

Károly Eszterházy Catholic University Doctoral School of Education
Sports pedagogy subprogramme



Head of doctoral school: Dr. Béla Pukánszky, DSc, professor
Doctoral school program director: Dr. habil. Zoltán Szűts, PhD, university
associate professor

Doctoral thesis (PhD)

Erika Beregi

**THE SITUATION AND POSSIBILITIES OF HEALTH
EDUCATION IN SECONDARY SCHOOLS IN THE
NORTHERN HUNGARY REGION: FOCUS ON
LEISURE-TIME PHYSICAL ACTIVITY**

Topic leaders

Prof. Dr. József Bognár, Professor

Dr. Gabriella Trzaskoma-Bicsérdy, Senior Research Fellow

Eger, 2024

Content

1. Introduction.....	3
1.1. The aim of the research.....	4
1.2. Research hypotheses.....	5
2. Material and method.....	5
2.1. Sampling.....	5
2.2. Data collection.....	7
2.3. Data analysis.....	8
3. Results.....	9
4. Discussion.....	11
5. References.....	14
6. List of own publications.....	16

1. Introduction

Health is one of the most important values at any age, and its preservation and development is crucial for the quality of life and standard of living of individuals (Bognár et al., 2010). The importance of health education in schools is undisputed, but little research has focused on analysing the content and methods of this activity and on exploring possible differences between types of schools. These elements have typically been identified by examining health education programmes in schools (Beregi & Bognár, 2022, 2023; Horváth, 2022).

The definition of the actors of health education, the scope of the educators involved in the activity, is not clear from previous research (Beregi & Bognár, 2020; Masa, Tobak & Deutsch, 2021). Regarding the methodology of health education, there is an increasing demand for the use of new interactive tools and procedures in the delivery of health promotion programmes (Feith et al., 2016). Not all teachers feel that health promotion is their own competence (Beregi & Bognár, 2020; Masa, Tobak & Deutsch, 2021). It is worth noting that the effectiveness of health promotion programmes is rarely assessed, although feedback should be part of the intervention (Vitrai & Varsányi, 2015). The physical and mental health benefits of regular physical activity are not only proven for adults, but also have a positive impact on adolescents (Poitras et al., 2016).

However, there is clear evidence that children are leading increasingly inactive lifestyles, which can lead to a myriad of health problems (Inchley et al., 2020; Németh & Várnay, 2019).

The results of the HBSC (Health Behaviour in School-aged children) study highlight that only 19% of adolescents achieve the amount and intensity of physical activity recommended by the World Health Organization (Inchley et al., 2020).

The Northern Hungary region is characterised by negative data in both economic and demographic terms (Takács, 2017). Our research aimed to investigate the situation of health education in secondary schools in the North-Hungary region and to explore the possibilities for improvement, especially from the point of view of activities aimed at increasing the physical activity of pupils.

School as an institution has an important role in shaping the health status and health behaviour of young people. (Vitray, 2019). Research in this area has mainly focused on a narrow cross-section of the topic, so the complexity and interconnectedness of many areas and issues of health education are not yet fully understood.

1.1. The aim of the research

To present the characteristics, methods, content, process and practical implementation of health education in secondary schools in the region, with special emphasis on physical activity. A further aim is to explore the links between health promotion, satisfaction with health education, well-being and regular physical activity.

1.2. Research hypotheses

H₁ Most often, physical education and health teachers are involved in health education in schools.

H₂ The effectiveness of health education is not measured in the majority of schools.

H₃ The most common methods and teaching content used in health education differ between different types of schools (high school, technical school).

H₄ The health promotion programmes of the secondary schools include those set out in the regulatory documents.

H₅ There is a positive relationship between regular physical activity and subjective well-being, as well as between the extent of health promotion programmes and students' self-rated health status and satisfaction with health promotion.

H₆ NETFIT test scores show an improving trend after ten weeks of intervention to increase leisure-time physical activity among students.

2. Material and method

2.1. Sampling

The research consisted of 3 steps, preceded by a pre-study, the testing of a self-designed questionnaire.

Sampling during the preliminary examination

One of the technical school of Borsod-Abaúj-Zemplén county was selected, with expert sampling. The pre-study involved students in grades 10, 11 and 12 (n=104). The sample size of the survey was 69.7% of the students in the three grades concerned.

Sampling during the questionnaire survey, the first step of the research

From the secondary education institutions of the Northern Hungary region, state-maintained secondary schools and technical schools were selected by purposive sampling.

Accordingly, 18 out of 22 institutions were selected, of which 11 educational establishments were able to carry out the survey, once we had the necessary permits to carry out the research, covering 50% of the institutions that met the criteria.

Criteria for inclusion in the student sample were that the students must be in at least the second year of secondary school (grades 10, 11, 12), be full-time students and have a guardian who consented to the study. The key criterion for being selected as a sample teacher is to work full-time in the secondary school in question, so that health education can be part of their daily work. In the quantitative survey, 834 people were interviewed (students: $n=732$, teachers: $n=102$).

Characteristics of the student sample for the quantitative study

The average age of the students surveyed was 17.3 ± 1.2 . 64.9% were boys and 35.1% girls. 25.4% of the participants in the survey were in secondary school and 74.6% in technical school.

Characteristics of the teacher sample included in the quantitative study

The average age of the teachers is 48.2 ± 11.4 . 62.4% are women and 37.6% are men. 32.7% of the respondents teach in secondary schools and 67.3% in technical schools.

A total of 59 people were involved in the intervention. Of these, 20 people ("Group A") participated twice a week and a further 19 people ("Group B") participated once a week in various leisure activities.

A further 18 people ("Group C") were included in the study as a control group, but only the pre- and post-test (questionnaire data collection, NETFIT survey) were conducted, without the possibility of providing leisure-time physical activity.

Characteristics of the intervention sample

All the students were in grade 11. By gender, 43.9% were boys and 56.1% were girls. 35.1% were in group A, 33.3% in group B and 31.6% in group C.

2.2. Data collection

In the data collection process, a set of self-designed and validated questions were used according to the steps of the research.

Questionnaires used in the pre-study and in Step 1 of the research

- Questions adapted from the HBSC - Health Behaviour in School-aged Children questionnaire, supplemented according to the purpose of the study.
- IPAQ-SF, International Physical Activity Questionnaire-short form
- WHO Well-Being Questionnaire - shortened version (WBI-5)
- A self-constructed questionnaire designed to explore the characteristics of health education in schools.

Data collection for document analysis

A further part of the data collection was the selection of health promotion programmes, which was done according to the schools participating in the study.

These documents are part of the pedagogical programmes of secondary schools and the professional programmes of technical schools and are publicly available on their websites. The analysis also included documents and supporting recommendations governing health education in schools.

Data collection related to the intervention

The final step of the research was the full implementation of the intervention, based on a detailed intervention plan.

2.3. Data analysis

Data were processed using IBM SPSS 25.0 statistical software. Procedures included descriptive statistics (frequency, mean, standard deviation), tests of variance (two-sample t-test, one-tailed analysis of variance), correlation tests (Pearson's correlation), and an independent two-sample t-test to test hypotheses.

A series of self-constructed questions from the pre-test were tested by calculating a Cronbach's α value and using an alternative reliability indicator, the split half method. A paired t-test was used to compare the pre- and post-test results of the intervention.

Health promotion programmes and vocational programmes were examined along the following categories:

Scope of the programme, scope of the health education content, definition of health, principles, objectives, methods and tools of health education, areas and content of health education, definition of health education actors, measurement and evaluation of the effectiveness and efficiency of health education, physical

activity-related characteristics, and any other content of the programmes relating to health education and physical activity in schools.

3. Results

Results of the questionnaire survey

Over the past seven days, the students surveyed had an average of 3.44 ± 2.0 days of at least 60 minutes of sustained physical activity. Teachers estimate 1.88 ± 1.49 . There is no significant difference between the two types of schools studied (high school, technical school) in terms of intense and moderate physical activity, walking, only in terms of time spent sitting ($t=2.53$; $p=0.01$), with higher values for students in high schools. Similar to the students' results, there was no significant difference in the intensity of moderate-intensity physical activity performed by teachers, but only in the time spent sitting ($t=-2.02$; $p=0.04$). Teachers working in technical schools spend more time per day in a sedentary position.

Out of the maximum fifteen points available in the WBI-5 questionnaire, the average score of the students in the study was 7.4 ± 4.66 and the average score of the teachers was 9.28 ± 4.07 .

Teachers are also more satisfied with health education and physical activity in schools. There is a significant difference for health education ($t=-2.02$; $p=0.04$). However, the difference in satisfaction with increasing physical activity was smaller and not significant ($t=-1.08$; $p=0.28$).

Teachers perceived the health status of secondary school students to be worse than what students thought their peers were doing ($t=4.15$; $p<0.001$). Teachers also underestimated the physical activity of young people compared to what their peers thought they were doing ($t=4.33$; $p<0.001$).

Both students and teachers felt that physical education teachers have the greatest role to play in health education in schools, including increasing physical activity. There is no correlation between students' physical activity and their satisfaction with their health promotion at school in any respect. This is also the case for the frequency of extracurricular physical activity ($r=0.01$; $p=0.76$), the intensity of physical activity ($r=0.03$; $p=0.39$) and the daily duration of moderate physical activity ($r=0.02$; $p=0.63$).

The results of the document analysis

Among the documents regulating health education in schools, the NAT 2012 and 2020, Act CXC of 2011 and Act LXXXVII of 2020, Act LXXX of 2019, and EMMI Decree 20/2012 (VIII. 31.) did not contain specific references to the methods and tools of health education. The same applies to the actors involved in health education and the measurement of the effectiveness of health education. Although, in terms of measurement, the EMMI Regulation 20/2012 (VIII.31.) stipulated that tasks related to the overall health promotion should be planned in a measurable and evaluable way. The majority of school health promotion programmes comply with the standards in certain respects, such as the definition of objectives, areas of health education and content. However, the process of measuring the effectiveness and efficiency of health education is not reported in the majority of cases, despite the support given by the recommendations.

Results related to the intervention

The results of the follow-up after the 10-week physical activity programme showed that, in general, there were no significant differences in satisfaction with school health education, satisfaction with increasing physical activity, perceptions of self and peer health and physical activity, and well-being of pupils before and after the intervention, but there were improvements in trend. To a small extent, but there has also been an improvement in the results shown by the NETFIT measure.

However, the values of the 15 m endurance shuttle and the long jump showed significant differences between the groups, with the highest value obtained by group A.

Students mentioned the positive aspects of the programme as increasing activity, taking advantage of nature and improving social relations. Both pupils and teachers emphasized the importance of setting an example and motivating pupils in health education at school. On the whole, any physical activity programme that can help to increase the physical activity of pupils, thereby preserving and improving their physical and mental health, deepening their social relationships and optimising their leisure time, is considered to be a good idea.

4. Discussion

Our research explored the typical physical activity of students in secondary schools in the North-Hungary region and the characteristics of health education in schools. A large body of research at international and national level has investigated the characteristics of physical activity among young people, but the links between this area and health education in schools are less well understood. Research in this area has mainly focused on analysing regulatory

documents and the effectiveness of intermittent interventions. The present research aimed to fill these gaps and to explore the specificities of school health education in its broadest possible scope and complexity.

Proving hypotheses

H₁ Most often, physical education and health teachers are involved in health education in schools.

The first hypothesis was confirmed by both teacher and student responses.

H₂ The effectiveness of health education is not measured in the majority of schools.

Based on the perception of students and teachers, the hypothesis is confirmed that in the majority of the schools surveyed, no health education-related surveys are carried out to assess the effectiveness of health education.

H₃ The most common methods and teaching content used in health education differ between different types of schools (high school, technical school).

Of the more common methods used, only the presentation method shows a significant difference between gymnasiums and technicians. In terms of content and areas, students' responses showed that accident prevention was significantly more frequent in the technical schools. When analysing the teachers' responses, the area of harmful addictions and environmental protection was mentioned several times, in this case in secondary schools. The hypothesis was partially confirmed.

H₄ The health promotion programmes of the secondary schools include those set out in the regulatory documents.

In compliance with the legal requirements, all schools have prepared health promotion programmes as part of their pedagogical and professional programmes, which are publicly available on their websites. As regards their

content, this hypothesis is only partially confirmed. References to the areas of health education can be found in all the regulatory documents examined and are included in the health promotion programmes of most schools. At the same time, the requirement in EMMI Decree 20/2012 (VIII.31.) that tasks related to comprehensive health promotion should be planned and recorded in a measurable and assessable manner is not typically expressed in health promotion programmes.

H₅ There is a positive relationship between regular physical activity and subjective well-being, as well as between the extent of health promotion programmes and students' self-rated health status and satisfaction with health promotion.

This hypothesis has not been confirmed. No correlation was found between physical activity and satisfaction with health education. There is also no correlation between the extent of health promotion programmes and student satisfaction with health education. The same is found for physical activity and subjective well-being.

H₆ NETFIT test results show an improving trend after ten weeks of intervention to increase leisure-time physical activity among students.

Following the intervention, the study groups showed higher levels of improvement compared to the control group. The hypothesis was confirmed.

Recommendations

Commitment from the school leadership and the whole teaching staff is essential for health education in schools. The review of the applicability of traditional teaching methods and the development of new methods are also essential for more effective health education. In addition, it is recommended

that the documents governing health education in schools should be reviewed, harmonised and made more specific and detailed.

Following the model of peer support work, we propose the introduction of a new method of "specific peer support" to support the implementation of health education in schools. In order to support and assist teachers, the introduction of a school health educator could have a major impact, with the work of professionals whose exclusive remit would be to provide this service.

To design school health promotion programmes, it is recommended to draw up an intervention plan, specifying the tasks, principles, objectives, concrete steps, duration and responsibilities. Setting standards, indicators and criteria can provide a basis for measuring effectiveness.

A process-oriented approach is recommended to identify and solve possible failures and difficulties in school health education, as only by analysing each step can the underlying causes of problems be safely identified.

5. References

- Beregi, E., & Bognár, J. (2020). Pedagógusok egészségneveléssel kapcsolatos gyakorlati tevékenységei: a járványhelyzet okozta változások. *ACTA Universitatis Sectio Sport, Tom. XLIX*. 39–47.
- Beregi, E., & Bognár, J. (2022). A tanulók fizikai aktivitásának szerepe az iskolai egészségnevelési programokban. In Karlovitz J. T. (szerk). *Szaktódszertani és más pedagógiai tanulmányok*. International Research Institute, Komárno, Szlovákia, 127–135. ISBN 978-80-89691-75-3
- Beregi, E., & Bognár, J. (2023) Az iskolai egészségfejlesztési programok vizsgálata az Észak- Magyarország régióban: Fókuszban a fizikai aktivitás. *Egészségfejlesztés*. 64(1), 2–12. <https://doi.org/10.24365/ef.8883>

- Bognár, J., Gangl, J., Konczos, Cs., Fügedi, B., K. Geosits, B., & Agócs, A. (2010). How are quality of life and preferred values viewed by Hungarian adults? *Journal of Human Sport & Exercise*, 5(1), 84–93. <https://doi.org/10.4100/jhse.2010.51.09>
- Feith, H. J., Melicher, D., Máthé, G., Gradvohl, E., Füzési, R., Darvay, S., Hajdú, Zs., Nagyné Horváth, E., Soósné Kiss, Zs., Bihariné Krekó, I., Földvári- Nagy L. Lenti, K., Molnár, E., Szalainé Tóth, T., Urbán, V., Kassai, A., & Falus, A. (2016). Tapasztalatok és motiváltság: magyar szakközépiskolások véleménye az egészségvédő programokról. *Orvosi hetilap*, 157(2), 65–69. <https://doi.org/10.1556/650.2015.30338>
- Horváth, C. (2022). Az iskolai egészségnevelés elméleti megközelítése az egészségnevelési programok dokumentumelemzésével. *ACTA Universitatis, Sectio Sport*, Tom. L. 31–46.
- Inchley, J., Currie, D., Budisavljevic, S., Torsheim, T., Jastad, A., Cosma, A., Kelly, C., & Arnarson, Á. M. (2020). *Spotlight on adolescent health and well-being*. Findings from the 2017/2018 Health Behaviour in School-aged Children (HBSC) survey in Europe and Canada. International report. Volume 1. Key findings. Copenhagen. ISBN 978 92 890 5500
- Masa, A., Tobak, O., & Deutsch, K. (2021). Egészségnevelési attitúd és egészségmagatartás középiskolai pedagógusok körében. *Egészségfejlesztés*, 62(2), 26-35. <https://doi.org/10.24365/ef.v62i2.5907>
- Németh, Á., & Várnai, D. (szerk.), (2019). *Kamaszéletmód Magyarországon*. ELTE PPK, L'Harmattan Kiadó, Budapest.
- Poitras, V. J., Gray, C. E., Borghese, M. M., Carson, V., Chaput, J. P., Janssen, I., Katzmarzyk, P. T., Pate, R. R., Gorber, S. C., Kho, M. E., Sampson, M., & Tremblay, M. S. (2016). Systematic review of the relationships between objectively measured physical activity and health indicators in school-aged

- children and youth. *Applied Physiology, Nutrition and Metabolism*. 41(6), (Suppl. 3), 197–239. <https://doi.org/10.1139/apnm-2015-0663>
- Takács, I. (2017). Helyzetértékelés az Észak-magyarországi Régióról, kérdésfelvetések. In Takács, I. (szerk.) *Az együttműködési attitűdök gazdasági-társadalmi hatótényezői az Észak-magyarországi Régióban működő kkv-kban*. Az OTKA Kutatási Program és a Károly Róbert Főiskola támogatásával, Gyöngyös, 7–38. ISBN 978-963-12-8815-5.
- Vitrai, J., & Varsányi, P. (szerk.) (2015). *Egészségjelentés 2015*. Információk a hazai egészségveszteségek csökkentéséhez. Nemzeti Egészségfejlesztési Intézet, Budapest.
- Vitrai, J. (2019). Iskola az egészség alapköve? Miért és mit tegyen az iskola a tanulói egészségéért? *Egészségfejlesztés*, 60(2), 42-45. doi: 10.24365/ef.v60i2.445

6. List of own publications

Study, book excerpt, book chapter

- Fügedi Balázs, Vajda Ildikó, **Beregi Erika** (2023): A sport és egészség főbb kérdéskörei In: Bognár József (szerk.) *Sportpedagógia* Budapest, Magyarország: Krea-Fitt Kft. 376 p. pp. 245-269., 25 p.
- Beregi Erika** (2023): Hátrányos településen élő nők egészségi állapotának és fizikai aktivitásának összefüggései In: Karlovitz, János Tibor (szerk.) *Elméletek és ötletek a módszertani változáshoz*. Komárno, Szlovákia: International Research Institute, 366 p. pp. 292-299., 8 p.

- Beregi Erika** (2022): Abaúji térség felnőtt lakosságának egészségmagatartása, különös tekintettel a fizikai aktivitásra, szabadidő aktív eltöltésének lehetőségeire In: Karlovitz, János Tibor (szerk.) Az ember és gazdagsága egészséges és biztonságos környezetben. Komárno, Szlovákia: International Research Institute, 379 p. pp. 207-215., 9 p.
- Beregi Erika, Bognár József** (2022): A tanulók fizikai aktivitásának szerepe az iskolai egészségnevelési programokban. In: Karlovitz, János Tibor (szerk.) Szak módszertani és más pedagógiai tanulmányok Komárno, Szlovákia: International Research Institute s.r.o., 340 p. pp. 127-135., 9 p.
- Beregi Erika, Bognár József** (2021): Egészségközpontú nevelés és oktatás: a fizikai aktivitás növelésének módszerei és a pozitív pedagógiai lehetőségei In: Szarka, Emese (szerk.) Pozitív Pedagógia és Nevelés Konferencia kötet II. Budapest, Magyarország: Mental Focus Kft. 312 p. pp. 33-44., 12 p.
- Beregi Erika** (2021): Iskolai egészségnevelés lehetőségei, a testi-lelki egészségmegőrzés érdekében, különös tekintettel a rekreációs tevékenységek alkalmazására In: K., Nagy Emese, Zagyváné Szűcs Ida: Kihívások és megoldások a XXI. század pedagógiájában: Válogatás a Pedagógiai Szakbizottság tagjainak a munkáiból. Eger, Magyarország: Eszterházy Károly Katolikus Egyetem Líceum Kiadó. pp. 145-158., 14 p.
- Beregi Erika** (2020): Egészségügyi tanár lehetőségei iskolai stresszkezelés tekintetében In: Juhász, Orchidea (szerk.) Szakmai tanárképzés – a tanterveken túl Miskolc-Egyetemváros, Magyarország: Miskolci Egyetemi Kiadó, pp. 20-28., 8 p.
- Erika Beregi** (2020): Health Teachers' Possibilities in Managing Stress in Schools In: Juhász, Orchidea (szerk.) Vocational Teacher Training beyond the Curricula Miskolc-Egyetemváros, Magyarország: Miskolci Egyetemi Kiadó, pp. 20-28., 8 p.

Rucska Andrea, **Beregi Erika**, Juhász Imre, Semanova, Csilla (2020): A minta jellemzői In: Kiss-Tóth, Emőke (szerk.) Abaúj térség 14 év alatti gyermeklakosságának egészségmagatartása és fejlesztési lehetősége Miskolc-Egyetemváros, Magyarország: Miskolci Egyetemi Kiadó, 101 p. pp. 35-40., 6 p.

Peer-reviewed papers published in national and international scientific journals

Beregi Erika, Bognár József (2023). Fizikai aktivitás és jóllét megjelenése az egészségnevelésben: fókuszban a technikai képzés. Iskolakultúra-Pedagógusok szakmai-tudományos folyóirata 33:1 pp. 20–37., 17 p.

Molnár Anita, **Beregi Erika**, Kós Katalin, Suszter László (2023). A hazai iskolai egészségfejlesztés és egészségnevelés fogalmának és szabályozó rendszerének áttekintése az elmúlt évtized viszonylatában. Magyar Pedagógia 123:1 pp. 19-32., 14 p.

Kós Katalin, **Beregi Erika**, Molnár Anita, Suszter László (2023): Az egészségnevelés mérésének, mérhetőségének kérdései – Komplex mérőeszköz összeállítása első osztályos gyermekek és nevelők számára. Új Pedagógiai Szemle 73:7-8 pp. 76-86. ,11 p.

Beregi Erika, Bognár József (2023): Iskolai egészségfejlesztési programok vizsgálata az Észak-Magyarország régióban: fókuszban a fizikai aktivitás. Egészségfejlesztés 64:1 pp. 2-13., 12 p.

Beregi Erika (2021): Az iskolai egészségnevelés változásai a járványhelyzet alatt: a szabadidős fizikai aktivitás helyzete és szerepe. Acta Universitatis de Carolo Eszterházy Nominatae: Sectio Sport 51: 2021 pp. 19-27., 9 p.

Beregi Erika, Bognár József (2020): Pedagógusok egészségneveléssel kapcsolatos gyakorlati tevékenységei: a járványhelyzet okozta változások.

Acta Universitatis de Carolo Eszterházy Nominatae: Sectio Sport 49:
2020/2 pp. 39-47., 9 p.

Erika Beregi (2020): Recreation as Stress Management Options in Education.
Practice and Theory in Systems of Education 15:2 pp. 65-74., 10 p.

Peer-reviewed papers published in other frontier science journals

Dányiné Sipos Szilvia, **Beregi Erika** (2023): A betegoktatás jelentősége a
diabéteszes láb okozta krónikus seb ellátásában és megelőzésében.
Egészségtudományi Közlemények 13:1 pp. 5-12., 8 p.

Juhász Bernadett Mária, **Beregi Erika** (2023): Betegoktatás jelentősége a
porckorongsérvel diagnosztizált betegek körében. Egészségtudományi
Közlemények 13:1 pp. 25-32., 8 p.

Kálmán Zsuzsanna, **Beregi Erika** (2023): Betegoktatás a reumatológiában-
Rheumatoid Arthritis-es betegek körében. Egészségtudományi
Közlemények 13:1 pp. 33-37., 5 p.

Riczu Zsanett, **Beregi Erika** (2023): Prevenció és betegoktatás jelentősége a
gyermekek fénytörési hibáinak felismerésében és progressziójának
csökkentésében. Egészségtudományi Közlemények 13:1 pp. 53-59., 7 p.

Pre-selected poster

Beregi Erika, Bognár József: Pedagógusok egészségneveléssel kapcsolatos
gyakorlati tevékenységei: a járványhelyzet okozta változások. Budapest,
Magyarország: Magyar Nevelés- és Oktatáskutatók Egyesülete (HERA)
(2021) 305 p. pp. 64-64., 1 p.

Erika Beregi, József Bognár: Physical activity and school health education in secondary schools: characteristics of low income region. AIESEP 2024 International Conference 2024. 05. 13-17. Jyväskylä, Finnország, presentation, poster.