Mental Health and Social Support of Teachers in Szeged, Hungary

Andrea Masa
University of Pécs Faculty of Health Sciences, Hungary & University of Szeged Faculty of Health Sciences and Social Studies, Hungary, *masa.andrea@szte.hu*

Martina Derzsi-Horváth
University of Pécs Faculty of Health Sciences, Hungary, *horvath.martina06@gmail.com*

Orsolya Tobak
University of Szeged Faculty of Health Sciences and Social Studies, Hungary, *tobak.orsolya@szte.hu*

Krisztina Deutsch
University of Pécs Faculty of Health Sciences, Hungary; *krisztina.deutsch@etk.pte.hu*

The mental state of teachers is important not only because it affects their own health, but also because it has an impact on the development of the children they teach. In this especially stressful job, resources like social support and mental health help them cope. Our aim is to examine teachers' mental health, social support, and their interrelationships and whether these are influenced by sociodemographic indicators or harmful addiction. In our descriptive cross-sectional, quantitative research, we measured the mental health and social support of secondary school teachers in Szeged (n = 200). It included validated questionnaires used in international surveys. Social support was weaker in our sample, but mental health outcomes were stronger. The social support from smaller settlements was significantly stronger. Respondents with stronger social support were less affected by depression and had a stronger sense of coherence. The research confirmed the relatively good mental health of teachers, which was strengthened by social support, and the latter also correlated with a sense of coherence. The significance of this lies in the fact that the mental health of teachers has an impact on the mental health of their students, and on their own role in health education.

Keywords: high school, teachers, mental health, social support, sense of coherence, social support of teachers

INTRODUCTION

Socio-economic changes of recent decades accelerated pace of life, altered values, and disintegration of traditional communities have forced the individual to a great extent of adaptation. Reacting to these processes takes serious effort. Stressful situations developing related to a certain situation have become a central phenomenon of our lives. The concept of stress was defined by János Selye in the 1930s as an adaptation reaction to a threatening situation. Physiological changes developing during these situations prepare us for fighting (coping) or flying, depending on how we evaluate the unfamiliar, novel situation (Dávid T, 2012). All of this facilitates coping with problems and life situations in case of a creative, open-minded personality. Regarding the intensity of stress, we can distinguish between severe and mild forms. A huge crisis seriously affects our state of mind; however, chronic stress being present for a long period of time, or frequently recurring stress also plays a crucial role in triggering mental problems (Stauder & Konkoly Thege, 2006). As a result of this, depression can develop, which is basically a chronic stress reaction prolonged in time, and concomitant alterations in the brain. Genetic factors can modulate the outcome regarding who and under what circumstances will become depressed and who will not (approximately 40-50%), and stress experienced during childhood also plays a significant role. These types of impacts affecting the plastic, developing nervous system may lead to learned helplessness, which is a key feature of depression (Bódizs, 2006; van Lente et al., 2012). However, it is impossible to avoid stress during everyday life. Biological and social factors both contribute to successfully cope with it, and a feeling of coherence is determinant as a kind of internal resource. Antonovsky has created the model of 'salutogenezis', which basically points at the relationship of mental health and personality type (Antonovsky, 2012). In his approach, he does not seek the causes of a disease, he seeks the reason for staying healthy instead. Based on his opinion, the answer is a kind of complex self-confidence, which he named as sense of coherence, and is composed of the following three components:

- meaningfulness – that is the belief that understanding and managing problems are important from the individual's aspect

- comprehensibility – that is the ability to cope

- manageability – that is owning the resources necessary to cope with the problems

He claims that even though resources are deficient, we are able to cope with the problem and even succeed if we consider the problem worth dealing with. On the other hand, even if resources are at our disposal, but we are not convinced that the problem is worth managing, coping with it might be less successful. He considers the sense of coherence as a dimension determining our health, which manifests as attitude toward challenges occurring during our life (Antonovsky, 2012; Eriksson & Lindstrom, 2007).

Research over the past decade and a half has sought to answer the question of what factors adults influence our sense of coherence in our age (Feldt et al., 2011; Kahonen et al., 2012; Vastamaki et al., 2009; Vogt et al., 2016).

Furthermore, evidence suggests that social support can be protective of our health (Ocsovszky et al., 2020). Social relationships commence a rewarding inner process so strong, that triggers a significantly positive effect in our body. Feeling and experiencing the fact that an individual in need may receive adequate help from the person/ people around him can be evaluated as a kind of outside resource. The individual can trust someone, he can count on them, and it is mutual. Social support has a beneficial effect on the individual even independent of a stressful situation (Cohen, 2004; Dodd, 2021; Sarason et al., 1983; Yildirim et al., 2017). On the other hand, in harder life situations, the release of oxytocin and vasopressin occurs in those who have strong social relationships (especially if touch is involved), where oxytocin inhibits the release of stress hormones modulated by the hypothalamus-hypophysis-adrenal gland axis. All this improves our ability to cope with stress and our self-esteem, it increases the resistance out of our body and reduces the possibility of getting ill (Bódizs, 2006; Kopp, 2006). In addition to that, social isolation in adulthood acts as a mutual source of loneliness and chronic stress, which increases the risk for depression. This correlation was already revealed in the 1950s by Dürkheim.

Health is a value even from an economic aspect (Tompa, 2019). Noncommunicable diseases (NCD) are responsible for 68% of mortality globally based on data from 2019. The main reason for NCDs is inadequate nutrition, smoking, regular alcohol consumption, and little physical exercise (World Health Organization, 2019). Among the harmful addictions, for example, regular smoking is typical for 24.9% of the adult Hungarian population. In Hungary, almost 10% of adult men are heavy drinkers. These rates are influenced by - among other factors-, educational attainment and a slightly lower incidence among teachers (KSH, 2021). Frequently it is psychological factors that are in the background of NCDs causing loss of health. Stress can be a risk factor for several somatic alterations. The frequency of cardiovascular diseases and tumors can be affected by even the presence of symptoms of depression, and its clinical severity definitely increases morbidity and mortality (Balog, 2018; Estimates, 2017; Mató-Juhász, 2017; Szelei & Döme, 2020).

The length of lived years with disability caused by some mental disease can be considered a significant item regarding the so-called global burden of disease (Kósa & Bíró, 2018). It is typical especially in Western societies that the prevalence of mental diseases increases in parallel with the elevation of quality of life (Tőzsér, 2019). Based on data from 2010, globally the death of 1.3 million people per year can be associated with some kind of neuronal or mental disease. According to data psychological diseases pose the most urgent problem from the aspect of public health, the frequency of depression for instance has grown by 53.4% between 1990 and 2013 (Estimates, 2017).

During childhood, kindergarten and school are determinant places and communities beyond family regarding personal development. The basis for teachers' behavior and manifestations is their own mental health, and at the same time, they have a huge effect wit on students. Supporting young individuals knowingly is crucial, since the risk of failures, and development of childhood and teenage depression can be reduced with it. However; all of this is incomplete if it is not associated with a high sense of coherence

and adequate mental health from the teacher's aspect (Németh et al., 2020). Meanwhile, several studies confirm that teachers are exposed to greater stress compared to other jobs, challenging their own mental health (Czaja-Chudyba, 2018; Ferguson et al., 2017; Kidger et al., 2016; Kuwato & Hirano, 2020; Seibt et al., 2013; Wang et al., 2020). Altogether, teachers' social support and mental status is a particularly significant issue, because their own psychological well-being may influence growing generations' mental health as well, beyond their own health.

In our research on the mental health and social support of secondary school teachers, we hypothesize a correlation between different mental health indicators. We seek the answer for the following questions: how is teachers' social support? How does it affect their mental health? Furthermore, can it be correlated with social demographic data and variables regarding harmful addictions?

METHOD

The quantitative, descriptive cross-sectional survey was carried out in 2019 among teachers from 14 high schools in Szeged, Hungary. Sampling was directed, not randomized. Data collection was performed online and also on paper, completing the study was voluntary and anonymous. The method of data collection was using validated questionnaires, and a questionnaire containing items of our own edition, the research has been granted with ethical accreditation. 200 returned answers could be analyzed out of 202. The minimum sample size was 156 as determined by G*Power statistical power analysis.

The validated questionnaires listed below contained questions regarding social demographic factors, work, smoking, alcohol consumption, and also items considering mental health and social support.

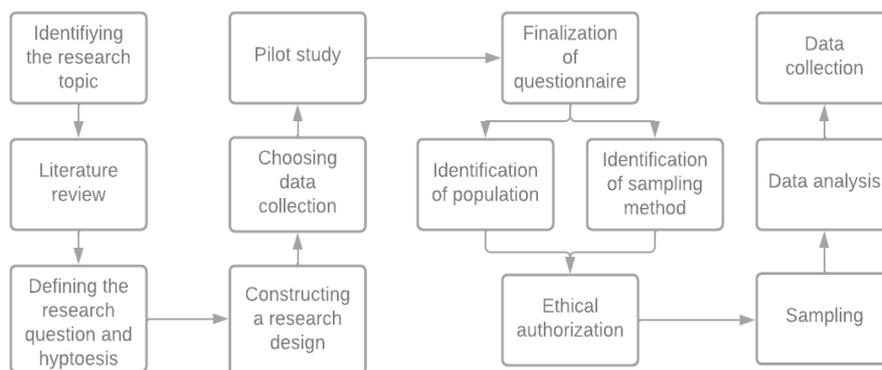The flow chart of the research is shown in Figure 1.

Figure 1
The process of the study methodology

General Health Questionnaire (GHQ-12)

It is a self-administered questionnaire to evaluate mental health disorders on a population level. It focuses on global components of psychiatric morbidity (Korten & Henderson, 2000). Several methods have been developed for analyzing the results. Goldberg and Williams applied a 4-points Likert scale between applied 0 (not at all) and 3 (much more than usual) points (Goldberg D, 1988). In another interpretation, out of 4 options, 2 represents more frequent, 2 represents less frequent occurrence than usual. In this interpretation, positive occurrence receives 1, while other options receive 0 point. A higher total score indicates a greater decrease in mental functioning. In our present study, we applied the latter, dichotomous evaluation method. A decrease in mental function was defined at 4-point cut-off value (Bauer et al., 2007).

Perceived Stress Scale (PSS-14)

It was developed by Cohen and his workgroup (Cohen et al., 1983). It is a measuring tool to define stress levels with simple, easily understandable questions referring to the last month, hence daily events cannot modify substantially overall answers. It asks about how unpredictable, beyond control, overwhelmed the individual feels in his everyday life, and about how many stressful situations he thinks he experiences. Among the answers on a 5-point Likert scale (from 0 to 4), higher scores indicate a higher prevalence of stressful situations.

Beck Depression Inventory (BECK-9)

It aims at symptoms of depression such as social introversion, indecisiveness, sleep disturbance (Rózsa et al., 2001). It has been confirmed that it can be adequately applied to reveal affective disorders which cannot be considered as a disease yet, but they already affect the quality of life. The higher the total score is administered on the 4-point Likert scale, the more symptoms of depression are characteristic of the individual.

Sense of Coherence Scale (SOC-13)

It's a shortened, 13-item form of the Antonovsky version, which describes a person's responsiveness against challenges. By indicating the level of agreement with statements of the questionnaire on a 7-point Likert scale higher values indicate a stronger sense of coherence (Balajti et al., 2007).

Oslo Social Support (OSS)

As a result of the analysis, they highlighted 3 questions referring to circle of friends/acquaintances and neighborhood, which correlated with mental health based on a multiple linear regression model. Scoring each answer given to these three questions the following scores indicate categories of social support: between 3 and 8: weak, between 9 and 11: moderate, between 12 and 14: strong (KSH, 2018). Some researchers consider the total score as a base for statistical analysis (Abiola et al., 2013; Kocalevent et al., 2018).

Analysis was carried out using the IBM SPSS Statistics Version 25.00 software. In addition to descriptive statistics (absolute and relative frequency, mean, standard deviation), Chi-squared test, Fisher Exact test, Mann–Whitney U test, and Kruskal–Wallis H test and Spearman's correlation were performed on a probability level of 95% ($p < 0.05$).

FINDINGS

The mean age of the sample was 46.96±9.1 years, median: 47 years. The youngest answering teacher was 25 years old, the oldest was 64. Characteristics referring to gender, marital status, and residence are demonstrated in Table 1.

Table 1
Distribution of social-demographic characteristics (n=200)

Variable	Attributes	N	Total sample
Gender			
	Male	63	31.5
	Female	137	68.5
	Total	200	100
Marital status			
	Married and living together	134	67
	Being in a relationship	13	6.5
	Widow(er)	3	1.5
	Married, but separated	4	2
	Divorced	22	11
	Unmarried	24	12
	Total	200	100
Residence			
	Village	13	6.5
	Small town	15	7.5
	Big city/county seat	172	86
	Total	200	100

We found that 73.5% (n=147) of the sample was living in a relationship and 26.5% (n=53) was living alone, and regarding their residence, 86% (n=172) marked big city/county seat, and 14% (n=28) chose smaller township.

Based on results referring to work, 66.5% (n=113) of respondents were teaching in vocational high school and 33.5% (n=67) in high school.

9% (n=19) of the respondents (n=200) were smokers, 2% had given it up within a year (n=4), 11% (n=21) had given it up more than 1 year ago, and 78% (n=156) had never smoked. Among current smokers, 8% (n=16) smoked every day and smoked an average of 12.5 cigarettes.

4.5% (n=9) were qualified as heavy drinkers. Binge drinking occurred at 33.5% of the respondents (n=200) in the past year. Among them, 4.5% got drunk on a monthly basis, and 3% got drunk on a weekly basis. Among binge drinkers, 3 categories were formed for further analysis: respondents who had not had at least 6 units of alcohol on one occasion in over a year and respondents who never had at least 6 units of alcohol on one occasion were assigned to the category labeled 'No binge drinking occurs at all'. 66.5% (n=133) of the respondents were assigned to this category. Respondents who chose the option that it has occurred to them less than once a month were assigned into the category labeled 'Binge drinking occurs from time to time. They were 21% (n=42) of the sample. Respondents who voted for the option that it occurred to them 2-3 times a month up until those who chose it occurred to them 5-6 times a week were assigned into the category labeled 'Binge drinking occurs on a regular basis; they formed 12.5% (n=25) of the sample.

Based on the results of GHQ-12, decreased mental function was demonstrated at 15% (n=30) of the sample.

Regarding the three categories of social support, 15% (n=30) of the respondents (n=200) had weak social support, 59.5% (n=119) had moderate social support, and 25.5% (n=51) had strong social support. Results on social support and mental health measured using ordinal scale variables are summarized in Table 2.

Table 2
Social support and characteristics of mental health dimensions (n=200)

Variable	Mean	Median	Standard deviation	Minimum	Maximum
OSS	10.31	11	1.825	4	14
PSS-14	20.7	20.5	9.205	2	52
BECK-9	12.47	11	3.906	9	30
SOC-13	66.55	68	11.752	23	87

Social support, social demographic factors, and work factors

Similar results were found when interpreting social support as categorical and also as a continuous variable regarding social-demographic variables. No significant correlation was found neither regarding gender (p=0.521 and p=0.785), nor age (p=0.664 and p=0.097), or marital status (p=0.709 and p=0.730)

Table3
Manifestation of social support among people from municipalities of different sizes (n=200)

Type of municipality	Level of social support (%)			
	Weak	Moderate	Strong	Total
village and small town	7.2	46.4	46.4	100%
big city	16.3	61.6	22.1	100%

A significant difference was found between the strength of social support evaluated in 3 categories and the size of the municipality (Chi's square=7.867, p=0.02). As Table 3 demonstrates, those respondents who live in 'village and small town', have weak social support on a lower level (7.2%) compared to those living in a big city (16.3%). In addition to that, nearly half (46.4%) of individuals living in a small municipality evaluated their social support as strong, opposite to those living in bigger cities, among whom a little more than 1/5 (22.1%) evaluated it that way.

This type of difference can also be identified when assessing the total score of social support and the size of the municipality. Range score means of village and small town (MR=123.82) proved to be higher than those of big cities (MR=96.70), so in municipalities of smaller population had a higher level of social support, and this difference is significant as the level of significance is lower than 0.05 (p=0.019, U=1755.0).

No significant difference was confirmed between workplace and type of school neither interpreted it as categories (p=0.366) nor evaluated as scale variable (p=0.864).

Social support and harmful addictions

Table 4 shows the incidence of harmful addictions in the categories of social support.

Table 4
The incidence of smoking and binge drinking in the categories of social support (n=200)

Social support	Week	Moderate	Strong	Total
Smoking				
current smokers	3	11	5	19
given it up	5	14	7	26
never smoked	22	94	39	155
Binge drinking				
regular binge drinkers	7	29	15	51
time to time binge drinkers	20	84	29	133
no binge drinking	3	6	7	16

No significant difference was confirmed between social support and regular smoking in our sample (Chi's square=0.600 and p=0.963). Furthermore, no significant difference was found between binge drinking and social support (Chi's square=4.974 and p=0.290).

Social support and dimensions of mental health

No significant correlation was revealed regarding the general health variable (p=0.257 and p=0.082).

Table 5
Mental health variables in relation with social support as a categorical variable (n=200)

	Mean	Standard deviation	Minimum	Maximum	p-value
PSS-14	20.70	9.205	2	52	
weak	24.07	11.120	5	49	
moderate	21.25	8.676	4	52	p=0.010*
strong	17.43	8.331	2	37	
BECK-9	12.47	3.906	9	30	
weak	14.27	4.638	9	28	
moderate	12.62	4.040	9	30	p=0.001*
strong	11.04	2.375	9	18	
SOC-13	66.55	11.752	23	87	
weak	61.57	13.632	32	87	
moderate	65.17	11.178	23	83	p<0.001*
strong	72.71	9.430	47	86	

Total scores on the stress and depression scale among teachers with strong social support are significantly lower than those with moderate or weak social support; furthermore, their sense of coherence also proved to be significantly higher (see Table 5). Therefore, mental health scores among teachers with strong social support are more beneficial in general, compared to teachers with moderate or weak social support.

Table 6
Dimensions of mental health in relation with social support as scale variable (n=200)

Variable	r	p-value
PSS-14	-0.192	p=0.007
BECK-9	-0.257	p<0.001
SOC-13	0.325	p<0.001

During the evaluation of social support and dimensions of mental health, it can be seen that our previously hypothesized correlation was confirmed regarding depression, even though results show a significant weak correlation (see Table 6).

A significant correlation was also found between social support and coherence. Social support was determinant in the evaluated population from aspects of depression and sense of coherence. Those who have a higher level of social support demonstrate a significantly lower total score of depression. In addition to that, those with a higher level of social support also showed a significantly stronger sense of coherence.

DISCUSSION

Almost a quarter of the adult Hungarian population smokes, compared to 9% in the sample, which is a much smaller proportion. Similarly, alcohol consumption lags behind the national average (KSH, 2021). We assumed that we did not get the national average results due to higher education, but we did not expect such a favorable picture. These rates did not manifest in our study. Results are generally more favorable related to harmful addictions, as expected based on previous literature (KSH, 2018). The reason for this is presumably the fact that participation in the study was voluntary, and not the

whole population of high school teachers answered the questionnaire, and the response rate was possibly higher among those who suffered less from some kind of addiction.

In everyday life, we are faced with a myriad of challenges. Teachers are particularly exposed to a lot of stress, much of which is chronic (Stauder & Konkoly Thege, 2006). In addition to the mental health of a significant part of the population, several researchers have stated that teachers seem to suffer from more mental problems compared to the average, and their characteristics on general mental health are lower compared to other similar populations (Czaja-Chudyba, 2018; Kidger et al., 2016; Wang et al., 2020); yet, among our respondents, it was the opposite. We revealed more favorable results even compared with study results referring to teachers' general health characteristics. It is important to note, however, that most of the literature we processed examined primary school teachers rather than high school teachers, so the results are not entirely comparable (Abdullah & Ismail, 2019; Bauer et al., 2007; Bernotaite & Malinauskiene, 2017; Fináncz et al., 2020; Seibt et al., 2013). Therefore, we could assess a population of definitely good mental health based on the received scores. For example, related to the manifestation of depressive symptoms our data is in accordance with national survey results from 2014, which demonstrated that it appears more frequently among people with a lower level of education (KSH, 2018). As teachers participating in our study are considered to have a higher level of education, the prevalence of depression is low among them. We must add that sense of coherence in the sample was stronger, as means in surveys using SOC-13 questionnaire were between 58.09 – 65.17 points (Balajti et al., 2007; Csigó & Karácsony, 2018; Kuwato & Hirano, 2020), and means the value among teachers in our study was 66.55. However, our results on social support are below the Hungarian and international study results as well. While 25.5% among the participating teachers thought to have strong social support around them, this value is at an average of 39% in Hungary, and it is 30.3% according to data from a German representative survey (Kocalevent et al., 2018; KSH, 2021). In addition to that, weak social support shows a higher prevalence in our study (15%) compared to the Hungarian average (12.5%). In case scores on social support are considered as continuous scale, the teachers' results from our study are lower than the results in Abiola's research (11.7); at the same time, it is higher than what Kocalevent had described (10.16) (Abiola et al., 2013; Kocalevent et al., 2018).

When analyzing the correlations, reduction of social support in parallel with age was not confirmed in our sample against other pieces of literature (Abiola et al., 2013; Kocalevent et al., 2018; Ocsovszky et al., 2020). Furthermore, the family from social demographic factors did not prove to be significant among our participants (Ocsovszky et al., 2020). Regarding gender, again no significant correlation was found with social support similarly to Kocalevent's results and against Abiola's findings (Abiola et al., 2013; Kocalevent et al., 2018). Reviewed literature did not mention a correlation of social support and residence, so we had no base for comparing from this aspect. Nevertheless, our study confirmed that living in a smaller municipality resulted in stronger social support, compared with being resident in a big city.

Because of the special composition of our sample, we could only perform limited statistical analysis regarding harmful addictions, since as we mentioned earlier, teachers in our sample showed a more favorable picture than expected in this regard. In light of this, it is worth mentioning that similarly to Ocsovszky, we did not reveal any significant correlations between smoking and the level of social support (Ocsovszky et al., 2020).

As to different dimensions of mental health, from the reviewed literature it was Abiola and Ocsovszky who assessed correlations of depression and stress. While Abiola found that social support was not protective against depression, Ocsovszky's results demonstrated similarly to our results that stronger social support resulted in a lower prevalence of stress and depression (Abiola et al., 2013; Ocsovszky et al., 2020). A positive correlation between sense of coherence and social support was emphasized also by Getnet and Alem, though they evaluated a completely different focus group (Getnet & Alem, 2019).

CONCLUSION

One aim of our study was the assessment of correlations among social support, harmful addictions, and social demographic factors. Interestingly, among teachers participating in this study, it was not proven that social support is a determining factor from this aspect. When designing the study, we assumed that those who have available and determinant individuals around them whom they can trust, who care about them, whom they can count on if they are in trouble, and who appreciate and love them, those therefore have an inside source of power serving as a base making them psychologically stronger, and holding them back from harmful addictions. Therefore, the results that our sample manifested a more favorable picture in regards to smoking and alcohol consumption was less interpretable in our opinion.

However, correlations related to the majority of mental health dimensions (stress, depression, coherence) were confirmed with the expected direction. The research confirmed the relatively good mental health of teachers, which was strengthened by social support, and the latter also correlated with a sense of coherence. The significance of this lies in the fact that the mental health of teachers has a direct and indirect effect on the mental health of the children they raise, as well as on their health education attitudes. Therefore the research examining the factors influencing the mental well-being of teachers will be of paramount importance in the future, and among these, new research aimed at developing a sense of adult coherence may represent a new opportunity.

LIMITATIONS

One limitation of our study is that results do not originate from representative sampling. In addition to that, distortion due to self-administration, the wish to meet the expectations must also be taking into consideration. Because of all that, results are characteristic only of this specific sample, they cannot be generalized, we formulated only tendencies based on our moderate conclusions. In face of this, our data are for information purposes, we consider them as acceptable referring to our sample, and in our opinion, they may serve as a base for future representative studies with similar purposes.

Conflict of Interests

The authors have no conflict of interests to declare.

ACKNOWLEDGMENTS

REFERENCES

Abdullah, A. S., & Ismail, S. N. (2019). A Structural Equation Model Describes Factors Contributing Teachers' Job Stress in Primary Schools. *International Journal of Instruction*, *12*(1), 1251–1262. https://doi.org/10.29333/iji.2019.12180a

Abiola, T., Udofia, O., & Zakari, M. (2013). Psychometric Properties of the 3-Item Oslo Social Support Scale among Clinical Students of Bayero University Kano, Nigeria. *Malaysian Journal of Psychiatry*, *22*.

Antonovsky, A. (2012). Unraveling the Mystery of Health: How People Manage Stress and Stay Well. In *The Health Psychology Reader*. https://doi.org/10.4135/9781446221129.n9

Balajti, I., Vokó, Z., Ádány, R., & Kósa, K. (2007). Validation of the Hungarian versions of the abbreviated sense of coherence (SOC) scale and the general health questionnaire (GHQ-12). *Mentálhigiéné És Pszichoszomatika*, *8*(2), 147–161. https://doi.org/10.1556/Mental.8.2007.2.4

Balog, P. (2018). A negatív érzelmek és a szív- és érrendszeri betegségek összefüggései. *Orvosi Hetilap*, *159*(48), 2005–2010. https://doi.org/10.1556/650.2018.31221

Bauer, J., Unterbrink, T., Hack, A., Pfeifer, R., Buhl-Grießhaber, V., Müller, U., Wesche, H., Frommhold, M., Seibt, R., Scheuch, K., & Wirsching, M. (2007). Working conditions, adverse events and mental health problems in a sample of 949 German teachers. *International Archives of Occupational and Environmental Health*, *80*(5), 442–449. https://doi.org/10.1007/s00420-007-0170-7

Bernotaite, L., & Malinauskiene, V. (2017). Workplace bullying and mental health among teachers in relation to psychosocial job characteristics and burnout. *International Journal of Occupational Medicine and Environmental Health*. https://doi.org/10.13075/ijomeh.1896.00943

Bódizs, R. (2006). Az életminőséggel kapcsolatos jelenségek idegélettani vonatkozásai. In M. Kopp & M. E. Kovács (Eds.), *A magyar népesség éltminősége az ezredfordulón* (pp. 37–47). Semmelweis.

Cohen, S. (2004). Social Relationships and Health. *American Psychologist*, *59*(8), 676–684. https://doi.org/10.1037/0003-066X.59.8.676

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A Global Measure of Perceived Stress. *Journal of Health and Social Behavior*, *24*(4), 385. https://doi.org/10.2307/2136404

Csigó, L., & Karácsony, I. (2018). Az észlelt szülői kompetenciát meghatározó faktorok - különös tekintettel a koherenciaérzetre. *Nővér*, *31*, 18–27.

Czaja-Chudyba, I. (2018). Coping with stress in situation of critics at primary education teachers. *Section Education & Education Research*, *3*(5), 93–100. https://doi.org/10.5593/sgemsocial2018/3.5/S13.012

Dávid T. (2012). Az egészségmegőrzés pszichológiája. In s Darvay (Ed.), *Tanulmányok a gyermekkori egészségfejlesztés témaköréből* (pp. 106–124). Eötvös Loránd Tudományegyetem.

Dodd, A. L. (2021). Student mental health research: moving forwards with clear definitions. *Journal of Mental Health*, *30*(3), 273–275. https://doi.org/10.1080/09638237.2020.1844873

Eriksson, M., & Lindstrom, B. (2007). Antonovsky's sense of coherence scale and its relation with quality of life: a systematic review. *Journal of Epidemiology & Community Health*, *61*(11), 938–944. https://doi.org/10.1136/jech.2006.056028

Estimates, G. H. (2017). Depression and Other Common Mental Disorders Global Health Estimates. *World Health Organization*.

Feldt, T., Leskinen, E., Koskenvuo, M., Suominen, S., Vahtera, J., & Kivimaki, M. (2011). Development of sense of coherence in adulthood: a person-centered approach. The population-based HeSSup cohort study. *Quality of Life Research*, *20*(1), 69–79. https://doi.org/10.1007/s11136-010-9720-7

Ferguson, K., Mang, C., & Frost, L. (2017). Teacher Stress and Social Support Usage. *Brock Education Journal*, *26*(2). https://doi.org/10.26522/brocked.v26i2.606

Fináncz, J., Nyitrai, Á., Podráczky, J., & Csima, M. (2020). Connections between Professional Well-Being and Mental Health of Early Childhood Educators. *International Journal of Instruction*, *13*(4), 731–746. https://doi.org/10.29333/iji.2020.13445a

Getnet, B., & Alem, A. (2019). Construct validity and factor structure of sense of coherence (SoC-13) scale as a measure of resilience in Eritrean refugees living in Ethiopia. *Conflict and Health*, *13*(1), 3. https://doi.org/10.1186/s13031-019-0185-1

Goldberg D. (1988). *A User's Guide to the General Health Questionnaire*. NFER-NELSON.

Kahonen, K., Naatanen, P., Tolvanen, A., & Salmela-Aro, K. (2012). Development of sense of coherence during two group interventions. *Scandinavian Journal of Psychology*, *53*(6), 523–527. https://doi.org/10.1111/sjop.12020

Kidger, J., Brockman, R., Tilling, K., Campbell, R., Ford, T., Araya, R., King, M., & Gunnell, D. (2016). Teachers' wellbeing and depressive symptoms, and associated risk factors: A large cross sectional study in English secondary schools. *Journal of Affective Disorders*, *192*, 76–82. https://doi.org/10.1016/j.jad.2015.11.054

Kocalevent, R.-D., Berg, L., Beutel, M. E., Hinz, A., Zenger, M., Harter, M., Nater, U., & Brahler, E. (2018). Social support in the general population: standardization of the Oslo social support scale (OSSS-3). *BMC Psychology*, *6*(1), 31. https://doi.org/10.1186/s40359-018-0249-9

Kopp, M. (2006). Az életminőség-kutatás jelentősége a népesség jóllétének vizsgálata céljából: interdiszciplináris modell. In M. Kopp & M. E. Kovács (Eds.), *A magyar népesség éltminősége az ezredfordulón* (pp. 2–9). Semmelweis Kiadó Budapest.

Korten, A., & Henderson, S. (2000). The Australian National Survey of Mental Health and Well-Being. *British Journal of Psychiatry*, *177*(4), 325–330. https://doi.org/10.1192/bjp.177.4.325

Kósa, K., & Bíró, É. (2018). A mentális állapot populációs szintű vizsgálatának koncepciói és eszközei. *Mentálhigiéné És Pszichoszomatika*, *19*(2), 103–139. https://doi.org/10.1556/0406.19.2018.005

KSH. (2018). *A 2014-ben végrehajtott lakossági egészségfelmérés eredményei.* https://www.ksh.hu/docs/hun/xftp/idoszaki/elef/elef2014_osszefoglalo.pdf

KSH. (2021). *Tehetünk az egészségünkért.* https://www.ksh.hu/docs/hun/xftp/idoszaki/elef/te_2019/index.html#szubjektvegszsgillapot

Kuwato, M., & Hirano, Y. (2020). Sense of coherence, occupational stressors, and mental health among Japanese high school teachers in Nagasaki prefecture: a multiple regression analysis. *BMC Public Health*, *20*(1), 1355. https://doi.org/10.1186/s12889-020-09475-x

Mató-Juhász, A. (2017). Az egyéni felelősség szerepe az egészség kialakításában és megtartásában. *The Publications of the MultiScience - XXXI. MicroCAD International Scientific Conference*. https://doi.org/10.26649/musci.2017.136

Németh, A., Pálinkás-Holovits, Z., & Sándor, P. (2020). A gyermek- és serdülőkori depresszió tünetei, megjelenési formái és kezelése. *Egészségfejlesztés*, *61*(2), 34–42. https://doi.org/10.24365/ef.v61i2.588

Ocsovszky, Z., Rafael, B., Martos, T., Csabai, M., Bagyura, Z., Sallay, V., & Merkely, B. (2020). A társas támogatás és az egészséges életmód összefüggései. *Orvosi Hetilap*, *161*(4), 129–138. https://doi.org/10.1556/650.2020.31625

Rózsa, S., Szádóczky, E., & Füredi, J. (2001). A Beck depresszió kérdőív rövidített változatának jellemzői hazai mintán. *Psychiatria Hungarica*, *16*(4).

Sarason, I. G., Levine, H. M., Basham, R. B., & Sarason, B. R. (1983). Assessing social support: The Social Support Questionnaire. *Journal of Personality and Social Psychology*, *44*(1), 127–139. https://doi.org/10.1037/0022-3514.44.1.127

Seibt, R., Spitzer, S., Druschke, D., Scheuch, K., & Hinz, A. (2013). Predictors of mental health in female teachers. *International Journal of Occupational Medicine and Environmental Health*, *26*(6). https://doi.org/10.2478/s13382-013-0161-8

Stauder, A., & Konkoly Thege, B. (2006). Az észlelt stressz kérdőív (PSS) magyar verziójának jellemzői. *Mentálhigiéné És Pszichoszomatika*, *7*(3), 203–216. https://doi.org/10.1556/Mental.7.2006.3.4

Szelei, A., & Döme, P. (2020). Daganatos megbetegedések és a depresszió: rövid irodalmi áttekintés. *Orvosi Hetilap*, *161*(22), 908–916. https://doi.org/10.1556/650.2020.31759

Tompa, A. (2019). Népegészségügyi látlelet. In F. Helga Judit & F. András (Eds.), *Egészségfejlesztés és nevelés*. Akadémiai Kiadó.

Tőzsér, A. (2019). A magyar társadalom mentális egészségi állapotának bemutatása. *Polgári Szemle*, *15*(4–6), 370–382. https://doi.org/10.24307/psz.2019.1224

van Lente, E., Barry, M. M., Molcho, M., Morgan, K., Watson, D., Harrington, J., & McGee, H. (2012). Measuring population mental health and social well-being. *International Journal of Public Health*, *57*(2), 421–430. https://doi.org/10.1007/s00038-011-0317-x

Vastamaki, J., Moser, K., & Paul, K. I. (2009). How stable is sense of coherence? Changes following an intervention for unemployed individuals. *Scandinavian Journal of Psychology*, *50*(2), 161–171. https://doi.org/10.1111/j.1467-9450.2008.00695.x

Vogt, K., Hakanen, J. J., Jenny, G. J., & Bauer, G. F. (2016). Sense of coherence and the motivational process of the job-demands–resources model. *Journal of Occupational Health Psychology*, *21*(2), 194–207. https://doi.org/10.1037/a0039899

Wang, X., Wang, Y., & Xin, T. (2020). The Psychometric Properties of the Chinese Version of the Beck Depression Inventory-II With Middle School Teachers. *Frontiers in Psychology*, *11*. https://doi.org/10.3389/fpsyg.2020.548965

World Health Organization. (2019). World health statistics 2019: monitoring health for the SDGs, sustainable development goals. Geneva: World Health Organization; 2019. Licence: CC BY-NC-SA 3.0 IGO. In *Sustainability (Switzerland)* (Vol. 11, Issue 1).

Yildirim, N., Karaca, A., Cangur, S., Acikgoz, F., & Akkus, D. (2017). The relationship between educational stress, stress coping, self-esteem, social support, and health status

among nursing students in Turkey: A structural equation modeling approach. *Nurse Education Today*, *48*, 33–39. https://doi.org/10.1016/j.nedt.2016.09.014