



Research article

The effect of the Covid-19 pandemic on the mental health of students and teaching staff

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ABSTRACT

In the past decade, mental health is embedded in the concept of health and teachers' mental health has become the focus of surveys. In this study we examined the mental health of special educator-students compared to their lecturers and inspectors at the University Semmelweis Pető András Faculty.

We used the validated Hungarian language Mental Health Test (MHT) to assess the mental health. The MHT is linked to the concept of physical and mental wellbeing, it is ability-based approach, and examines 5 areas: wellbeing, savoring, creative-executive efficiency self-regulation resilience.

Altogether 237 questionnaires had been returned that were suitable for evaluation (19 lecturers, 16 instructors and 202 students).

Students' mean values are lower than the instructors' and lecturers' mean values, and students presented significant lower scores in three scales: self-regulation, creative-executive efficiency, and resilience subscales. In the wellbeing scale we found significant correlation with the existence of the separate room to learn/work during the home-office.

These results point to the need for the university to pay attention to the mental health of students, who will be able to consciously monitor their mental health, and who are able to provide effective support to their students.

1. Introduction

The present study encompasses partial results of a research related to the affect of COVID-19 pandemic on life of students – compared with their lecturers, instructors – of András Pető Faculty of Semmelweis University. Data were collected in the spring of 2021 – in the 3rd wave of pandemic, when the education was conducted as the form of distance learning at the university–, and the first results were published in June 2021 in Hungarian.

The first study introduced the environment hit by the COVID pandemic whose unpredictability affected the lives of generations and transformed a centuries-old general education structure (Vissi et al., 2021). The foundations of the mental hygienic approach were reviewed including crises and solutions. Change management models such as the Black Swan or VUCA, dealing already with the possible treatment of situations generating unexpected and negative feelings were introduced. Today we can see that this work is inevitable as the rise in the number of suicides in Hungary suggests that part of the population is not ready for

mitigating the effects of the crisis situation. During the months of the COVID-19 a significant, i.e. 18% rise was seen in the number of male suicides as compared to the trend that would have occurred in absence of the COVID-19. A significant increase, namely 16%, was observed also in the entire population (Osváth et al., 2021).

The specificities of teacher training were described in relation to the special importance we attach to assessing the group of professionals who during their future career will also serve as a model in the lives of children in their care. Participants of the research were introduced, and the questionnaires applied were presented. The descriptive statistical results gained regarding mental health were analysed in relation to students, lecturers and instructors and online/hybrid training solutions introduced at the András Pető Faculty of Semmelweis University (hereinafter: SU APF) due to the restrictions in connection with the pandemic as well as the related experiences were presented, which may be utilised in order to realise training tasks more efficiently (Vissi et al., 2021).

The present study focuses on the mental health of university students, lecturers and instructors of SU APF. On the one hand, we shall examine

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how mental health is embedded in the concept of health and why teachers' mental health has become the focus of surveys in the past decade. The students of SU APF prepare for the conductor profession. Conductors are engaged in pedagogical rehabilitation impacting the entire personality of children with special educational needs originating from cerebral palsy or other causes and of adults with motor disorders, and, subject to specialisation, in educating and teaching children at pre- and primary school, and see themselves as special pedagogues (Balogh, 1989; Kozma and Balogh, 1995; Lind, 2003; Zsebe, 2020; Túri, 2020). Finally, we shall present the outcomes of the Mental Health Test conducted among students and teaching staff of SU APF during the pandemic and compare the results with the findings of other studies.

For better understanding, in the present study the topic of mental health and wellbeing surveys is put to the centre of theoretical presentation. We focused on a) well-being model of health concept, b) teacher and mental wellbeing, and c) the effect of COVID19 on university students' well-being.

2. Theoretical background

2.1. Introduction to the health concept

The concept of health has undergone a significant transformation in the recent period. The most important change is perhaps the new significance the quality of life has acquired with the normalisation principle put forward by Bank-Mikkelsen in 1959 (Encyclopaedia Britannica) and elaborated in detail by Nirje in 1968 (Hatos, 2007). The model, prepared upon parents' pressure and own experiences, had such an impact that in 1971 the UN adopted a resolution proposing protection of the rights of persons with disabilities.

Eberst's (1984) health flower symbol highlights mental health which appears as a basis in relation to the other components. According to the modern health concept, health is seen as the resource of everyday life rather than its purpose. In this positive formulation the emphasis is not merely on physical condition and capacity anymore but also on social and personal resources.

From the point of view of life quality, we can distinguish three major areas which are in close interaction with each other. Physical health, mental health and social health contribute together to the subjective health of the individual (Kopp and Pikó, 2006). Health consciousness, the role of environmental effects as well as the individual's attitude system and mental disposition equally appear in maintaining or losing life quality. There has been a significant transformation in the health concept of psychology as well which can be connected to the emergence of positive psychology. The formulation of "normality", however, was also previously an important issue, given its significance concerning defining mental illness, although, similar to medical approaches, for a long time it meant the lack of psychiatric

disease. Previously the concept of health was attached to "normality" in accordance with the medical approach and meant the lack of psychiatric disease. Positive psychology already approaches from subjective wellbeing rather than deficit and disease. In our study the emphasis is on mental health, our research focuses on that area. The development of the health concept from the medical to the wellbeing model is shown in Table 1.

As demonstrated above, the wellbeing model of the health concept already includes mental health, integrating the ability of coping with environmental difficulties along with individual development and cognitive evaluation.

Similar to the wellbeing model of the health concept (Table 1), the dual-continuum model sees mental health and the symptoms of mental illness as two continua rather than phenomena of contrasting contents (Keyes, Shmotkin & Ryff, 2002).

Keyes (2002, in: Reinhardt et al., 2020) believes that persons who are characterised by excellent psychic functioning reach a high level also in the categories of emotional, psychological, and social wellbeing while they are free from any symptom of mental illness. Emotional wellbeing comprises satisfaction with life, positive feelings, happiness, and the lack of negative feelings. The authors (Keyes and Waterman, 2003; in: Reinhardt et al., 2020) place self-acceptance, the feeling of personal growth, goals in life, the sensation of efficiency, autonomy and positive relationships with others with psychological wellbeing, while social wellbeing includes social acceptance, social actualisation, social coherence and social integration.

Keyes refers to this condition as *flourishing*. At the other end of this mental health dimension are those with a low level of emotional, psychological and social wellbeing whom he called *languishing*. The condition of moderate mental health is to be found between flourishing and languishing. Persons in this category are free from complaints related to mental illness and rank as medium and average in the wellbeing areas (emotional, psychological and social). The other dimension is made up by persons who are characterised by mental disorders. In this category we can talk about *complete mental illness* in the case of high subjective wellbeing while low wellbeing is linked with *floundering*. This group has a bad prognosis, they are unable to mobilise resources in order to increase their own wellbeing. The question arises, to what extent these resources can contribute to the individual's coping and a creative solution of the crisis during the current COVID-19 world pandemic.

2.2. School and emotion

Although emotional education is given increasing prominence among the duties of the school these days, in the first half of the 20th century it was scarcely mentioned while the focus was on providing and engraving knowledge; emotions and thinking were rigidly separated.

Table 1. Development of the health concept from the medical to the wellbeing model (sources: Larson, 1999, authors' construction).

| | medical model | holistic approach | wellbeing model |
|-----------|--|--|---|
| | Classic theories are based on the balance theory of medicine: disease is a consequence of imbalance; thus treatment is aimed to restore perfect balance. | „Health is a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity” (WHO, 2005) | Disease and health are parallel dimensions rather than antipoles. Health: – inner experience or feeling – power and capacity that enables us to overcome disease Health is a condition of balance manifested both within the individual's personality and between the individual and the social-physical environment |
| criticism | lack of individual responsibility, a condition totally lacking disease and pain is almost incompatible with life | Underestimated social/economic and cultural effects. The definition of health does not reveal which health conditions are regarded good or bad and what exactly “social wellbeing” means | Difficult to quantify, experiencing wellbeing may vary both in individuals and in cultures, a given individual may evaluate their condition differently according to age or life situation |

Several factors have a role in the change of the way of thinking concerning learning and instruction and in the emergence of emotions and emphasis on it.

1. The separation of emotions and thinking is often seen in theoretical and practical pedagogy even today, and knowledge-centred instruction preferring traditional methods is still maintained in Hungary. The world of the school, however, is imbued with emotions, every action, including each step of learning, is accompanied by emotion, emotions cannot be separated from reasoning, from the learning process, they are interconnected, supporting, or sometimes hindering each other (Cornelius-White, 2007; Borbáth, 2020).
2. Transmitting knowledge today is just one of the many expectations set for public education and the teachers (Tamás, 2010). The knowledge-focused, didactic instructional practices is gradually replaced by child- and personality centred education. Teachers must be able to appraise and appropriately respond to individual differences, specialities and needs, to provide a safe background both for learning and for other periods of time spent together, and to build up internal motivation which will later on serve as the major pillar of lifelong learning. In order to fulfil the changed duties of public education institutions competent teachers are needed who possess values beyond the traditional ones. Meeting educational tasks takes more than a thorough knowledge of one's subjects, the importance of the teacher's personality, i.e. empathy, attention, respect for the child's personality, flexible thinking, planning and action etc. has become a priority (Korthagen, 2004; Buchanan, 2015).
3. The theories of positive psychology have emerged in education science as well, and it has become clear that students' mental and psychological wellbeing has an impact on their performance; anxious, unhappy, not sufficiently motivated etc. children will be underachieving (Bricheno et al., 2009; Briner and Dewberry, 2007; Borbáth, 2020). In parallel, the teacher's personality and current psychological disposition has a significant impact on the students' mental and psychological wellbeing and thereby indirectly on their performance (Borbáth, Horváth, 2021). The teacher's supportive, motivating attitude and respect for children's emotions and personal specificities increases the child's psychological security, self-esteem, self-confidence and the formation of a positive self-image (Hattie, 2008) while humiliating, sarcastic, ignominious statements referred to as "black pedagogy" contribute to anxiety and the formation of a negative self-image and decrease self-esteem i.e. have a negative effect on the child's psychological wellbeing (Koncz, 2008).

Teachers' represented type of pedagogy depends on their education, the expectations of the school as an organisation, their own personality and current emotional disposition. Studies are confirmed the correlation between the teacher's emotional regulation, satisfaction, burnout and students' well-being (Réthy, 2016; Braun et al., 2020) (Réthy, 2016).

4. When expressing, handling and living their emotions, teachers also serve as a model to the children in their care (Borbáth, 2020), thus recognising, expressing and handling their own emotions proves to be an important aspect in the education process.

Thus, for the changed tasks of the public education institution to be fulfilled, the mental wellbeing of the teachers is of crucial importance from several points of view and is brought increasingly into focus. Taking the above into account, as an institution of teacher training, in addition to transmitting pedagogical and education science knowledge we also consider the mental wellbeing of actors involved in the training, the recognition of their own personality, the ability to reflect thereupon, the shaping of a coherent pedagogical personality and the preservation and maintenance of their mental health important.

2.3. The conductor as a teacher

Initially children's cognition is characterised by intense curiosity and the desire to know and to explore, later, entering school this thirst for knowledge generally starts to decrease significantly. According to Réthy (2016), if the learning activity is carried out willingly and linked with joy, interest and positive emotions, internal motivation will develop and the student will perform the activity following their own motivation, to their own satisfaction rather than to prompting from outside and this will constitute a foundation for lifelong learning.

In the conductive education's toolbox, as the term suggests, the emphasis is on educational tasks. It centres on the child's personality rather than knowledge, instead of conveying information and practising development it focuses on addressing the entire personality. In conductor training arousing and maintaining motivation is a major requirement, conductors regard motivation as a precondition of independent, activity-based learning, without motivation learning is unthinkable. Given its holistic approach, it declines the various separately performed development procedures. According to its theory, the personality is more than the summation of parts and the parts are constantly in interaction with each other and with the environment, it is therefore impossible to develop a single separate segment of the personality (Feketéné Szabó, 2020). In conductive education, instead of "development" activity based, focusing on motivated, active learning and the employment of acquired activities and knowledge instead of "practising" (Zsebe, 2020; Kállay, 2020).

2.4. Teacher and mental wellbeing

Thus, teachers' mental wellbeing is not a personal matter since it has a great impact on the efficiency of education, provides a model for the coming generation and may influence the psychological wellbeing of the next generation even in the long term. Detecting the factors determining teachers' wellbeing is therefore of crucial importance as they may provide an appropriate basis for reconsidering the framework of the training and continuing training or specifically for planning interventions to support mental health (Salavec et al., 2006).

Hascher and Waber (2021) in their systematic review found that teacher's well-being is correlated to teaching-effectiveness, student outcomes, school improvement, educational reforms. It also associated other psychological constructs, such as satisfaction, resilience, flourishing, stress and burnout.

Rogers et al. (2013), in: Borbáth and Horváth, (2021) found that the most successful teachers were the most personality-centred teachers and identified the positive teacher-student relationship as the key to students' success; for this they postulate a teacher with an appropriately functioning, mentally healthy personality and psychological wellbeing.

Dewe and Cooper (2012) examined the connection between work and wellbeing. In their interpretation, wellbeing is a dynamic condition that allows the individual to achieve their potential, to pursue productive and creative work, to build strong and positive relationships with others and to contribute efficiently for the sake of the organisation, the community. This conception of wellbeing includes tasks that are essential for teachers to accomplish their job efficiently, thus teachers whose psychological wellbeing is low are according to Dewe & Cooper unable to fulfil their tasks or at least with lower efficiency i.e., the efficiency of their pedagogical work will decrease (Dewe, Cooper, 2012; Réthy, 2016), and this may lead to burnout or even career leave (Goddard & O'Brien, 2006; Parker et al., 2012).

Burnout threatens primarily persons in long term jobs who have to concentrate on others and are strongly involved emotionally i.e. all professionals in the helping, humane sector are at risk. According to some studies, however, the teacher profession is among the most stressful even among the helping services (Brunsting et al., 2014; Mihálka and Pikó, 2018; Gyarmati et al., 2020), and many study on teachers' well-being are concerned with teachers' burnout (Zee and Koomen, 2016). In addition to

endangering the teacher's mental health, burnout has a correlation with students' performances, thus it is a problem for the students, their families and the entire school system (Ruble and McGrew, 2013).

In their systematic analysis of the literature, Brunsting et al. (2014) undertake to analyse studies on special education teachers' burnout. They draw the consequence that special education teachers encounter on a daily basis risk factors that have been identified by various surveys in relation to teachers' burnout. These factors accumulate and thus significantly increase the risk of burnout among special education teachers.

Preventing burnout is a task for mental hygiene which may be realised at organisational or individual level (Benkovics-Parádi, 2017). From the point of view of our subject primarily prevention opportunities at organisational level are of importance. Significant steps for prevention can already be taken during the training by setting up self-awareness groups, clarifying motivation purposes, promoting personal development, organising career socialisation lessons, while for those in service case discussions, consultation opportunities, discussions on stress management and programmes for maintaining and reinforcing relations can be provided.

In spite of the importance of teachers' wellbeing, our knowledge of the teacher training universities' role to support the wellbeing and prevent burnout is very low (Vorone, Vorobyov and Negovan, 2011; Gus-tem-Carnicer, Calderón, 2013; Bíró, 2014; Väisänen et al., 2016).

2.5. Universities students' well-being

Bíró (2014) examined the mental health of students in 7 universities in Hungary. Based on the research, a quarter of students suffer from high levels of psychological stress, and a fifth from moderate or severe depression. The proportion of students with low mental health is four times more common than in general population.

Reinhardt et al. (2020) found significantly different results using the Hungarian Mental Health Continuum-Short Form. 30,1% of the sample was characterized the highest level of well-being (flourishing), 62% the moderate level of well-being, and only the 7,8% of the sample were in the low level of well-being (withering).

Many of the research are concerned with impact COVID-19 on mental health among university students. Due to strict regulation, the students faced sudden changes in their everyday and academic life. Studies confirmed the negative impact of closure, disruption in academic processes, social distancing, and self-isolation on well-being (Brooks et al., 2020; Wang et al., 2020; Kohls et al., 2020; Capone et al., 2020; Stathopoulou et al., 2020; Van de Velde et al., 2020; Burns, Dagnall, Holt, 2020; Savage et al., 2020; Plakhotnik et al., 2021; Fekete, 2021; Fialho et al., 2021; Prasath et al., 2021; Dodd et al., 2021).

Other studies only partially reinforced the results of the above studies. Bánhidi and Lacza (2020) found that the biggest change in the students' life was to take hygienic habits more seriously, and the pandemic closure affected their social health status. The students stated that their motivation for studying and physical activity was not decreased or even increased (Bánhidi and Lacza, 2020). In the Capone, Marino and Park's study (2021) the responding students reported uncertainty about their career, but contrary to expectations, the level of their mental well-being, ambitions, self-efficacy was normal.

In summary we can state that teachers' mental wellbeing is of primary importance both from the point of view of their own wellbeing and education and special attention must be paid to promoting resilience in pedagogues during teacher training and continuing training. The pandemic is regarded as a crisis which provides a specific framework for the aims of our research, i.e., for assessing the general mental wellbeing and coping skills and strategies of persons currently involved in conductor training, the difficulties and supportive factors they have encountered, the solutions they have found and the subjective

evaluation of their own success. From these, the present study will only present the exploration of mental wellbeing. Our investigation will not stop at appraising and analysing effects, the outcomes will be shared with the management in charge of and the teaching staff involved in the training so that the findings can be utilised during the advancement of the training. Our aim is to create a learning organisation responding more flexibly than currently, where the mental wellbeing of the teaching staff and the students is brought much more to the focus than so far.

2.6. Ethical approval

The study was approved by the Scientific and Research Ethics Committee of SU APF (ethical permit no.: KEB/2021/027).

3. Materials and methods

3.1. Research method

Our research was not directed at higher education in general, only a specific segment thereof, it was aimed to assess the mental health of persons involved in conductor training at the András Pető Faculty of Semmelweis University, the difficulties and supportive factors they had encountered during the pandemic in their lives in general and during the training and their opinions on the various solutions.

Our survey was centred around five issues. In the present study we shall analyse responses given to one of those issues and present correlations of these. The focus is on the mental health of persons involved in the training; as control variables we have included sociodemographic variables: age, type of residence, position in the training, existence of own room during online teaching.

Data were collected in April 2021, during the third phase of the pandemic in Hungary which was more severe than the first and the second. Due to the obligatory lockdowns and restrictions both the theoretical and the practical training was carried out online. Following ethical approval by the Scientific and Research Ethics Committee of SU APF in the first place the test measure was created. For testing mental health the validated Hungarian language Mental Health Test (MHT) was applied (Oláh et al., 2018; Vargha et al., 2019; Vargha et al., 2020), for assessing the further issues of the survey a specific questionnaire was created (Vissi et al., 2021). The pilot testing of the measure took place in March 2021, involving 10% of possible participants of the survey (34 university students, 2 lecturers, 2 instructors), then, following quantitative and qualitative (content) analysis of the data gained we prepared the final version of the questionnaire. The finalised questionnaire contains both open (10) and closed (42) questions. Participants were supposed to answer closed questions on a 1–6 Likert scale and open questions in words.

The validated test scale examining mental health is centred around 5 dimensions: savoring, creative-executive efficiency, self-regulation, resilience, MHT mean.

Our self-created measure examines 4 dimensions: a) difficulties encountered during the different phases of the pandemic in general and in relation to the training, b) elements identified as supportive factors during the different phases of the pandemic in general and in relation to the training, c) solutions found during the training, d) positive effects of the situations experienced.

In the present study only the outcomes of the MHT will be examined and presented, findings of the self-created test measure will be analysed in future papers.

All persons participating in the training were contacted via email, providing information on the aims of the research and requesting for their contribution. By completing and returning the related form the

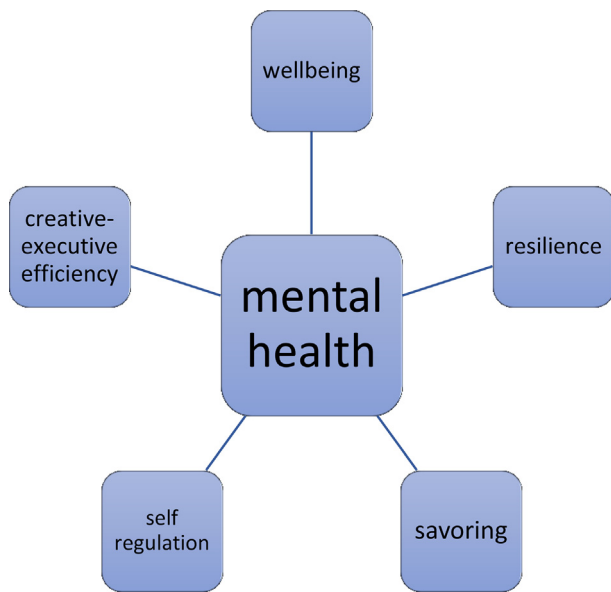


Figure 1. The concepts of MHT: mental health and its components (authors' construction).

participants agreed to contribute. The survey was carried out on a voluntary basis and anonymously via questionnaire between 6 and 20 April 2021.

For statistical analysis of the quantitative data the R programming language, for statistical analysis the Kruskal-Wallis test were adopted, in the case of significant results the Dunn test was added and the Kruskal-Wallis test and the Mann-Whitney test were used. In the case of students displaying higher values than the mean of the MHT questionnaire,

due to the low number of elements the characteristics of the group were introduced through descriptive analysis.

3.2. Introduction of the MHT

In our study, the MHT was adopted as a measurement of mental health (Vargha et al., 2020), complemented with demographic data and open questions regarding stress perception and coping of the participants.

Built on the theoretical grounds presented in the introductory part, the MHT is based on the WHO's definition of mental health (Galderisi et al. 2015, p.231), which means mental health is build more components, that are jointly responsible for the mental health of the individual. Accordingly, the measure of mental health should also assess several components. The MHT has a complex, 5-dimensions structure and ability-based approach (Figure 1). The abilities are the following:

- **wellbeing** experienced in the physical, mental and spiritual areas
- **savoring**, the ability to create, feel, maintain and increase positive experiences
- **creative-executive efficiency** while the individual is able to change and shape the environment and themselves even during changed circumstances in order to achieve their aims
- **self-regulation** which through attention and consciousness management enables the individual to control their emotions and thereby their behaviour persistently even during difficulties
- **resilience** which helps fast adaptation to crises and recovery.

These abilities enable the individual to cope with stress, to select and apply efficient coping strategies, to control behaviour, and, through the possibility to experience, maintain and create positive emotions, to feel good in an ever-changing world full of challenges (Figure 1). Insufficient functioning of any of the abilities appears as a task for development by mental hygiene at both individual and institutional level.

Table 2. Characteristics of participants.

| lecturers (N = 19), instructors (N = 16) | | | students (N = 202) | | |
|--|----|------|---------------------------------------|-----|------|
| Age | N | % | Academic year | N | % |
| Under 25 years | 0 | 0 | first | 75 | 37,1 |
| 26–35 years | 3 | 8,6 | second | 59 | 29,2 |
| 36–45 years | 6 | 17,1 | third | 43 | 21,3 |
| 46–55 years | 16 | 45,7 | fourth | 25 | 12,4 |
| 56–65 years | 9 | 25,7 | | | |
| 65 + years | 1 | 2,9 | | | |
| Location | | | Specialisation | | |
| early years | 2 | 5,7 | not applicable | 75 | 37,1 |
| pre-school | 6 | 17,1 | pre-school | 60 | 29,7 |
| primary school | 5 | 14,3 | primary school | 54 | 26,7 |
| vocational school | 2 | 5,7 | rehabilitation | 13 | 6,4 |
| adult | 1 | 2,9 | | | |
| Institute of Conductive Pedagogy | 10 | 28,6 | | | |
| Institute of Human Sciences | 9 | 25,7 | | | |
| Type of residence | | | Type of residence | | |
| capital | 27 | 77,1 | capital | 79 | 39,1 |
| county seat | 0 | 0 | county seat | 24 | 11,9 |
| small town | 3 | 8,6 | small town | 61 | 30,2 |
| village | 4 | 11,4 | village | 32 | 15,8 |
| other | 1 | 2,9 | other | 6 | 3 |
| Possibility to work in separate room | | | Possibility to study in separate room | | |
| yes | 28 | 80 | yes | 157 | 77,7 |
| no | 7 | 20 | no | 45 | 22,3 |

Table 3. Mean values of MHT scales concerning students, instructors and lecturers. The sources of the Hungarian mean values: Vargha et al. (2020).

| | Hungarian mean minimum value | Hungarian mean maximum value | student mean | lecturer mean | instructor mean |
|-----------------------------|------------------------------|------------------------------|--------------|---------------|-----------------|
| wellbeing | 3,6 | 5,2 | 3,7 | 3,7 | 4 |
| self-regulation | 2,6 | 4,9 | 3,6 | 4,2 | 4,3 |
| savoring | 3,8 | 5,5 | 4,5 | 4,2 | 4,5 |
| resilience | 2,8 | 4,9 | 3,3 | 4 | 4 |
| creative-executive activity | 4 | 5,3 | 4,1 | 4,4 | 4,5 |
| MHT mean | 3,6 | 4,9 | 3,9 | 4,1 | 4,3 |

Table 4. Significance of MHT subscales between the groups involved in the study (Dunn test).

| name of MHT subscale | chi-squared | p value | result |
|-------------------------------|-------------|---------|--------|
| wellbeing | 0.97 | 0.617 | |
| savoring | 1.84 | 0.399 | |
| creative-executive efficiency | 12.73 | 0.002 | * |
| self-regulation | 16.77 | 0.000 | * |
| resilience | 8.98 | 0.011 | * |

4. Results

4.1. Participants

As background data the participants' position in the training (for lecturers and instructors location of work, for students year and specialisation), type of residence during home-office/digital instruction, possibility to work in a separate room, from sociodemographic data the age of lecturers and instructors were recorded (Table 2).

Altogether 237 questionnaires had been returned that were suitable for evaluation (19 lecturers, 16 instructors and 202 students).

As for the age of the teaching staff, most of them belong to the upper age groups (45,7% of the respondents were between 46 and 55 years, 25,7% between 55 and 65 years) which corresponds to the distribution by age of teaching staff at the institution. The teaching staff represented all possible locations of work. According to the type of residence most of them were staying at the capital during home-office work (77,1%), the next category is village residents (11,4%), followed by those living in a small town (8,6%), and a significant part (80%) had the opportunity to pursue their work in a separate room.

The majority of student respondents were in the first year of the training (37,1%), followed by the second (29,7%), and the third year (21,3%), the lowest number of respondents (12,4%) represented the fourth year. This is probably related to the increase in expectations and in the amount of tasks to be accomplished independently in the upper years, moreover, the survey period coincided with the deadline set for fourth year students for submitting the final thesis. As regards the chosen specialisation, all three were represented.

Standard deviation regarding the type of residence is much higher than in the case of teaching staff, which also corresponds to expectations since students come to the faculty from all parts of the country. In terms of the separate room the outcome was as good as with the teaching staff, 77,7% of the students had a separate room.

4.2. Mental health of persons involved in the training

During statistical analysis none of the MHT scales showed a normal distribution, therefore from then on non-parametric procedures were adopted.¹

4.2.1. Comparison of MHT scales concerning students, instructors and lecturers

First of all, it is visible in the Table 3 all of the involved group's mean values are between the Hungarian mean minimum and maximum values. Students' mean scores are lower than the instructors' value while standard deviation is higher in the mean values of the lecturers. In the case of the MHT the results of lecturers, instructors and students presented significant differences in three scales (Table 4). Compared to the students, the scores of instructors and lecturers are significantly higher in the case of the self-regulation scale. As regards the creative-executive efficiency and the resilience subscales, students' values were significantly lower than those of the instructors but did not differ from those of the lecturers. Standard deviation is high in the values of the lecturers.

Among the subscales, in self-regulation students reached a significantly lower score than instructors or lecturers (Figure 2).

From the subscales in resilience the students again score lower than the instructors but there is no difference from the lecturers (Figure 3).

As for creative-executive efficiency among the subscales, students' scores are again lower than those of the instructors but do not differ from lecturers (Figure 4).

4.2.2. Introduction of the connection between the results of the MHT scale and demographic correlations

We analysed the results of MHT related to demographic data, and we found correlation related to only separated room.

During the period of the pandemic personal space and possibilities to stay in the open air have gained importance. A separate room gives one the opportunity to spend the time dedicated to learning and relaxing efficiently, free from disturbing factors. For ethical reasons we did not want to ask questions regarding the financial situation of our students', lecturers' and instructors' families, thus a less sensitive item i.e. the existence of a personal room was included in the questionnaire (Table 2).

Having one's personal space makes it possible to become immersed in studying, working, recreation or relaxation. In the wellbeing scale we found significant correlation with the existence of the separate room (Table 5). Those who had a room reported a higher level of wellbeing than those who did not (Figure 5).

5. Discussion

A great number of studies described the difficulties students had to encounter due to the pandemic, which had a negative effect on their mental wellbeing (Brooks et al., 2020; Wang et al., 2020; Kohls et al., 2020; Capone et al., 2020; Stathopoulou et al., 2020; Van de Velde et al., 2020; Burns, Dagnall, Holt, 2020; Savage et al., 2020; Plakhotnik et al., 2021; Fekete, 2021; Fialho et al., 2021; Prasath et al., 2021; Dodd et al., 2021). Based on the results of these surveys, isolation, difficulties with handling online platforms, anxiety about possible progress with studies, interruption of personal contact with the other students, lecturers and mentors are mentioned as risk factors increasing the number of already existing stress factors related to higher education.

Despite of the COVID-19 pandemic and it's expected effect on the well-being, all the involved group's mean values are in the

¹ Judit Mokos helped us prepare statistical analyses.

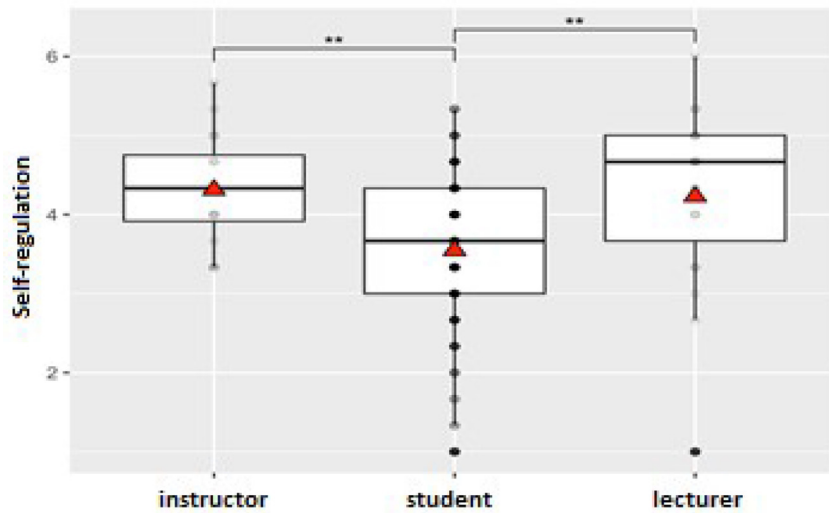


Figure 2. Differences of the self-regulation subscale of the MHT questionnaire among lecturers, instructors and students.

Hungarian mean maximum-minimum values range before the pandemic (Vargha et al., 2020). These results are very similar to results of Capone, Marino and Park's study (2021), and were a

little unexpected, based on the literature we assumed lower values of well-being. The exploration of reasons requires further research.

Regarding the interpretation of the findings of the MHT scale in summary we can state that significant differences were found between

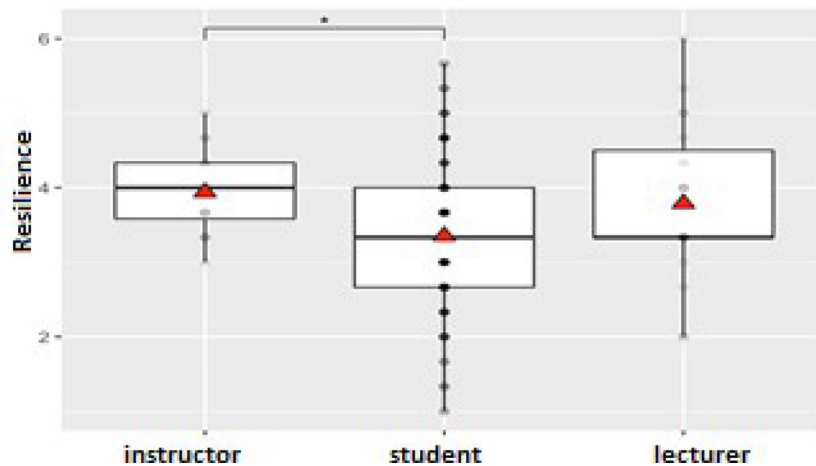


Figure 3. Differences of the resilience subscale of the MHT questionnaire among lecturers, instructors and students.

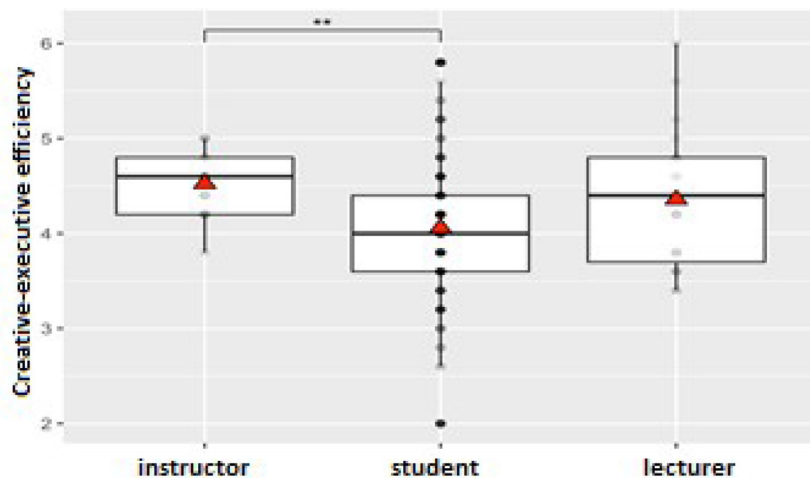


Figure 4. Differences of the creative-executive efficiency subscale of the MHT questionnaire among lecturers, instructors and students.

Table 5. Significance of the subscales of the MHT between the groups involved in the research (Mann-Whitney test).

| name of MET subscale | W value | p value | result |
|-------------------------------|---------|---------|--------|
| wellbeing | 5721.0 | 0.036 | * |
| savoring | 5324.5 | 0.237 | |
| creative-executive efficiency | 5069.5 | 0.551 | |
| self-regulation | 4817.5 | 0.987 | |
| resilience | 5574.0 | 0.079 | |

students, instructors, and lecturers in the self-regulation subscale. Self-regulation is an ability which through attention and consciousness management enables the individual to control their emotional disposition and thereby their behaviour persistently even during difficulties. Controlling emotional conditions is an element of primary importance within the teachers' activities. As we could see in the previous chapter, emotional education, mentalisation of the students becomes increasingly important task for teachers. The self-regulation is related to age, the regulation of emotions is more successful in older age, and the difference is more pronounced in women (Vargha et al., 2020), that explains our results.

Significant differences were found between instructors and students in the resilience and the creative-executive activities subscales; instructors had higher scores. Lecturers did not differ from the students, their results showed high standard deviations.

The resilience subscale of the mental health questionnaire helps fast adaptation to crises and recovery. Resilience values were higher in the instructors. The resilience is related to age also, but the correlation is weak (Vargha et al., 2020). It can be the other explanation, that experience and any spontaneous selection may have a role here. Teachers with lower adaptability skills are presumably less able to stay and perform within the constantly changing higher education system. We could not find this higher level of resilience in lecturers, however, due to the low number of elements and the high standard deviation these results rather remind us that it would be worthwhile to continue assessing the quality of mental health among lecturers and provide support in order to improve the indicators of mental health.

Relying on the creative-executive efficiency the individual is able to change the environment and themselves even under altered circumstances and in stress situation in order to reach their aims. In this area too, instructors had an advantage over students and standard deviation

was higher in lecturers' results. The creative-executive functions can be improved well, so it is suggested to pay more attention on it.

On the basis of the outcome, we can state that from the point of view of mental health instructors and lecturers cannot be placed in one group. Due to the small number, however, the results must be treated with reservations. We would like to emphasise that higher education has duties concerning coping with stress and developing mental resilience since in the case of students (although on average their values were within the normal range) we found an area where more conscious development and mental hygienic care are necessary. This statement applies to a smaller part of the teaching staff as well, however in our opinion this does not require a solution at institutional level.

According to our results students' mental health is lower than that of the teaching staff and it falls into the lower third of the average in Hungary, the university need to address it to prevent even lower values.

6. Summary

Our analysis was aimed to introduce mental health indicators that are suitable to describe SU APF students and lecturers and instructors of the faculty. We sought an answer to the question as to whether the faculty has anything to do to improve students' mental health and to furnish them with more efficient methods to solve crises before entering the labour market.

When the pandemic hit the world in 2020, higher education was confronted with a crisis and previous experiences with managing similar situations were lacking. It is of crucial importance to prepare teachers for maintaining their mental health and find creative solutions to crisis situations at both individual and institutional level. In the MHT we found an instrument which provided a frame to assess the mental health condition of lecturers, instructors and students of the faculty through validated categories.

In the theoretic introduction we have demonstrated that persons with a high score in mental health are capable to best handle stressful situations arousing negative feelings and to solve crisis situations in a creative way and to efficiently control emotions (Reinhardt et al., 2020). Our results do not harmonise with Bíró's (2014) previously quoted findings indicating the low mental health of young people studying in teacher training and in the helping professions. Efficient teachers primarily take advantage of their own personality during their work. In the long run it is essential to raise teachers' psychological wellbeing by more efficient mobilisation of their internal resources. It could be a subject for further

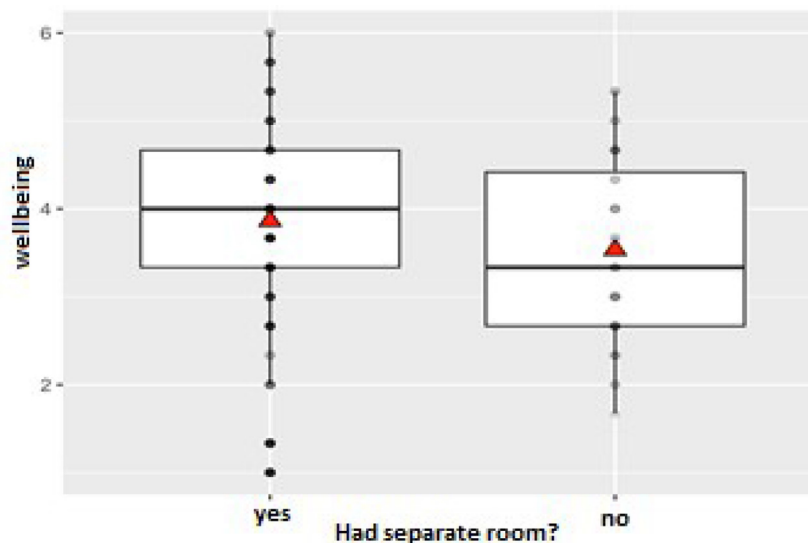


Figure 5. Differences of the connection between the wellbeing subscale of the MHT questionnaire and the separate room among lecturers, instructors and students.

research to explore factors which distinguish groups with high mental health from underachieving ones and, building on those factors, to develop intervention programmes that are suitable to promote students' psychological wellbeing in a preventive way.

Declarations

Author contribution statement

Ibolya Túri: Conceived and designed the experiments; Performed the experiments; Wrote the paper.

Írén Sipeki: Conceived and designed the experiments; Performed the experiments; Wrote the paper.

Tímea Vissi: Conceived and designed the experiments; Performed the experiments; Wrote the paper.

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Data availability statement

Data will be made available on request.

Declaration of interests statement

The authors declare no conflict of interest.

Additional information

No additional information is available for this paper.

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