International Journal of Instruction e-ISSN: 1308-1470 • www.e-iji.net



April 2024 • Vol.17, No.2 p-ISSN: 1694-609X pp. 481-496

Article submission code: 20230611205141



Accepted: 07/11/2023 OnlineFirst: 22/01/2024

Mental Health among Adolescents Attending Different School Types - First Result from a Longitudinal Study

Martina Derzsi-Horváth

Faculty of Health Sciences, University of Pécs, Hungary, t00bvt@pte.hu

Henrietta Bánfai-Csonka

Faculty of Health Sciences, University of Pécs, Hungary, henrietta.csonka@etk.pte.hu

Andrea Masa

Faculty of Health Sciences, University of Pécs, Hungary, ec3qbi@pte.hu

Bálint Bánfai

Dr., Faculty of Health Sciences, University of Pécs, Hungary, *balint.banfai@etk.pte.hu* **Zsuzsanna Kívés**

Dr., Faculty of Health Sciences, University of Pécs, Hungary; *zsuzsa.kives@etk.pte.hu* Attila Szabó

Dr., High School and Technical School, Hungary; szabo.attila@cserepkasuli.hu

Krisztina Deutsch

Dr., Faculty of Health Sciences, University of Pécs, Hungary, krisztina.deutsch@etk.pte.hu

The main objective of our longitudinal study is to analyze the health and risk behaviour and mental health of Hungarian students in different school types (high school, technical school, vocational training and vocational school) before and after a mental health promotion programme. In this study, we aim to provide a picture of the pre-programme situation, focusing on mental indicators. The study was designed using non-random, purposive, group sampling. In the quantitative research, in addition to sociodemographic data, standard questionnaires were used to measure students' subjective well-being (WBI-5), life satisfaction (SWLS-H) and self-esteem (RSES-H). High school students also underperformed compared to the other two types of schools in terms of general well-being and self-evaluation as they had significantly lower well-being (p=0.005), life satisfaction (p=0.022) and self-esteem (p=0.012) compared to technical school students. The mental health of high school students trying to cope with higher expectations shows a less favourable picture than their peers with less or no pressure of good performance at school. It would be crucial to take into account the impact on mental health of the different pressures arising from health education at school and to identify priority areas on this basis, with a focus on self-awareness, coping and stress management.

Keywords: adolescence, school type, mental health, subjective well-being, students

Citation: Derzsi-Horváth, M., Bánfai-Csonka, H., Masa, A., Bánfai, B., Kívés, Z., Szabó, A., & Deutsch, K. (2024). Mental health among adolescents attending different school types - first result from a longitudinal study. *International Journal of Instruction*, *17*(2), 481-496. https://doi.org/10.29333/iji.2024.17227a

INTRODUCTION

Mental health as defined by the WHO is not just the absence of mental disorders, but a state of mental well-being in which an individual is able to achieveself-fulfilment, cope effectively with stress and have an active social network. Alongside physical health, it is a fundamental human right that is integral to well-being (WHO, 2022).

The subjective quality of life, namely happiness, satisfaction and well-being, shows how satisfied the studied society - and within that an individuals – is with their his/her living conditions, environment and meaningfulness of life. Thus, subjective well-being is intended to provide an overall picture of the quality of life the individuals (Hegedűs, 2001). Although, quality of life is a multifactorial construct, which can be interpreted in sociological, psychological and physical terms, researchers working on this topic have a common goal: to understand the components of well-being, its individual and social perception, which will make it possible to identify the factors influencing quality of life and to achieve the desired "happiness" (Petőné, 2012).

Theoretical Background

Adolescence is the most critical period of life, during which teenagers experience physical, psychological and social changes. The main task of this period is the development of identity, which usually takes its final form in their twenties. As a result, young adults have a stable self-image to help them formulate and achieve their future life goals (Atkinson, 2005; Oláh, 2011). Research has shown that subjective well-being is associated with mental health in adolescents (Chervonsky& Hunt, 2019). Subjective well-being is relatively stable over the life course, but can be affected by factors such as personality and life events (Steinmayr et al., 2019). Adverse levels of mental health (low self-esteem, anxiety, depression) are associated with interpersonal relationships that determine quality of life (Chervonsky& Hunt, 2019).

Children's overall satisfaction and well-being also contribute to their healthy development (Örkényi & Koszonits, 2004). Some research on the subjective well-being of adolescents focuses on the mapping of mental health problems in this age group and the emergence of associated risk behaviours (Cakar et al., 2015; Chen et al., 2018; Lew et al., 2018; Morales-Vives & Duenas, 2018), while others examine the impact of certain factors, mainly family and school, on adolescents' mental health, such as life satisfaction (Alfaro et al., 2016; Calmeiro et al., 2018; Li et al., 2018; Muratori et al., 2015; Örkényi & Koszonits, 2004). During adolescence, although the parental relationship network is loosening, the family continues to play an important role in the development of the students' mental health. Social support from the family plays a key role in the adolescents' life satisfaction, while the sense of belonging, a comfortable home and easy communication with parents also contribute to the positive development of their subjective well-being (Hamvai & Pikó, 2009; Levin & Currie, 2010). The subjective well-being of students is affected by their school in a complex way. The classroom climate is an important arena for the psychosocial development of students. Community, supportive school environment, school climate, positive feelings about institution, cooperation, competition, teachers mental health all have an impact on students' well-being (Al Sulaimi et al., 2022; Eccles & Roeser, 2011; Hamvai & Pikó,

2009; Nagy et al., 2019; Oberle et al., 2011; Van et al., 2009). Children's subjective quality of life is also positively associated with their school performance (Diseth et al., 2012; Örkényi & Koszonits, 2004; Seligman & Adler, 2019).

In addition to life satisfaction, self-esteem can also provide a picture of the cognitive, affective and somatic characteristics of an individual's subjective well-being (Cheng & Furnham, 2004; Diener & Diener, 1995). The feedback from the immediate environment and the individual's interpretations, feelings and knowledge about it play an important role in the development and change of the self-image. The level of self-esteem is an indication of how valuable an individual considers him or herself to be (Kőrössy, 2004; V.Komlósi et al., 2017; Zsolnai et al., 2012).

Self-esteem, like subjective well-being is a factor varying by age, with individuals experiencing a relatively higher level of self-esteem in childhood, followed by a slight decline during adolescence (Aszmann, 2003; Sallay et al., 2014). The level of self-esteem is linked to mental and physical health and plays a role in coping with stress (Sallay et al., 2014; Syropoulou et al., 2021). Research has shown that low self-esteem can be identified as a risk factor for risk behaviours (Elekes et al., 2019).

Although the impact of school climate on wellbeing has been investigated prior to our research, only a few studies have taken into account possible differences between school types in relation to students' mental health (Elekes et al., 2019; Németh & Várnai, 2019).

Based on the theoretical background, in our research we investigated subjective wellbeing by measuring general well-being, life satisfaction and self-esteem among Hungarian 9th grade students of different school types (high school, technical school, vocational school) before and after a mental health promotion programme. In this study, we aim to provide a picture of the pre-programme situation, taking into account the socioeconomic status and physical activity of the students.

METHOD

Design and Participants

In our quantitative research we chose a non-random targeted, group sampling procedure, with the aim of having all school types represented at the Hungarian secondary school level. The target group of our research consisted grade of year 9 students of two secondary schools in Pécs, representing the four school types listed above, since in Hungary, besides high schools, mixed-profile secondary schools are typical. The sample selection allowed us to include specific groups for which there is little or no previous research on adolescents (Adriaanse, 2014; Harsányiné, 2013; Lauren & Soundy, 2020; Reinhardt et al., 2019). In the case of our sample, it is specific that the high school, while preparing students for school-leaving exams and further education, is an institution with a fundamentally sporting profile. Technical schools are the type of secondary schools of the Hungarian school system where students learn a profession and complete the secondary school leaving exam in 5 years. The three-year vocational training and vocational school prepares only for a vocational qualification. The vocational school students are all learning disabled, of low socioeconomic status,

who are involved in segregated education with the help of special education teaschers in preparation for vocational training. Due to the relatively small number of items in the sub-samples of vocational training and vocational schools, the two groups were treated together in the statistical analysis, all the more so as the two types of school have the same output target.

Instrumentations

In addition to questions on socio-demographic data (school, class, gender, age, place of residence, parents' education, family financial situation), the questionnaire conducted by the authors used questionnaires validated in Hungarian to assess certain indicators of mental well-being (general well-being, life satisfaction, self-esteem). As our sample also included specific groups (sport class, students with low socio-economic status), we also examined the associations of the students' residence, financial status, their parents' education level and physical activity habits with mental indicators.

One of the standard questionnaires we used is a shortened, Hungarian version of the WHO Well-Being Questionnaire (WBI-5). The questionnaire provides information on the general well-being of the students over the past two weeks. Students were asked to indicate on a four-point scale (0=not at all typical, 3=totally typical) how typical they felt the statement was for themselves for each of the 5 items. Based on the responses, the overall scale score ranges from 0-15, with higher scores reflecting better overall well-being. The internal consistency of the scale was found to be reliable (Cronbach's alpha: 0.804) for the sample we examined. Students with a score of 8 or below were described as having below average general well-being, whilst students with a score of 9 or above were characterised as having above average general well-being (Susánszky et al., 2006).

The Satisfaction with Life Scale (SWLS-H) was also used to measure the students' subjective well-being. The questionnaire focuses on a cognitive assessment of the students' overall quality of life. The respondents can indicate their level of agreement on a 7-point scale (1=strongly disagree, 7=strongly agree) for 5 items. The sum of the scale scores for each item gives the total score, with a higher score indicating a higher level of life satisfaction. The internal consistency of the scale was found to be reliable for our sample (Cronbach's alpha: 0.845). In our study, students with a score of 24 or less were characterised as having below average satisfaction with life, while students with a score of 25 or more were had above average life satisfaction (Martos et al., 2014).

Self-esteem is also the basis of an individual's well-being, measured by the Rosenberg Self-Esteem Scale (RSES-H) among the students. The questionnaire measures the respondent's general level of self-esteem. The scale contains 10 items, 5 of which are reverse scored. The respondents can indicate their level of agreement on a 4-point scale (1=strongly disagree, 4=strongly agree) for 10 items. The available scores range from 10-40, with a higher score indicating a higher level of self-esteem. The internal consistency of the scale was found to be reliable for our sample (Cronbach's alpha: 0.874). A score of 27 and below was considered below average self-esteem, while a score of 28 and above was taken as above average self-esteem (Sallay et al., 2014).

To find out about the students's physical activity habits, we asked the following question based on the HBSC study (Németh & Költő, 2014): "How many hours per week do you exercise in your free time, outside regular class time without getting tired or sweaty?". Possible answers were: "none/ about 30 minutes/ about 1 hour/ about 2-3 hours/ about 4-6 hours/ 7 hours or more". Also based on the HBSC research, two categories were developed and worked with for the question: a group of students who exercised two hours per week and a group of students who are less active.

Procedures

The questionnaire survey was conducted between January and October 2020 that 170 people filled out, of which 163 were assessable. The minimum sample size defined by G*Power statistical power analysis was 122. In both schools, the headmasters and parents gave their permission for data collection. Participation in the research was voluntary and anonymous. Our research is approved by the University of Pécs Clinical Centre for Regional Research Ethics Committee (8212-PTE 2020).

Statistic Analyses

In the analysis, frequencies are given for categorical variables and means, variances and median for continuous variables. In addition to descriptive statistics, tests in correlation with school types were conducted using the Kruskal Wallis test, with particular emphasis on the results of pairwise comparisons. A binary logistic regression model with Odds Ratio (OR) and Confidence Interval (CI) was used to examine the effect of place of residence, financial status, parental education and physical activity on mental health, with the mean dichotomized for the output variable on the interval scale. The relation between general well-being, self-esteem and life satisfaction was shown using the Spearman's correlation. The SPSS 25.00 statistical software (IBM Corp., Armonk, NY, USA) was used to evaluate the results, with 95% probability level defined.

FINDINGS

The Sociodemographic Characteristics of the Sample

The research involved students from four different school types in two secondary schools in Pécs. Our sample consisted of students in high school (30.1%), technical school (28.2%), vocational training school (31.3%) and vocational school (10.4%) education. For the statistical analysis, the schools were compared with other variables along merged categories, so that we worked with high school (30.1%), technical school (28.2%) and vocational training and vocational school (41.7%) groups for the whole analysis. The average age of students (n=163) is 15.63 years. 83.4% of the examined students are boys and the largest proportion of them live in a county town or city (57.7%). 77.3% of students said they lived in average financial circumstances. 11.7% of the students for mothers and 13.5% for fathers could not answer our question on the educational level of their parent. For other students, the largest proportion of mothers (n=144; 45.8%) and fathers (n=141; 57.4%) received education only below secondary level. 55.2% of the students surveyed exercise at least 2 hours a week. The detailed distribution of variables by school type, relevant for the study, is presented in Table 1.

<u> </u>				
		High school (%)	Technical school (%)	Vocational training and vocational school (%)
Residence	county town/town	69.4	67.4	42.6
	village	30.6	32.6	57.4
Financial situation	average/below average	81.6	76.1	79.4
	above average	18.4	23.9	20.6
Educational level of the mother (n=144)	below secondary level	16.3	52.2	63.6
	secondary level	37.2	28.3	27.3
	post-secondary level	46.5	19.6	9.1
Educational level of the father (n=141)	below secondary level	28.5	60.9	77.4
	secondary level	45.2	34.8	20.8
	post-secondary level	26.2	4.3	1.9
Physical activity hours/week	at least two hours	81.6	50	39.7
	less than two hours	18.4	50	60.3

 Table 1

 Sociodemographic factors and physical activity by school type (n=163)

Following the sociodemographic overview, the results of the three standard questionnaires for the sample are presented with the related correlation analyses. Among the special groups, the results of the underprivileged vocational school students (n=17) are presented separately along the well-being indicators.

Mental Indicators

WHO Well-being Questionnaire (WBI-5, Hungarian version)

The mean score of the WHO Well-being Questionnaire was 8.01 (SD=3.236), which indicates a medium level of well-being. 55.2% of students scored below and 44.8% scored above average when we dichotomised the overall well-being. Data on the overall well-being of students attending different school types are presented in Table 2.

Table 2

WHO Well-being Questionnaire results by school type (n=163)

School type	Mean (standard deviation)	Median
High school	6.84 (SD=3.442)	7.00
Technical school	8.76 (SD=3.192)	9.00
Vocational training and vocational school	8.35 (SD=2.910)	8.00

After comparing the schools pairwise, it can be concluded that there is a significant difference between high school and technical school students (p=0.005), also between high school and vocational training and vocational school students (p=0.030). There was no significant difference in general well-being between technical and vocational training/vocational school students (p=0.364). Specifically highlighting the students with learning disabilities (n=17), we can state that this group had the highest mean score in the study (Mean: 9.06; SD=2.461; Median: 9.00).

Based on the analysis performed, well-being was not influenced by place of residence (OR: 0.700 [0.371-1.322]; p=0.271), financial situation (OR: 1.034 [0.475-2.251]; p=0.932), nor by frequency of physical activity (OR: 1.036 [0.552-1.945]; p=0.913). Children of mothers with secondary or lower level of education scored higher on the well-being scale (Mean: 8.19; SD=2.913; Median: 8.00) than students whose mothers completed post-secondary level of education (Mean: 6.97; SD=3.605; Median: 7.00). This rate also applies to the education level of the students' father [secondary or lower level: Mean: 8.09 (SD=3.151); Median: 8.00; post-secondary level: Mean: 6.79; (SD=3.786); Median: 7.00]. However, neither the mother's (OR: 0.902 [0.408-1.996]; p=0.800) nor the father's level of education (OR: 1.252 [0.377-4.156]; p=0.714) had an impact on the overall well-being of the students.

487

Satisfaction with Life Scale (SWLS-H)

The mean score on the students' Satisfaction with Life Scale is 24.79 (SD= 7.133), indicating a medium level of satisfaction. 46% of students scored below and 54% scored above average on this scale. The life satisfaction data for the students attending different school types are presented in Table 3.

Table 3

Satisfaction with Life Scale results by school type (n=163)

School type	Mean (standard deviation)	Median
High school	24.49 (SD=7.000)	26.00
Technical school	27.46 (SD=7.229)	29.50
Vocational training and vocational school	23.21 (SD=6.733)	23.00

In the pairwise comparison, our results show that there was a significant difference between technical and vocational training and vocational school students (p=0.001), also between technical and high school students (p=0.022). The difference in this indicator between high school and vocational training and vocational school students is not significant (p=0.373). Students with learning disabilities attending vocational school scored higher than the average for high school students when measuring their life satisfaction (25.71; SD=6.273; Median: 24.00).

Students who have above-average financial situation are 2.4 times more satisfied with their lives than those who perceive their financial situation to be worse (OR: 2.437 [1.080-5.505]; p=0.032).

Although neither the mother's (OR: 1.056 [0.487-2.289]; p=0.891) nor the father's level of education (OR: 1.309 [0.434-3.952]; p=0.633) has a significant effect on the life satisfaction of the students we studied, this mental indicator may also carry information in this distribution. Students whose mothers completed post-secondary level of education scored higher on the life satisfaction test (Mean: 25.53; SD=6.621, Median: 27.00) than their peers whose mothers finished secondary or lower level of education (Mean: 24.81; SD=7.079, Median: 26.00). Though only marginally, the fathers' level of educational was similar (post-secondary level: Mean: 25.14; SD=6.960, Median: 25.50,; secondary or lower level: Mean: 25.03; SD=7.152, Median: 26.00).

Place of residence (OR: 0.881 [0.472-1.643]; p=0.691) and frequency of physical activity (OR: 1.272 [0.684-2.365]; p=0.446) also have no significant effect on students' life satisfaction.

Rosenberg Self-Esteem Scale (RSES-H)

The students involved in the study have an average self-esteem on the Rosenberg Self-Esteem Scale (27.95; SD=6.155). The dichotomisation results show that 46% of respondents have a below, while 54% have an above average self-esteem. The self-esteem scores for students in different school types are presented in Table 4.

Table 4

Rosenberg Self-Esteem Scale results by school type (n=163)

School type	Mean (standard deviation)	Median
High school	26.49 (SD=6.209)	27.00
Technical school	30.00 (SD=6.197)	29.50
Vocational training and vocational school	27.62 (SD=5.800)	28.00

The pairwise comparison showed that there was a significant difference only between high school and technical school students (p=0.012), while no significant difference was found between high school and vocational training and vocational school students (p=0.407) and between technical school and vocational training and vocational school students (p=0.059).In this case, the self-esteem of students attending vocational school is also higher than that of the students attending high school (28.53; SD=4.652; Median: 29.00).

The parents' level of education is also notable for this indicator. Children of mothers with lower level of education have a higher self-esteem (Mean: 28.5; SD=5.926, Median: 28.00) than their fellow students whose mothers completed post-secondary education (Mean: 27.00; SD=6.030, Median: 26.00). This proportion was also true for the fathers (post-secondary level: Mean: 25.79; SD=5.309, Median: 26.00; secondary or lower level: Mean: 28.4; SD=6.278; Median: 29.00). The analysis shows that respondents whose father completed secondary or lower level of education are more likely to have better self-esteem (OR: 3.380 [1.006-11.353]; p=0.049). No such effect was found for the mother's level of education (OR: 0.503 [0.230-1.099]; p=0.085). Neither place of residence (OR: 1.322 [0.707-2.472]; p=0.382), financial status (OR: 2.059 [0.928-4.569]; p=0.076), nor frequency of physical activity (OR: 1.042 [0.561-1.936]; p=0.897) showed a significant correlation with the level of self-esteem.

The research also examined the relationship between student well-being, life satisfaction and self-esteem. Our results show that for our sample, well-being has a medium-strong positive correlation with both life satisfaction (R=0.534; p<0.001) and self-esteem (R=0.412; p<0.001). Life satisfaction is also positively related to the students' self-esteem with a medium strength (R=0.509; p<0.001).

DISCUSSION

Our research investigated the subjective quality of life of Hungarian students studying in different school types, focusing on mental indicators such as general well-being, life satisfaction and self-esteem. As our research also includes specific groups (sports specialisation, low socioeconomic status and underprivileged students), we wanted to find out whether factors such as place of residence, financial situation, parental education and physical activity have an impact on the mental health of the students examined.

For general well-being, we used the Hungarian version of the WHO Well-Being Questionnaire (WBI-5) (Susánszky et al., 2006). Based on this, our sample mean was 8.01, indicating a medium level of well-being. Láng also used the same questionnaire to assess the general well-being of adolescents, and obtained similar results (9.11) (Láng, 2019). Cosma et al. (2022) used data from the HBSC survey to analyse the overall well-being of 16 countries. Although Hungary did not provide data in this case, students in the participating countries scored the highest averages on the option "I have felt cheerful and in good mood in the last two weeks". Bjornsenet al. (2019) investigated the determinants of adolescents' well-being, including parents' educational level. Their research found that the higher the father's educational level, the lower the adolescent's mental well-being was (Bjornsen et al., 2019). Analysing the results of the WHO Wellbeing Questionnaire, the results of technical school students were the most favourable and significantly higher than those of high school students in our research. The subjective well-being of vocational training and vocational school students is also significantly better than high school students.

The Satisfaction with Life Scale (SWLS-H) scores show a medium level of satisfaction, also with outstanding results for students attending technical school (Martos et al., 2014). Although a different measurement instrument was used, the 9th grade students in the HBSC study also showed similar scores, though this study could not detect differences across school types (schools providing and non-providing secondary school leaving exam) (Németh & Várnai, 2019). Hungary also joined the 3rd wave of the Children's Worlds International Survey of Children's Well-being (later ISCWeB survey). The results for European countries were reported in an analysis of international research conducted by Róbert, Szabó and Széll (2020). Hungary did not perform badly in the analysis either, but the researchers drew attention to the fact that Hungarian students score lower on the psychological scale. According to our research, the students whose parents completed post-secondary level of education scored higher on the Satisfaction with Life Scale. This is in line with the study by Kriston et al. (2014), who also examined parents' educational level in relation to adolescents' life satisfaction. The direct supportive role of the family was a predictor of higher life satisfaction in Blau et al.'s study (2018), although adolescents with goals showed a more favourable picture on this mental indicator than their peers whose vision was not yet fully developed. In the case of life satisfaction, residence is not identified as an influencing factor, but the selfassessed financial situation of students is, which is in line with the study of Petőné (2012). The influence of family socio-economic status was also demonstrated in Yan's (2021) research, where adolescents with low socio-economic status reported lower life satisfaction.

In the Rosenberg Self-Esteem Scale (RSES-H) (Sallay et al., 2014), students reported average self-evaluation, with a predominance of students attending technical school. Compared to the year 9 students in the HBSC study, the national representative results are slightly better. Studies by Nagy et al. (2019) and Szabó et al. (2019) show a more favourable picture. Most of the year 9 secondary school students examined had high level of self-esteem. It is a striking finding that students whose parents had completed lower level of education reported higher self-esteem among the students involved in the study. The relationship between sociodemographic factors and self-esteem has also been shown in an adolescent sample by Mikkelsen et al. (2020). Although in our case we could not find a link between family economic status and adolescents' self-esteem, Krauss and colleagues (2020) have shown a correlation between financial security and higher self-esteem.

LIMITATIONS

Our study is not representative, so our results and conclusions can only be applied to the sample. A limitation of the study is that some school types had a low number of items in our sample, which cause is of the intervention nature of this study. The reason for our prolongated data collection was the coronavirus pandemic in Hungary, which may also have influenced the indicators examined. Individual characteristics, the role of teachers, the media and the school environment are important factors for students' mental health, but we have deliberately not yet addressed these factors in our research.

CONCLUSIONS

The study shows that the results of students attending technical school are ideal. Although this school type provides the secondary school leaving exam, students also acquire a profession. The requirements for technical school are not as strict as those for high school. On the other hand, the majority of the parents of the pupils surveyed have received education below secondary level, which may have the effect of lower expectations of adolescents and, as a result, lower levels of pressure to conform. This latter assumption, although not tested in our study, is confirmed by previous findings that family-related factors such as parents' education and occupation have an impact on students' academic performance, effort and determination of their goals (Ráczné & Virág, 2019; Schunk & Meece, 2006; Shah et al., 2012). Despite their learning disability and low socio-economic status, the subjective well-being indicators of students in vocational school paint a positive picture. This group may be most affected by the low expectations regarding their education by their parents-which may be related to both learning disabilities and the low level of their parents' education-and may also be positively affected by the fact that these students receive maximum psychological support and mental guidance from the teachers who help and teach them, which was not measured in the study. We have previously elaborated on the positive power of a supportive community in relation to mental health (Hamvai & Pikó, 2009; Nagy et al., 2019; Van Ryzin et al., 2009).

IMPLICATIONS, SUGGESTIONS

There are a limited number of studies available that have focused on differences in mental health between school types (Elekes et al., 2019; Németh & Várnai, 2019). Although our research is not based on a representative sample, it can be concluded that health education in schools should focus on eliminating mental health inequalities and providing education that meets the needs, taking into account the school type and the needs of the students. Our results highlight the fact that students in some school types may be more, while others may be less vulnerable to mental stress—for example due to educational expectations or their parents' level of education.

These students are in the middle of adolescence, during which the many external and internal changes are stressful, but in addition to identity formation, they also have to meet an increased expectation of achievement in high school that is much more demanding. This is combined with competitive sport, which also requires focus, dedication and commitment (Reinhardt et el., 2019). They may rightly feel that their subjective quality of life is not the best in this environment full of tasks. Moreover, comparing their own performance with the best in all areas of activity and the expectations of parents, teachers and coaches also have a negative impact on their self-evaluation demands

It would be important to provide high school students with a several-year-long mental training programme with the help of various professionals. Of course, not only high school students would benefit from this training, but such interventions can enhance their self-esteem, reduce the onset of psychosomatic symptoms and improve their overall well-being. The positive impact of the school climate and the supportive and sustaining power of the community on mental health development needs to be further strengthened for students with learning difficulties and those from more disadvantaged backgrounds (vocational and vocational training schools).

Our results can help in the development of the annual health education plan and for all professionals working with adolescents. We also aim to use these findings to develop a mental health support programme focusing on different areas such as personal competences, self-image, body image and its determinants; self-evaluation, goal setting and the recognition of limits. It would also cover the importance of communication (verbal, non-verbal), the structure of the relationship system, the health-promoting effects of social relationships, stress (distress, eustress), effective problem recognition, different coping strategies (problem-focused, emotion-focused) and conflict management.

REFERENCES

Adriaanse, M., Veling, W., Doreleijers, T. & Van Domburgh, L. (2014). The link between ethnicity, social disadvantage and mental health problems in a school-based multi-ethnic sample of children in the Netherlands. *Psychiatry*, 23(11), 1103–1113. doi: 10.1007/s00787-014-0564-5

Al Sulaimi, RM., Hutaglung, DF., & Bin Syed Ali, KS. (2022). The mediating effect of physical activity in the relationship between body image and life satisfaction. *International Journal of Instruction*, *15*(2), 349-372. doi:10.29333/iji.2022.15220a

Alfaro, J., Guzmán, J., Reyes, F., Garcia, C., Varela, J. & Sirlopú, D. (2016). Satisfacción global con la vida y satisfacciónescolarenestudianteschilenos [Global life satisfaction and school satisfaction in Chilean students]. *Psykhe*, 25(2), 1–14. doi: 10.7764/psykhe.25.2.842

Aszmann, A. (2003). *Health behaviour of school-age children. Hungarian study conducted in the frame work of the World Health Organization's international research.* National Institute of Child Health.

Atkinson, R. C. & Hilgard, E. (2005). Psychology. Osiris Publisher.

Bjornsen ,NH., Espnes, AG., Eilertsen B.M-E., Ringdal, R. & Moksnes. (2019). The relationshop between positive mental health literacy and mental well-being among adolescents: implications for school health services. *The Journal of School Nursing*, *35*(2), 107-116.

Blau, I., Goldberg, S. & Benolol, N. (2018). Purpose and life satisfaction during adolescence: the role of meaning in life, social support, and problematic digital use. *Journal of youth studies*, 22(7), 907-925. doi: 10.1080/13676261.2018.1551614

Çakar, F.S., Tagay, O. & Karatas, Z. (2015). Adolescents' life satisfaction: Risky behaviors and hopelessness. *International Journal of Environmental Research and Public Health*, 6(1), 55–59.

Calmeiro, L., Camacho, I. & Gaspar de Matos, M. (2018). Life satisfaction in adolescents: the role of individual and social health assets. *Spanish Journal of Psycholology*, 21:E 23. doi: 10.1017/sjp.2018.24

Chen, S., Chen, T. & Bonanno, G.A. (2018). Expressive flexibility: Enhancement and suppression abilities differentially predict life satisfaction and psychopathology symptoms. *Personality and Individual Differences, 126, 78–84.* doi:10.1016/j.paid.2018.01.010

Cheng, H. & Furnham, A. (2004). Perceived parental rearing style, self esteem and selfcriticismas predictors of happiness. *Journal of Happiness Studies*, 5, 1–21. doi:10.1023/B:JOHS.0000021704.35267.05

Chervonsky, E. & Hunt, C. (2019). Emotion regulation, mental health, and social wellbeing in a young adolescent sample: A concurrent and longitudinal investigation. *Emotion*, *19*, 270–282.

Cosma, A., Költő, A., Chzhen, Y., Kleszczewska, D., Kalman, M. & Martin, G. (2022). Measuerement Invariance of the WHO-5 Well-Being Index: Evidence from 15 European Countries. *International Journal of Environmental Research and Public Health*, 19(16), 9798. doi.org/10.3390/ijerph19169798

Diener, E. & Diener, M. (1995). Cross-cultural correlates of life satisfaction and selfesteem. *Journal of Personality and Social Psychology*, 68(4), 653–663. doi:10.1037/0022-3514.68.4.653

Diseth, A., Danielsen, A.G. & Samdal, O. (2012). A path analysis of basic need support, self-efficacy, achievement goals, life satisfaction and academic achievement level among secondary school students. *Education Psychology*, *32*(3), 335-354. doi:10.1080/01443410.2012.657159

Eccles, J.S. & Roeser, R.W. (2011). Schools as developmental contexts during adolescence. *Journal of Adolescent Research*, 21(1), 225–241. doi: 10.1111/j.1532-7795.2010.00725.x

Elekes, Zs., Arnold, P. & Bencsik, N. (2019). Health risk behaviour of school children 25 years on. Results of the 2019 ESPAD survey in Hungary, 2019. Available at: http://devianciakutatas.hu/docs/2020/ESPAD.magyar.pdf

Hamvai, Cs. & Pikó, B. (2009). Scoial determinants of adolescents' subjective wellbeing at home and school. *New pedagogical review*, 4.

Harsányiné, P.A. (2013). Social networks and psychological well-being in the AranyJános Talen Development Programme for Disadvantaged Students. *School culture*, 23(5-6), 53-64.

Hegedűs, R. (2001). Subjective social indicators. A selective review of the literature on the topic. *Sociological Review*, *2*, 58–72.

Kőrössy, J. (2004). The relationship between self-image and school performance. In.: *The scoial psychological phenomenology of school*. Editor: Mészáros A. ELTE Eötvös Publisher. 83-101.

Krauss, S., Orth, U. & Robins, WR. (2020). Family environment and self-esteem development: a longitudinal study from age 10 to 16. *Journal of Personality and Social Psychology*, *119* (2), 457-478. doi: 10.1037/pspp0000263

Kriston, P., Pikó, B. & Kovács, E. (2014). Mental health of youth in light of objective and subjective social status. *Social research*, *32*(2), 85-98. doi:10.1556/Tarskut.32.2014.2.1

Láng, A. (2019). A multidimensional measure of adolescent psychological well-being: Psychometric properties of the Hungarian version of the EPOCH scale (EPOCH-H). *Mental health and psychosomatics*, 20(1), 12-34. doi: 10.1556/0406.20.2019.002

Lauren, T., Rose, L.T. & Soundy, A. (2020). The positive impact and associcated mechanisms of physical activity on mental health in underprivileged children and adolescents an integrative review. *Behavioral sciences*, *10*(11), 171. doi:10.3390/bs10110171

Levin, K.A. & Currie, C. (2010). Family structure, mother-child communication, fatherchild communication, and adolescent life satisfaction: A cross-sectional multilevel analysis. *Journal of Health Education*, *110*(3), 152-168.

Lew, D., Xian, H., Qian, Z. & Vaughn, M.G. (2018). Examining the relationships between life satisfaction and alcohol, tobacco and marijuana use among school-aged children. *Journal of Public Health*, *41*(2), 346–353. doi: 10.1093/pubmed/fdy074

Li, L., Bai, L., Zhang, X. & Chen, Y. (2018). Family Functioning during Adolescence: The Roles of Paternal and Maternal Emotion Dysregulation and Parent–Adolescent Relationships. *Journal of Child Family Studies*, 27(4), 1311–1323. doi:10.1007/s10826-017-0968-1

Martos, T., Sallay, V., Désfalvi, J. Szabó, T. & Ittzés, A. (2014). Psychometric characteristics of the Hungarian version of the Satisfaction with Life Scale (SWLS-H). *Mental health and psychosomatic*, *15*(3), 289-303. doi: 10.1556/Mental.15.2014.3.9

Mikkelsen, TH., Haraldstadt, K., Helseth, S., Skarstein, S., Smastuen, CM. & Rohde, G. (2020). Health-related quality of life is strongly associated with self-efficacy, self-esteem, loneliness, and stress in 14-15- year-old adolescents: a cross-sectional study. *Health and Quality of Life Outcomes*, *18*: 352. doi: 10.1186/s12955-020-01585-9

Morales-Vives, F. & Duenas, J.M. (2018) Predicting suicidalideation in adolescent boys and girls: The role of psychological maturity, personality traits, depression and life satisfaction. *Spanish Journal of Psychology*, *21*, 1–12. doi: 10.1017/sjp.2018.12

Muratori, M., Zubieta, E., Ubillos, S., Gonzalez, J.L. & Bobowik, M. (2015). Happiness and psychological well-being: A comparatives study between Argentina and Spain. *Psykhe*, *24*(2), 1-18.

Nagy, K., Gál, Z., Jámbori, Sz., Kasik, L. & Fejes, J.B. (2019). Exploring characteristics of student well-being and self-esteem among secondary school and university students. *School culture*, 29(6), 3–17. doi: 10.14232/ISKKULT.2019.6.3

Németh, Á. & Költő, A. (2014). Health and health behaviour at school 2014. Available at: https://mek.oszk.hu/16100/16119/16119.pdf

Németh, Á. & Várnai, D. (2019). *Teenage lifestyle in Hungary*. ELTE PPK-L'Harmattan Publisher.

Oberle, E., Schonert-Reichl, K.A. & Zumbo, B.D. (2011). Life satisfaction in early adolescence: Personal, neighborhood, school, family, and peer influences. *Journal of Youth and Adolescence*, 40(7), 889–901. doi: 10.1007/s10964-010-9599-1 PMID: 21042841

Oláh, A. (2011). Basic psychological knowledge. Philosophy Consortium.

Örkényi, Á. & Koszonits, R. (2004). Who are not good at home or at shcool: the subjective quality of life of elementary school students. *School culture*, *14*(8), 43-55.

Petőné, Cs.M. (2012). The role of health behaviour and sense of coherence in forming the quality of life: Qualitative and Quantitative Analysis of Subjective Well-Being, Health Behaviour and Sense of Coherence Among High School Students. University of Pécs Faculty of Humanities "Education and Society" Doctoral School of Education.

Ráczné, T.E. & Virág, K. (2019). *The relationship between children's success at school and parental education*. Csongrád County Pedagogical Service.

Reinhardt, M., Tóth, L. & Kenneth, G.R. (2019). Positive mental health in perfectionists-patterns of perfectionism, emotion regulation and subjective well-being among young elite athletes. *Hungarian sychological Review*, 74(3), 301-325. doi: 10.1556/0016.2019.74.3.3

Róbert, P., Szabó, L. & Széll, K. (2020). Aspects of child well-being. An international comparison based on a school survey. In.: *Socialreport 2020*. Editor: Kolosi T, Sz I, Tóth IGY. 281- 306.

Sallay, V., Martos, T., Földvári, M., Szabó, T. & Ittzés, A. (2014). Hungarian version of the Rosenberg Self-esteem Scale (RSES-H): An alternative translation, structural invariance, and validity. *Mental Health and Psychosomatic*, *15*(3), 259-275. doi: 10.1556/Mental.15.2014.3.7

Schunk, D.H. & Meece, J.L. (2006). Self-efficacy development in adolescence. In: *Self-efficacy beliefs during adolescence*. Editor: PajaresF,Urdan T. Greenwich, CT: Information Age Publishing.

Seligman, M.E.P. & Adler, A. (2019). Positive Education. In: Helliwell, JF, Layard R, Sachs J. *Global Happiness and Wellbeing*. Policy Report 2019. Sustainable Development Solutions Network. New York. 53–71.

Shah, M., Atta, A., Qureshi, M. I. & Shah, H. (2012). Impact of socio economic status (SES) of family ont he academic achievements of students. *Gomal University Journal of Research*, 28. DOI: 10.4236/jss.2015.35018

Steinmayr, R., Wirthwein, L., Modler, L. & Barry, MM. (2019). Development of subjective well-being in adolescence. *International Journal of Environmental Research and Public Health*, *16*, 3690. doi: 10.3390/ijerph16193690

Susánszky, É., Konkoly, T.B., Stauder, A. & Kopp, M. (2006). Validation of the short(5-item) version of the WHO Well-Being Scale, based on a Hungarian representative health survey (Hungarostudy 2002). *Mental health and psychosomatics*,7(3), 247-255. doi: 10.1556/Mental.7.2006.3.8

Syropoulou, A., Vernadakis, N., Papastergiou, M. & Kourtessis, T. (2021). Dimensionality of the Rosenberg Self-Esteem Scale among greek primary school students. *International Journal of Instruction*, 14(4), 933-944. doi: 10.29333/iji.2021.14453a

Szabó, H.L., Jámbori, Sz., Gál, Z., Kasik, L. & Fejes, J.B. (2019). Asolescents' and young adults' identity as function of self-esteem and peer support. *School culture*, 29(6), 36-48. doi: 10.14232/ISKKULT.2019.6.36

V. Komlósi, A., Rózsa, S., S. Nagy, Z., Köteles, F., Sági, A. & Jónás, E. (2017). Options for measuring trait self esteem/self evaluaton by questionnaires. *Applied Psychology*, *17*(2), 73-108. doi: 10.17627/ALKPSZICH.2017.2.73

Van Ryzin, M.J., Gravely, A.A. & Roseth, C.J. (2009). Autonomy, belongingness, and engagement in school as contributors to adolescent psycholgical wellbeing. *Journal of Youth and Adolescence*, *38*(1), 1–12. doi: 10.1007/s10964-007-9257-4

WHO (2022). Mental health. https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response (22.08.2023)

Yan, W., Yang, K., Wang, Q, You, X. & Kong, F. (2021). Subjective family socioeconomic status and life satisfaction in Chinese adolescents: The mediating role of self-esteem and social support. *Youth and Society*, *53*(7), 1047-1065. doi: 10.1177/0044118X20941344

Zsolnai, A., Kinyó, L. & Jámbori, Sz. (2012). Socialisation, social behaviour, personality development. In: *Hungarian school on the scale*. Editor Csapó B. NemzetiTankönyv Publisher. 327-365.