSC Health Behaviour and School Resources) were analysed with SPSS Statistics 22. Relationships between variables were tested using Spearman correlation analysis ($p<0.01$ / $p<0.05$).

Result: our results show that elements of both preventive and risk behaviours were interrelated, and risk factors pushed the implementation of protective factors into the background. The majority of students (3/4) liked their school, but 2/5 felt that their school work was quite or very overwhelming. A favourable perception of the school atmosphere was associated with higher levels of preventive behaviours (fruit and vegetable consumption) ($p<0.01$) and low levels of risk factors (consumption of empty calories) ($p<0.01$). The monthly prevalence of smoking was correlated with all the school psychosocial factors previously mentioned ($p<0.01$).

Conclusion: The combination of risky behaviour and the psychosocial components of the school calls attention to the need to improve the school atmosphere and strengthen peer support within the school.

Keywords: school; psychosocial resources; health behaviour; risk behaviour

Subject-Affiliation in New CEEOL: Social Sciences – Psychology – Social psychology and group interaction

DOI: 10.36007/eruedu.2022.2.079-088

Introduction, objectives

Compulsory education also creates opportunities for all children to achieve in terms of shaping and developing their health. Children spend a large part of their everyday lives at school, away from the family environment, which may mediate a nega-

tive pattern. School-age children, and adolescents, in particular, face many challenges and associated difficulties, including the demands of increasing learning, changing relationships with family and peers, and the physical, mental, cognitive and emotional changes associated with maturation. Expectations of schools have increased both from families and the state. In addition to the educational function, the role of education, personal development and socialisation has been strengthened. "Because of its precise rules, schools play a role in guiding and shaping behaviour. It transmits, practices and/or sanctions rules, norms and values, which are formed into mentalities as behavioural routines, life habits and patterns" (Meleg 2013, p. 214). In addition to increasing health literacy, schools can use a variety of tools to shape protective factors of health behaviour, e.g., health-promoting rules, house rules; cleanliness and hygiene of the school environment; availability of prevention-focused health care; strengthening community development; the attitude of school staff towards their health, health behaviour can send messages to students and become a model (hidden curricular opportunities), both directly and indirectly (Aszmann 2005). The hidden curriculum can both strengthen and weaken conscious pedagogical interactions (Szabó 1988). Positive school experiences can be protective of health, while negative experiences can be a risk (Somhegyi 2016). The results of Vieno and colleagues' research among adolescents also confirm that the school atmosphere has an impact on students' motivation, school satisfaction level, lifestyle and health (Vieno, et al., 2005). Belonging to school, good student-teacher relationships and a perceived inclusive school atmosphere are associated with better mental health (Riekie, et al., 2018; Long, et al., 2021). Research also suggests that school can have a positive impact on students' health, with students who do better in school having higher life satisfaction, fewer subjective health complaints and lower levels of health risk behaviours such as smoking, alcohol and drug use (Márványkövi, et al., 2013; Németh 2016; Donato, et al., 2021; Peeters, et al., 2021). Data from the European School Survey on alcohol and other drug use among young people showed a significant decrease in the study average. At the same time, the rate of absenteeism increased significantly in the context of substance use (Elekes 2016). Students who are reluctant to attend school fall behind, and dropouts are more likely to have mental health problems. The subjective opinion of the professionals interviewed in the Healthy Lifestyles in Schools survey in Hungarian public education institutions is also in line with the results of the above-mentioned surveys, which show that good health has a positive impact on students' academic performance, stress tolerance and is associated with lower absenteeism. The views of the teachers and school health workers interviewed in the survey suggest that the attitude of school-age students towards learning is directly related to their health. Half of the professionals found that students with better health indicators are also more disciplined in lessons (Járomi, et al., 2016). Decision-making during the school years significantly influences health behaviour and will determine health in adulthood. The aim of our research was to assess the psychosocial resources of schools and their indirect impact on health risk (smoking, alcohol consumption) and protective (nutrition, physical activity) factors.

Methods

Our quantitative, cross-sectional research was conducted in full-time secondary schools in Western Transdanubia. Sampling was carried out using a single, non-probability, convenience sample within the target group (Pakai, Kívés 2013; Karamánné Pakai, Oláh, 2015). In 5 grammar schools, we had the opportunity to address 18 classes, and we were able to analyze the responses of 448 students. The directors of the selected school district centres were informed about the research, and the permission of the selected school principals was requested to carry out the data collection. The parents of the students concerned were informed of the research in writing, and their consent was requested. Completion of the questionnaire was voluntary, anonymous and did not contain any information that would allow the students to be identified. After processing the data, the results are published in aggregate form only. The health behaviour and psychosocial resources of the school were assessed using the questions on dietary habits and physical activity of the HBSC (Health Behaviour in School-aged Children) research instrument (Németh 2016) and the items on smoking and alcohol consumption habits of the ESPAD (European School Survey Project on Alcohol and other Drugs) questionnaire (Elekes 2016). Demographic and sociological data were measured using 7 questions. The questionnaires were recorded manually using Microsoft Excel 2010. Statistical processing was carried out using SPSS software package version 22.0. In addition to descriptive statistics tests, a mathematical (Spearman correlation) statistical method ($p < 0.05$) was used to analyse our data.

Results

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

Health-related behaviours include preventive health behaviours, health maintenance behaviours and health promotion behaviours, of which nutrition and physical activity were examined in the present study. The other aspect of health behaviour is risk behaviour, of which smoking, alcohol and drug use are most often associated with adolescence, and we measured the prevalence of the first two in the survey. An important element of eating habits is the frequency of main meals, of which we studied the regularity of breakfast, while its quality was examined by the frequency of daily consumption of two food groups, which are appropriate indicators of a healthy diet. According to the responses of the high school students, regular breakfast consumption was found to be half of the sample on weekdays and 3/4 on weekends, while the proportion of students who did not eat breakfast was 27.73% on weekdays and slightly more than 10% on weekends. 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 presence of empty calories (sweets, sugary soft drinks)

in the diet was less frequent than weekly for almost 20% of the respondents, but daily for 20%. Half of the students did not consume energy drinks at all, but 5.46% consumed them daily.

Regular physical activity plays a very important role in maintaining physical and mental health, and adequate quality and quantity of physical activity are also necessary to achieve positive health outcomes. The World Health Organization recommends that 5-17-year-olds should have at least 60 minutes of moderate-intensity physical activity per day, but also at least three vigorous-intensity activities per week (World Health Organization, 2010). We considered 60 minutes of physical activity per day to be an adequate amount based on the WHO recommendation and used the School-age Children's Health Behaviour Survey's classification of physical activity (nearly sufficient if at least 5 to 6 days per week, insufficient if three to four days per week, and very little if two days or less of 60 minutes of physical activity per week) to further categorise physical activity.

In terms of the quality of physical activity, at least 3 hours per week of physical activity that made the young person sweat was considered adequate, which was the case for 68.53% of the sample, but 9.6% did not do any intense physical activity at all.

Among the risk behaviours, we looked at the prevalence of smoking and alcohol consumption habits, measuring their prevalence over the past lifetime and the previous month. According to our research data, 50.67% of young people have smoked in their lifetime, the first cigarette smoked at an average age of 14.2. 22.32% of the respondents had smoked in the last 30 days, and 16.29% of young people had smoked regularly from the age of 15.28 years on average. Regular daily smoking started more than a year later than the first cigarette smoked by the students. Almost all (95.76%) of the high school students surveyed had consumed at least one glass of alcoholic beverage in their lives, and the consumption was almost equal for each beverage type, between 13 and 14 years (beer M: 13.32, wine M: 13.76, alcoholic beverage M: 13.56, spirits M: 14.4). One in ten students (10.04%) had not consumed alcohol in the last 12 months and two in ten (19.87%) in the last 30 days. During the last 30 days, the consumption of each type of beverage (beer, wine, soft drinks containing alcohol, spirits) was almost the same, but most drank 39.73% once or twice and 20.54% three or five times. Almost 2/3 of the respondents (62.11%) were drunk at least 40 times or more (36.46%), with an average age of 14.86 years.

It is known from national and international research data that the different health behaviours are interrelated and exhibit a consistent lifestyle, they are not independent of each other, there is a strong link between smoking, alcohol and drug use, and risk behaviours are generally associated with a decline in preventive health behaviours. Elements of health-conscious behaviour are also often associated: people who pay attention to their diet also exercise regularly (Pikó, 2003; Camenga et al., 2006; Németh et al., 2016). Our data analysis also investigated the relationship between individual health behaviour items using Spearman's rank correlation calculations. The risk behaviour forms, both of the lifetime ($r=0.413$ $p<0.001$) and monthly ($r=0.262$ $p<0.001$) prevalence values of smoking and alcohol con-

sumption were also correlated with each other, and the negative manifestation of diet quality was also associated with the consumption of so-called empty calories (lifetime prevalence smoking $r=0.232$ $p<0.01$, alcohol $r=0.102$ $p<0.01$) (monthly prevalence smoking $r=0.252$ $p<0.01$, alcohol $r=0.205$ $p<0.01$).

It was also observed that the presence of sweets and soft drinks in the diet was correlated with the amount of physical activity ($r= -0.112$ $p<0.05$) and the frequency of eating breakfast during the week ($r= -0.120$ $p<0.05$), but a weak negative relationship was found. The coherence of preventive health behaviours was also examined, as before, using Spearman's rank correlation calculations. The results confirm the relationship between the lifestyle factors, with a strong correlation between the quality and quantity of physical activity ($r=0.476$ $p<0.01$). There was also evidence of a relationship between regular breakfast consumption during the week and the regularity of breakfast at the weekend ($r=0.110$ $p<0.05$) and between regular breakfast consumption during the week and the quantity of physical activity ($r=0.242$ $p<0.01$) and the quality of physical activity ($r=0.107$ $p<0.05$). The quality of diet was correlated with the amount of physical activity ($r=0.228$ $p<0.01$) and the quality of physical activity ($r=0.225$ $p<0.01$), there was a weak but strong relationship demonstrated between all variables.

In children's everyday lives, school is a very important socialisation arena, a source of health, and plays a key role in shaping and developing students' lifestyles. The questions on the role of the school as a general resource were adapted from the HBSC survey instrument, and focused on attitudes towards school, perceptions of school workload, and perceived peer support (teachers, class community). We used a four-point Likert-type scale to measure students' feelings about their school. Three-quarters of the high school students reported positive attitudes towards their school (29.31% like it a lot, 42.06% like it a little), but 19.91% answered "not very much" and 8.72% "not at all" in terms of feelings about their educational institution. The results of the HBSC survey were almost identical to the results of the survey in all the categories studied (Németh, et al., 2016). 17% of the students surveyed felt that the tasks given by the public education institution were not at all overwhelming, 40.49% a little, 36.47% quite overwhelming, and 6.04% very overwhelming. The results of a survey of health attitudes of school-age students in the home country showed a significantly more positive picture than my data in terms of responses in the category of feeling quite overwhelmed (20.8%), in terms of opinions about the burden of school. In our sample, slightly more than 16% felt that school tasks were quite overwhelming. In the HBSC research data on baccalaureate courses, nearly the same proportion (6.3% vs. 6.04%) as in my research reported feeling very overwhelmed by schoolwork. In the national results, 20.8% of students felt not at all overwhelmed by the school burden, while 52.2% felt only a little overwhelmed (Németh, et al., 2016). Peer support at school was measured using a 5-point Likert scale with 3-3 questions for teachers and classmates. Results were assessed by the total score on the scale, a higher score indicating higher peer support. The HBSC research data show that peer support for school decreases with the number of grades in the school, both for teachers and classmates, and is lowest in the school with the highest number of graduates (the

average score for teacher peer support is 10.1 and the average score for classmate support, 10.7) (Németh 2016). Our own research results showed almost the same level of school peer support as the HBSC survey data; the mean score for class peer support perception was 10.51 (SD: 2.78 max: 15 min: 3), while the mean score for teacher support perception was $M = 9.41$ (SD: 2.9 max: 15 min: 3).

Higher levels of attitude towards school ($r=0.176$, $p<0.01$) and higher peer support from teachers ($r=0.156$, $p=0.001$) had a positive effect on fruit and vegetable consumption. In contrast, increasing school workload promoted the consumption of empty calories ($r=0.173$, $p<0.01$), but was no longer associated with the quantity of food ($r = -0.018$, $p=0.740$) and physical activity ($r=0,004$, $p=0,931$) and quality ($r=0,014$, $p=0,774$). The feeling of being overwhelmed by schoolwork was not correlated with the quantitative ($r=0.032$, $p=0.561$) and qualitative ($r=0.044$, $p=0.375$) indexes of nutrition, the frequency of fruit and vegetable consumption ($r=0.067$, $p=0.159$), but it did increase the daily consumption of empty calories ($r=0.122$, $p=0.010$). The results of the relationship between teacher and classmate peer support in relation to students' health and risk behaviours are shown in Table 1, where it is also worth noting that increasing teacher peer support was associated with higher levels of physical activity.

Table 1. Spearman correlation matrix results for the relationship between peer support at school and the nutrition and physical activity indicators

	Correlation coefficient and p value				
	Quantity of nutrition n=446	Quality of nutrition		Physical activity n=446	Quality of activity n=446
		Consumption of empty calories n=447	Consumption of fruit-vegetables n=446		
Teacher social support	$r=0,007$ $p=0,904$	$r = - 0,065$ $p=0,169$	$r=0,156^{**}$ $p=0,001$	$r=0,126^{**}$ $p=0,007$	$r=0,084$ $p=0,078$
Classroom social support	$r=0,005$ $p=0,924$	$r=0,121^*$ $p=0,011$	$r=0,013$ $p=0,778$	$r=0,076$ $p=0,111$	$r=0,062$ $p=0,203$

* $p<0,05$ ** $p<0,01$ own editing

The lifetime prevalence of smoking showed no relationship with the psychosocial factors of school, but the monthly prevalence values already showed a negative correlation with attitudes towards school, a positive correlation with the supportive role of both teachers and classmates in the school community, and a positive correlation with the depressing sense of school tasks. The extent of those who had already consumed alcohol in their lifetime or regularly consumed various alcoholic beverages during a month was not affected by factors related to the school atmosphere. The data obtained are shown in Table 2 below.

Table II. Results of Spearman's correlation matrix on the relationship between school psychosocial factors and risk behaviour

	Correlation coefficient and p-value			
	Lifetime prevalence value of smoking n=447	Monthly prevalence value of smoking n=73	Lifetime prevalence value of alcohol n=447	Monthly prevalence value of alcohol n=359
Attitude towards school	r=0,109 p=0,358	r= - 0,196** p=0,003	r=0,016 p=0,730	r=0,040 p=0,402
Depressing sense due to school tasks	r=0,173 p=0,143	r=0,115* p=0,026	r= 0,083 p=0,063	r= 0,048 p=0,309
Teacher social support	r=0,043 p=0,718	r= - 0,131** p=0,006	r= - 0,052 p=0,386	r= - 0,040 p=0,397
Classroom social support	r=0,093 p=0,102	r= - 0,136** p=0,004	r= - 0,009 p=0,842	r= - 0,010 p=0,839

*p<0,05 **p<0,01 own editing

Discussion, proposals

Adolescence requires individuals to be flexible and to choose the coping strategy that best suits their health in a given situation. Responses can be adaptive to health but also maladaptive. 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 presence of empty calories (sweets, sweetened soft drinks) in the diet was less frequent than weekly for almost 20% of the respondents, but daily for 20%. When the amount of physical activity was studied, every second student moved 5-7 times a week with the appropriate frequency or nearly enough amount. However, two out of ten students had very little movement time per week. The quality of movement was adequate in only two of the three students. The lifetime prevalence of smoking was close to 50%, the monthly prevalence was half that, the lifetime prevalence of alcohol consumption was close to 100%, and the monthly prevalence figure was close to 80%. Compared to research results, in our survey, indicators of diet and physical activity were almost the same, with some elements of risk behaviour yielding higher prevalence data; the proportion of regular smokers was higher among the students surveyed, and the monthly prevalence value of alcohol consumption was also higher (Elekes 2016; Németh 2016; Zsiros et al., 2016; Bauer, et al, 2017; Marconcin, et al., 2021; Topadã, et al., 2021).

The dietary intake of sweets, soft drinks, energy drinks and smoking, and alcohol consumption habits are not independent of each other, but in addition, the consumption of empty calories has a negative impact on preventive behaviours. Diet and physical activity also showed a close association between health-promoting lifestyle elements. Thus, both preventive and risk behaviours were interlinked, with

risk factors outweighing the achievement of protective factors. These findings were in line with national and international research (Pikó 2003; Camenga, et al., 2006; Németh 2016). Overall, the presented results on health behaviour are not optimal.

The majority of students (3/4) liked their school, but 2/5 felt that their schoolwork was quiet or very overwhelming. Compared to the results of representative surveys, our sample showed that more students felt that their schoolwork was overwhelming (Németh 2016). Positive perceptions of the school atmosphere were associated with higher levels of preventive behaviours in nutrition (fruit and vegetable consumption) and lower levels of threatening behaviours (consumption of empty calories). The monthly prevalence of smoking was correlated with all school psychosocial factors examined. Increases in smoking prevalence indicated lower peer support at school, attitudes towards school, and higher feelings of school burden. The coexistence of risk behaviour and the psychosocial components of school calls for attention to improving the school atmosphere and strengthening peer support within the school. Stimuli in the school environment can be continuous and intense. These years, but especially the second decade of life, are characterised by increased autonomy, in which autonomous decision-making has a significant impact on health behaviour and will determine health in adulthood. Therefore, adolescence should be considered a key part of life. Our research suggests that a positive school climate, as a general resource, can also be a protective determinant of health behaviour. All actors in the public education institution have an active role to play in creating a positive school climate. Partnerships between families and the school, teacher collaboration, student cooperation, and participation in various extra-curricular school activities can positively impact the school atmosphere, increasing students' attachment to their institution. It is important for teachers to be sensitive to students' specific needs, support their interests, highlight their strengths and provide appropriate peer support. Schools play a significant role in shaping health-related values and shaping patterns that affect lifelong health (Hideg 2020a). Both the positive and negative samples have a proven model-following effect (Hideg 2020b).

Health, as one of our most important values, can be strengthened during the school years and become an advantage in adult life. The foundations of long-term health can be consolidated in childhood (Viner, et al., 2015; Karácsony 2018), so it is very important to reduce and stop negative health behaviour trends, and to strengthen and increase positive, protective factors among high-school students.

Acknowledgements

The research was financed and supported by the Human Resource Development Operational Programme of the Ministry for Human Capacities within the HR-DOP-3.6.1-16-2016-00004 Comprehensive Development for Implementing Smart Specialization Strategies at the University of Pécs. The project has been supported by the European Union and co-financed by the European Social Fund.

References

- Aldridge, Jill; McChesney, Katrina (2018): *The relationships between school climate and adolescent mental health and wellbeing: A systematic literature review*. International Journal of Educational Research, 88/3, 121-145.p.
- Aszmann, Anna (2005): Az iskola-egészségügyi team szerepe az egészségfejlesztésben. In Aszmann, Anna; Békefi, Dezső *Iskola-egészségügy gyakorlati ismeretek oktatási intézményeket ellátó orvosok és védőnők számára* (330-344.p.). Budapest: Országos Gyermkegészségügyi Intézet.
- Bauer, Béla; Pillók, Péter; Ruff, Tamás; Szabó, Andrea; Szanyi, F. Elenonóra; Székely, Levente (2017): *Magyar Ifjúság Kutatás 2016. Az ifjúság kutatás első eredményei, ezek a mai magyar fiatalok!* Budapest: Új Nemzedék Központ Nonprofit Kft.
- Camenga, Deepa; Klein, Jonathan; Roy, Jason (2006): *The changing risk profile of the American adolescent smoker. Implications for prevention programs and tobacco interventions*. Journal of Adolescent Health, 39/1, 110-120.p.
- Donato, Francesco; Triassi, Maria; Loperto, Ilaria; Maccaro, Alessia; Mentasti, Sara; Crivillar, Federica; Elvetico, Antonella; Croce, Elia; Raffetti, Elena (2021): *Symptoms of mental health problems among Italian adolescents in 2017–2018 school year: a multicenter cross-sectional study*. Environmental Health and Preventive Medicine, 26/67, 1-13.p.
- 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.
- Hideg, Gabriella (2020a): *A fair play múltja, jelene és értéke*. Budapest: Fakultás Kiadó.
- Hideg, Gabriella (2020b): Az egészséghez kapcsolódó attitűd vizsgálata gimnáziumi diákok körében. In *III. Zalaegerszegi Egészségturizmus Konferencia Tanulmánykötet* Szerk. Varga, Zoltán; Komáromy, Márk; Csákvári, Tímea. Zalaegerszeg: Pécsi Tudományegyetem, Egészségtudományi Kar. 59-71.p.
- Karácsony, Ilona (2018): *Egészségről az iskolában - felvilágosítástól a fejlesztésig*. Képzés és Gyakorlat, 16/1, 107-116.p.
- Karamánné Pakai, Annamária; Oláh, András (2015): A theoretical overview of scientific research. In *Data analysis in practice*. Szerk. Ács, Pongrác Pécs: University of Pécs, Faculty of Health Science. 11-34.p.
- Long, Emily; Zucca, Claudia; Sweeting, Helen (2021): *School Climate, Peer Relationships, and Adolescent Mental Health: A Social Ecological Perspective*. Youth & Society, 53/8, 1400–1415.p.

- Marconcin, Priscila; Matos, Margarida; Ihle, Andreas; Ferrari, Gerson; Gouve, Élvio; López-Flores, Marcos; Peralta, Miguel; Marques, Adilson (2021): *Trends of Healthy Lifestyles Among Adolescents: An Analysis of More Than Half a Million Participants From 32 Countries Between 2006 and 2014*. *Front Pediatr.*, 9, 1-8.p.
- Márványkóvi, Ferenc; Rácz, József; Németh, Ágnes (2013): *Szülők szerepe a problémaviselkedésben: A szülők még számítanak? Pszichoszociális tényezők hatása a 11. évfolyamos serdülők alkoholfogyasztására Magyarországon*. *Magyar Pszichológiai Szemle*, 68/43, 499-531.p.
- Meleg, Csilla (2013): *Pedagógiai probléma – szervezeti válasz*. *Educatio*, 22/2, 213-223.p.
- Németh, Ágnes (2016): *Megjelent az Iskoláskorú gyermekek egészségmagatartása kutatás legújabb felmérésének nemzetközi jelentése*. *Egészségfejlesztés*, 57/1, 60-61.p.
- Pakai, Annamária; Kivés, Zsuzsanna (2013): *Kutatásról ápolóknak. Mintavétel és adatgyűjtési módszerek az egészség tudományi kutatásokban*. *Nővér*, 26/3, 20-43.p.
- Peeters, Margot; Laninga-Wijnen, Lydia; Veenstra, René (2021): *Differences in Adolescents' Alcohol Use and Smoking Behavior between Educational Tracks: Do Popularity Norms Matter?* *Journal of Youth and Adolescence*, 7, 1884-1895.p.
- Pikó, Bettina (2003): *Magatartástudomány és prevenció: a preventív magatartásorvoslás jelentősége*. *Magyar Tudomány*, CVII. – új folyam XLVII/11, 1381-1394.p.
- Riekie, Helen; Aldridge, Jill; Afari, Ernest (2017): *The role of the school climate in high school students' mental health and identity formation: A South Australian study*. *British Educational Research Journal*, 43/1, 95-123.p.
- Somhegyi, Annamária (2016): *Teljeskörű iskolai egészségfejlesztés (TIE): jelen helyzet*. *Különleges Bánásmód*, 2/4, 61-80.p.
- Szabó, László Tamás (1988): *A "rejtett tanterv"*. Budapest: Magvető.
- Topadã, Aculina; Nădășan, Valentin; Tarcea, Monica; Ábrám, Zoltán (2021): *Tobacco consumption among ninth-grade students in Chisinau, Moldova*. *Tob Induc Dis*, 19/76, 1-8.p.
- Vieno, Alessio; Perkins, D. Douglas; Smith, Thomas M.; Santinello, Massimo (2005): *Democratic School Climate and Sense of Community in School: A Multilevel Analysis*. *American Journal of Community Psychology*, 36/3-4., 327-341.p.
- Viner, Russell; Ross, David; Hardy, Rebecca; Kuh, Diana; Power, Christine; Johnson, Anne; Wellings, Kaye; McCambridge, Jim; Cole, Tim J.; Kelly, Yvonne; Batty, G. David (2015): *Life course epidemiology: recognising the importance of adolescence*. *J Epidemiol Community Health*, 69/8, 719-720.p.
- World Health Organization. (2010): *Global Recommendations on Physical Activity for Health*. Switzerland: World Health Organization.
- Zsíros, Emese; Balku, Eszter; Vitrai, József (2016): *Egészségkommunikációs Felmérés eredményei II. - iskolai felmérés*. *Egészségfejlesztés*, 57/3, 21-39.p.