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Resilience in preschool and elementary school teachers in the Czech Republic

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ABSTRACT

This study explores the resilience of preschool and elementary school teachers (ISCED Level 1) in the Czech Republic. The data were gathered from a sample of 476 preschool teachers and 193 elementary school teachers using The Sense of Coherence Scale, a 29-item measure developed by Antonovsky. This scale consists of three dimensions, specifically comprehensibility, meaningfulness and manageability. The study related resilience with the school level (preschool or elementary school), education completed by teachers, duration of experience and age of teachers. As hypothesised, these teacher demographic variables are associated significantly with teacher resilience. Preschool teachers have significantly lower resilience than teachers from elementary schools. Teachers with higher education levels have higher resilience in the comprehensibility dimension. Finally, teachers with longer practice and with older age have significantly higher resilience than teachers with shorter practice and younger age. The findings are discussed within the Czech Republic educational and practice context.

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preschool teacher;
elementary school teacher;
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Introduction

Every teacher, from the beginning to the end of his/her professional trajectory, is exposed to the influence of many factors, with which he/she has to cope with more or less effort. The issue of managing the differentiated demands of the teaching profession is one of the current issues in pedagogy. The demands on the teaching profession are constantly increasing, and thus the pressure to which teachers are subjected increases. They need to work with their professional identity differently (Aloe, Amo, and Shanahan 2014; Brown 2012; Dicke et al. 2015; Kim and Cho 2014; Lukas 2015; Švaříček 2011; Wiegerová and Gavora 2014). Professional identity begins to be formed already in the conditions of undergraduate training. In this study, we assume that becoming a teacher is a personal and social process. The choice to study teaching is a product of a person's past experiences, inter-personal interactions and actions in a specific social and cultural environment and

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is based on an individually constructed concept of teaching. There is no pre-given innate concept of teaching. People gradually create this concept. On the one hand, construction is a social process (it takes place within the framework of interpersonal interactions and observation of social models and roles); on the other hand, it is a personal process (internal interpretation of lived experiences and meanings). In the theoretical conception of this study, we were inspired by several theoretical currents, primarily symbolic interactionism and social constructivism (Blumer 1969; Buckenham 1998; Epting and Paris 2006; Gergen 1985; Mallon 2007). In the stage of professional training, the student-future teacher confronts his/her future job. He/she perceives how future colleagues, children and parents perceive him/her. This is also why the future teacher should be prepared for problematic situations that may arise. During their teaching practice, students have problems communicating with their children's parents, they gradually learn it, but a prerequisite for managing these situations is their own self-efficacy (Gavora et al. 2020; Wiegerová et al. 2012), self concept (Flook, Repetti, and Ullman 2005) but also resilience. These personality assumptions can help cope with reality shock in beginning teachers but also prevent burnout. The need for internal energy expended by the teacher depends on many factors. It includes, for example, coping with stressful situations, and also the ability to work on one's mental balance, try to consciously prevent stressful situations, and the like.

The concept of resilience

Everybody, including teachers, can resist the threatening influences of their environment to some extent. The theoretical framework of the concept of resilience is based on this principle. According to Luthar, Cicchetti and Becker (2003), resilience is defined as a 'phenomenon which is affected by individual circumstances, situations and environments and incorporates far more complex components'. Kyriacou (2004) states that resilience is understood as a process in which the teacher can keep a positive approach to their profession and to themselves within it, while also resisting a diverse range of appeals, pressures and demands. Resilience is not inborn, but it can be developed through abilities and skills such as communication, controlling one's own emotions, a positive mindset, problem-solving, developing effective relationships and using effective communication techniques in one's personal life and at work. Some authors (Greenberg 2006; Luthar and Brown 2007) suggest that resilience is based on both directing emotions and on the interaction between psychological, behavioural and cognitive aspects of how they work. Resilience is an abstract and complicated concept. As Mansfield et al. (2012) note, we can say that resilience is an overly complex and multifaceted term, and defining it is a tricky challenge. Masten, Best, and Garmezy (1990) define three components of resilience. First, is resilience as a process of achieving better results than could be expected with the current exposure to risk. Second, the form of resilience is presented as the ability to adapt well to difficult conditions. Third, resilience is the result of the successful adaptation of an individual.

In the case of teachers, it is possible to explain resilience through three components (Beltman, Mansfield, and Harris 2016), namely:

- a teacher's capacity to harness not just personal or psychological resources, but also social resources;
- the interdependence and dynamics of individual, personal and professional characteristics which interact, with these processes varying over time through the influence of the environment;
- an ability to experience professional commitment, engagement, motivation, progress, wellbeing and self-efficacy even under adverse circumstances.

As we have already noted, resilience is not innate, although in recent years the research has suggested that resilience is strongly associated with pupil performance, collegial support and in particular a positive school culture. Gu and Day (2013) say that resilience may not be stable. It also reflects the extreme conditions in which an individual may find him or her self. What matters are personal goals, beliefs and preferences.

The process of resilience can occur when an individual has a so-called protective competence. As a result, they can deal with difficult life situations. Wright and Masten (2005) divide protective factors into the personal, family and socio-cultural protective factors. Thorová (2015) also looks at protective competences in her paper, which states that it is a competence which improves the ability to be resilient. She also emphasises that resilience is developed in particular through interactions between an individual and the environment directly surrounding him or her.

Resilience is the outcome of interactions between protective and risk factors (Punová 2013). Risk factors stand for particularly stressful situations ('trials of life') and predispose one to negative results in the development of one's life trajectory. There are no generally applicable stressful situations which are universally applicable to all persons. The only universal aspect is that they are unrepeatable individual attributes of the particular person, only belonging to them. This naturally also applies to teachers' resilience. They find themselves in stressful situations every day. They meet various groups of people, and as such they are continuously confronted with various risky situations.

In the immediate vicinity of teachers' lives are their colleagues, pupils and pupils' parents. According to some authors (Gu and Day 2007; Howard and Johnson 2004; Tait 2008), resilient teachers effectively respond to and interact with all pupils within the stressful environment of the class or school, while also achieving the greater satisfaction that their work permits them. Based on the findings mentioned above, the study is dedicated to researching the resilience of preschool and elementary school teachers. In the following parts of the study, we will present the research and its analysis.

This study addresses the methodological as well as cultural challenges inherent in the exploration of teacher resilience by providing a Czech questionnaire to measure the resilience of Czech preschool and elementary school teachers. There are two main reasons why we adapted the existing questionnaire, The Sense of Coherence Scale (SOC). The primary reason was that this questionnaire was adapted in diverse countries, such as Brazil, Finland, Japan or North America, and they do not fit other educational environments. The other reason is that SOC has not, to our knowledge, been used to compare the resilience of preschool and elementary school teachers.

In sum, the purpose of this study is (1) to adapt a questionnaire measuring the resilience of Czech preschool and elementary school teachers, (2) to explore its

psychometric qualities, and (3) to identify the extent to which resilience is associated with teacher characteristics described below.

The context of the Czech schools

Preschool teachers teach children between the ages of 2 and 6. Since 2017, preschool education for children from the age of 5 has been compulsory in the Czech Republic. Preschool teachers can study at universities to gain bachelor's and master's degrees; however, a high school vocational education is sufficient for them to enter the teaching position at preschools. A preschool teacher can also be a teacher who has completed professional education (for example, a school of economics) and received preparation for work in a preschool through a certified course organised by universities. It is these circumstances that can be significant for resilience.

Elementary school teachers' qualifications can be gained at universities in a five-year training course, and graduates receive the master's degree. They teach in grades 1 through 9, which are attended by children from 6 to 15 years.

Preschools and elementary schools in the Czech Republic are often organisationally combined into one unit. There is a close professional connection between preschool and elementary school, also because of an intensive and close relationship with the children's parents at these grades of school. However, dealing with parents is often the source of problematic situations. Elementary school teachers are prepared to cope with these situations at the university. They also learn about topics such as professional identity, self-reflection, self-efficacy, self-regulation and the like. During the training of preschool teachers, these topics do not appear in their training, also because secondary schools do not have the specialists for this, nor the allocated time. From the point of view of developing teachers' resilience, it is a handicap.

Aims of the study

In the Czech Republic, preschool teachers only need secondary vocational education to enter the profession, and as such often young people 18 years of age become preschool teachers. An elementary school teacher must have completed a master's degree to obtain a teacher diploma. It is thus clear that there is a stark difference between teachers at these two school levels in terms of teachers' professional training.

On the basis of the above, we were interested to find out whether the resilience of teachers of preschools and elementary schools would differ and also to determine how resilience is associated with teachers' demographic variables.

In sum, the aim of the study was to compare the resilience of preschool and elementary school teachers in the Czech Republic. In addition, the aim was to explore the relationship of resilience with these educational and demographic variables:

- age;
- level of teacher education;
- teaching experience.

The following research hypotheses were tested:

H1: Teachers in elementary schools differ in the level of resilience as compared to teachers in preschools in each of the three resilience dimensions (comprehensibility, meaningfulness and manageability).

H2: The higher the teacher's educational level, the greater his/her resilience in each of the three dimensions.

H3: The longer the experience of a teacher, the higher his/her resilience in each of the three dimensions.

H4: An older teacher is more resilient than a younger teacher in each of the three dimensions.

Methodology

The sample

The study sample consisted of 669 preschool and elementary school teachers. Of these, 476 were preschool teachers and 193 were elementary school teachers.

Measure

Resilience of preschool and elementary teachers was measured using The Sense of Coherence Scale (SOC), developed by Antonovsky (1987). Resilience and SOC are related, though not identical, terms. Therefore, a few words of explanation must be added to explain the authors' decision to use this instrument. As defined by Antonovsky (1979), SOC is an inclusive concept that encompasses psychological health and coping. The authors decided to employ The Sense of Coherence Scale based on this broad definition of SOC. This instrument has been validated and re-validated in a number of countries. Therefore its use is reasonable on an empirical basis. By using the instrument with Czech teachers, the authors contribute to further developing the knowledge of teacher characteristics such as resilience.

Teachers were asked to fill in the questionnaire by email in the autumn of 2019, and they filled in the questionnaire using a web application created for this research. A total of 1684 emails were sent out, and 669 respondents filled in and returned the questionnaire.

The Sense of Coherence Scale questionnaire comprised 29 items which are divided into three dimensions, specifically a) comprehensibility, b) manageability and c) meaningfulness. These three dimensions are based on the fact that when confronted with stressors, an individual is motivated to manage the situation (meaningfulness), perceive the demands as understandable (comprehensibility) and feel that he or she has enough resources to manage it (manageability).

- (a) Comprehensibility is the cognitive component of the questionnaire, which also forms its core concept. It looks at the extent to which the individual perceives that the external and internal stimuli he or she encounters make sense. The emphasis here is on the cognitive aspect in terms of an ability to assess reality, with an emotional component present to a lesser degree – confidence that things will work out.
- (b) Meaningfulness is the motivational component of the questionnaire. This component is focused on investigating the individual's active approach to dealing with different situations in his or her life. People with weak levels of meaningfulness do not particularly care much about life, especially in terms of being active within their profession.
- (c) Manageability is the instrumental component of the questionnaire. It focuses on the fact that every event an individual experiences in life is perceived as an experience. But in this context, a person is not the victim of events, they do not have the feeling that life is unfair towards them, but that they can learn, overcome, and not have to constantly worry about it.

The comprehensibility dimension comprised 11 items, the manageability dimension included 10 items and the meaningfulness dimension comprised 8 items. Thirteen items in the questionnaire were expressed negatively, and thus their scores had to be reverse coded. The questionnaire used a 7-point Likert-type scales.

The internal reliability of SOC was calculated with Cronbach's alpha for the entire questionnaire ($= 0.91$) and also for each dimension ($\alpha_{com} = 0.81$; $\alpha_{mea} = 0.89$; $\alpha_{man} = 0.81$). In all cases, Cronbach's alpha was close to one, implying high internal reliability.

To determine the relationship of SOC dimensions, we calculated intercorrelations. Based on values of the Spearman correlation coefficients (Table 1), we can conclude that between the dimensions comprehensibility and meaningfulness ($R = 0.615$), comprehensibility and manageability ($R = 0.672$), further between meaningfulness and manageability ($R = 0.696$) there is a significant degree of correlation.

The questionnaire also incorporated five demographic items: teacher's age, level of education, job position, sex and region of the Czech Republic.

Statistical analysis

The hypotheses H1–H4 were tested to find out if there is a relationship between:

- the level of resilience of teachers in each of the three dimensions and the level of the school where teachers work;
- the degree of resilience of teachers in each of the three dimensions and the education teachers have achieved;

Table 1. Correlation matrix.

	Comprehensibility	Meaningfulness	Manageability
Comprehensibility	1.000	0.615**	0.672**
Meaningfulness		1.000	0.696**
Manageability			1.000

** significance at 0.00 level.

- the degree of resilience of teachers in each of the three dimensions and the length of teachers' teaching experience;
- the level of teachers' resilience and their age.

Because samples have no normal distribution in resilience, non-parametric statistics were used to assess the statistical significance between the variables, specifically the two-sample Wilcoxon test and the Kruskal–Wallis test (Markechová, Stehlíková, and Tirpáková 2011).

Results

First, averages of SOC dimensions are described. From Table 2, we can see that there are relatively small differences between the subsamples of teachers in the average values of SOC dimensions. We used the Wilcoxon two-sample test to test the statistical significance of differences between both subsamples of teachers in the three SOC dimensions.

Since the probability value p is less than 0.01 in all three dimensions, we can reject the null hypothesis of the differences between subsamples in the level of resilience across all three levels. This means that elementary school teachers achieve statistically higher resilience in all three dimensions (comprehensibility, meaningfulness and manageability) as compared to preschool teachers. This confirms research hypothesis H1.

There are differences between both subsamples of teachers in average scores. It is clear that elementary school teachers have more experience in life situations, and this is certainly also a result of age, but they are also more motivated to manage stressful situations and be more active in their profession. We can assume that their education in a university environment also contributes to the result.

Differences in SOC scores between teachers of varied educational levels

In the next step, we tested hypothesis H2, in which we expected the existence of a relationship between the educational level of teachers and resilience. In other words, we looked at the association of educational level on the scores on the three SOC

Table 2. SOC average scores by dimensions.

	Preschool	Elementary school		p
	M	M	Z	
Comprehensibility	4.0	4.4	5.88	0.00
Meaningfulness	5.0	5.6	5.76	0.00
Manageability	4.5	5.2	7.96	0.00

Table 3. Average answer values (resilience) within individual dimensions.

Teacher Education	Comprehensibility (Mean \pm SD)	Meaningfulness (Mean \pm SD)	Manageability (Mean \pm SD)
Group 1 (secondary vocational school)	3.7	4.5	4.2
Group 2 (higher vocational school)	3.6	4.3	4.1
Group 3 (bachelor's degree)	4.2	5.5	4.9
Group 4 (master's degree)	4.5	5.8	5.2

Table 4. Average answer values (resilience) in individual dimensions.

Length of experience	Comprehensibility (Mean \pm SD)	Meaningfulness (Mean \pm SD)	Manageability (Mean \pm SD)
Group 1	3.5	4.0	4.1
Group 2	4.0	5.2	4.6
Group 3	4.2	5.4	4.9
Group 4	4.5	5.7	5.1

dimensions. We categorised the teachers into four subsamples according to their educational level, and we calculated average for each group and dimension (Table 3).

We can see in Table 4 that there are differences in the resilience level between the subsamples of teachers in different dimensions. We now want to know whether these differences are statistically significant. To test the statistical significance of these differences, i.e. the validity of the research hypothesis H2, we used the statistical method of comparing multiple samples, specifically the Kruskal–Wallis test. Since in our case the Kruskal–Wallis test confirmed the statistical significance of the differences among the four subsamples of teachers (in each dimension: comprehensibility, meaningfulness and manageability), we were interested in which subsamples of teachers statistically significantly differ from each other in the particular dimension.

The Kruskal–Wallis test and multiple comparison test gave us results which demonstrated that no statistically significant difference was found in the first dimension (comprehensibility) between teachers with secondary education and those who had completed higher vocational training. There was, however, a statistically significant difference in this dimension (comprehensibility) when looking at teachers who studied at university for a bachelor's or master's degree.

Therefore, we can state that teachers with secondary and higher vocational education had a statistically significantly smaller average value of resilience in comprehensibility than teachers in the two subsamples with university education. This already confirms the fact that comprehensibility is associated with the level of education achieved.

It would certainly be interesting to see how individual faculties training future teachers work with resilience. The current period has phenomena which create exceptional conditions for students at universities in their individual management of their learning. Their failures are monitored, and universities are given particular bonuses for reducing these failures, or specifically university funding is reduced. This results in problems in the demands and quality of student training, and it naturally also influences their resilience in future when working. Similar was obtained by researchers from Singapore (Ng et al. 2018). They claim that a sufficient amount and quality of teaching practice are important so that students acquire enough experience before starting actual pedagogical work. Greater involvement in events at schools increases the potential to increase teachers' resilience. It helps them to understand themselves as teachers and gives them the opportunity to identify themselves in the role of teacher. This supports the development of 'resilient qualities' – a passion for learning, self-efficacy beliefs and positive emotions.

These data also suggest that greater resilience amongst teachers at elementary schools, besides age and education, is also the result of the status of elementary schools within the country. From the perspective of the general population, an elementary school

teacher is considered a more important component of the education system as compared to a preschool teacher.

One could also postulate that it is also influenced by social status and a certain satisfaction of teachers, which has an influence on resilience. One might also reason that elementary school teachers have different rules of work set up in their schools, such that there is a different dynamic within professional groups, and also teaching staff groups are created in a unique way (Navrátilová 2020). Research implies that the teaching staff dynamics at preschools and elementary schools have their differences (Gavora and Wiegerová *forthcoming*). It would certainly be an interesting area of further research to investigate the resilience of teaching staff groups themselves. This would be a good topic for new research projects, and also for comparison from an international perspective.

In line with Beltman, Mansfield, and Harris (2016), it is proper then to conclude that there are different opportunities for collegial support among elementary school teachers, and also a different potential for developing protective competences. A positive school culture can significantly help develop these, having a major influence on the teaching staff.

Differences in SOC scores between teachers of varied teaching experience

Kruskal–Wallis tests were also used to assess the validity of hypothesis H3 that the type or level of school would be shown to be a statistically significant factor in the development of resilience. It would therefore be appropriate in this research to ask whether there is a statistically significant relationship between resilience and the length of time teachers have worked.

The sample of all teachers who responded to the questions in the questionnaire was divided up into four groups, specifically:

- (1) teachers with teaching experience of up to three years, whom we term novice teachers;
- (2) teachers with teaching experience of between 4 and 10 years;
- (3) teachers with teaching experience of between 11 and 20 years;
- (4) teachers with teaching experience of longer than 20 years.

We assessed whether these four teacher groups differ in the average level of resilience in each of the three dimensions (comprehensibility, meaningfulness and manageability) to a statistically significant degree (Table 4).

From Table 4, we can see that between the four groups of teachers, created according to the length of practice, there are differences in the average values in all three dimensions of resilience (comprehensibility, meaningfulness and manageability).

By using statistical methods, we subsequently assessed whether these differences are also statistically significant. By using a Kruskal–Wallis test and a multiple comparison test, we found that there is a statistically significant difference between Group 1 and Groups 2, 3 and 4 in the *comprehensibility* dimension (Figure 1). Considering this finding, we subjected all the questionnaire's dimensions to statistical analysis.

We should recall here that the *comprehensibility* dimension signifies how we perceive and understand the world and our place within it, with an emphasis on our cognitive

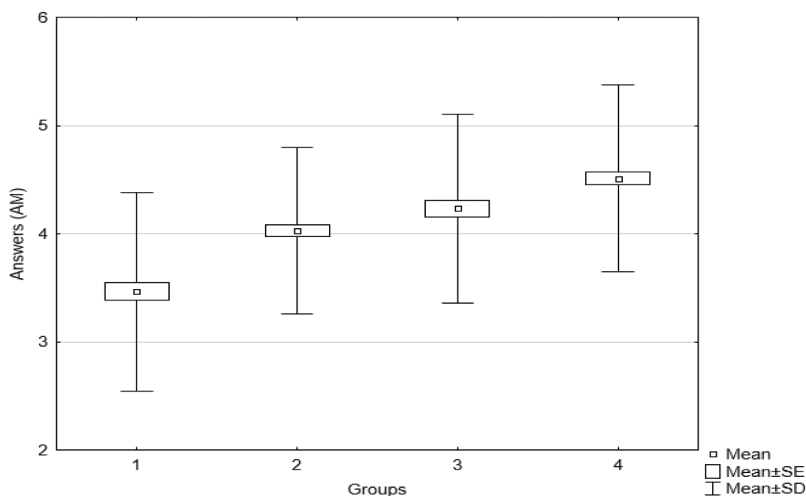


Figure 1. Average scores on the SOC comprehensibility dimension.

potential. Teachers with a high score in this dimension respect that events they shall be dealing with in future can be anticipated or explained. In this dimension, there is a weaker perception of the emotional component. Teachers who show higher results in this dimension are not particularly resistant to their emotions and cannot yet collaborate particularly well with them.

In the research we present, novice teachers (with experience of up to three years) show different resilience values in the comprehensibility dimension to a statistically significant degree. This is naturally a result of their personal maturity, and perhaps also because novice teachers do not yet have families and children; in other words, their emotional nature is gradually developing, and only later will it begin to influence their resilience. Huisman, Robb Singer, and Catapano (2010) say that novice teachers increase their ability to be successful, and also of course their resilience, only once they ‘establish themselves’. Similarly, teachers with experience of between 3 and 10 years perceive comprehensibility differently in their teaching process compared to teachers with experience of over 20 years, to a statistically significant degree. We can conclude, then, that length of teaching experience forms a key component in the gradual strengthening of resilience. Thus, it becomes an important protective factor. Our finding that teachers with over 10 years of teaching experience show an improvement in the *comprehensibility* dimension is also in line with this claim. This means that teachers with experience of between 3 and 10 years have achieved (have) roughly the same level (value) of resilience as teachers with experience of between 10 and 20 years.

We approached assessing the validity of research hypothesis H3 in the other dimensions in the same way, i.e. testing the statistical significance of differences in the groups of teachers formed on the basis of the length of time they had been teaching. By using Kruskal–Wallis tests and multiple comparison tests we ascertained that there is a statistically significant difference between Group 1 and Groups 2, 3 and 4 in the *meaningfulness* dimension for the teachers – probability values for p are less than 0.01 (Figure 2). This means that novice teachers (with

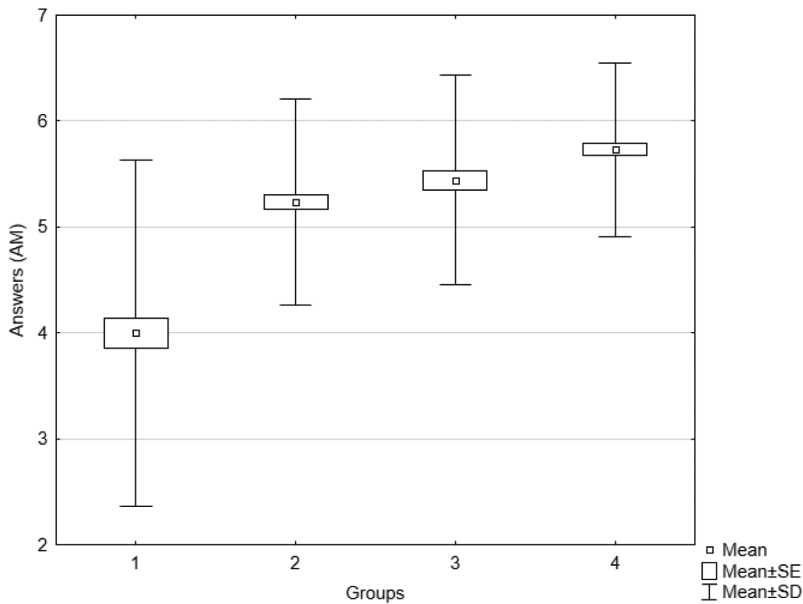


Figure 2. Average scores on the SOC meaningfulness dimension.

experience of up to three years) emphasise meaningfulness differently when compared to all other groups of teachers (with more than three years of experience) to a statistically significant degree. The multiple comparison test also confirmed that teachers with the longest experience managed stressful situations the best. This finding is also supported by the conclusions of Kellman and Heidari (2020). They say that it is important to seek the optimal utilisation of teachers' days off, proposing conditions which reduce stress and tension. In this case, it is also true that positive working conditions help teachers to act in a more resilient way (Figure 2).

We also subjected the other dimension – manageability (Figure 3) to statistical analysis regarding the length of teachers' teaching experience.

It was found that there is a statistically significant difference between Groups 1, 2, 3 and 4 of the teachers (probability values p are less than 0.01). This means that novice teachers (with experience of up to three years) emphasise manageability differently compared to teachers with more than three years of experience. There is similarly a statistically significant difference in resilience level between Groups 2 and 3. We can thus state that the older a teacher is, the more they work with acquired experiences which affect how they deal with the situations they find themselves in.

We can state that the statistical analysis of the research results confirmed hypothesis H3. The groups of elementary school teachers and preschool teachers show different results in the different resilience dimensions. We divided up the sample of teachers who filled in the questionnaire into two subsamples: a subgroup of preschool teachers and a subgroup of elementary school teachers. We then assessed the statistical significance of differences in resilience levels within individual dimensions between groups of teachers formed according to length of teaching experience, and in each subgroup separately. The

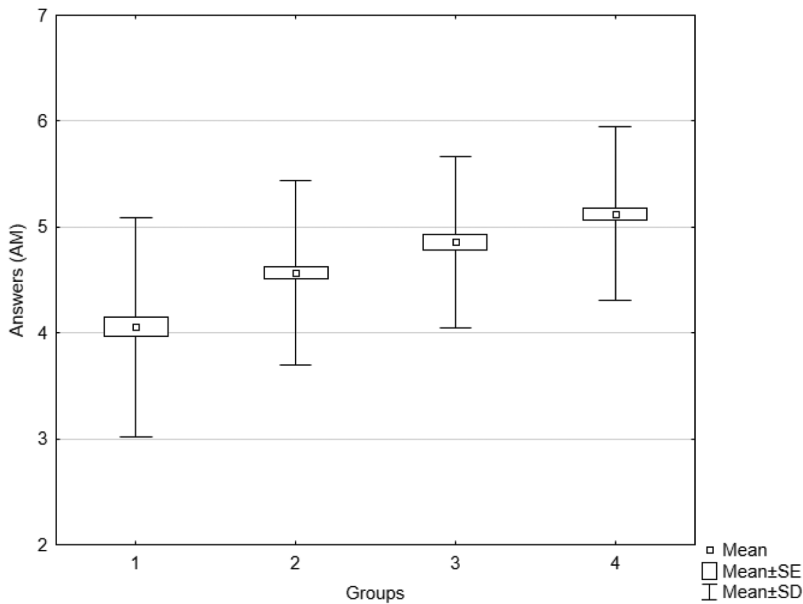


Figure 3. Average scores on the SOC manageability dimension.

results acquired in both sets corresponded to the results acquired for the complete set. For this reason, we are not presenting the sub-results here.

Differences in SOC scores among teachers of varied teaching experience

In view of previous findings, we were also interested to know how teachers' age affects resilience (hypothesis H4). In previous paragraphs, we have mentioned that preschool teachers in the Czech Republic are fully qualified from the age of 18 years. For elementary school level teachers, qualification can only be achieved at the age of 23 years. To explore resilience's association with age of respondents, we divided up the research sample into five age groups (Table 5).

As in previous cases, in this case, too, we first calculated the average values of resilience in each dimension in five groups (groups of teachers by age category): comprehensibility, meaningfulness and manageability (Table 5, Figures 4–6).

We can see from Table 5 that there are differences in the average resilience values between the five groups of teachers formed by age within each of the dimensions (comprehensibility, meaningfulness and manageability). We want to know whether

Table 5. Average resilience values in individual dimensions by teacher's age.

Age	Comprehensibility (Mean±SD)	Meaningfulness (Mean±SD)	Manageability (Mean±SD)
Group 1 (ages 18 to 30)	3.7	4.6	4.3
Group 2 (ages 31 to 40)	4.1	5.2	4.7
Group 3 (ages 41 to 50)	4.2	5.5	4.9
Group 4 (ages 51 to 60)	4.5	5.6	5.0
Group 5 (ages 61 or older)	4.7	5.9	5.6

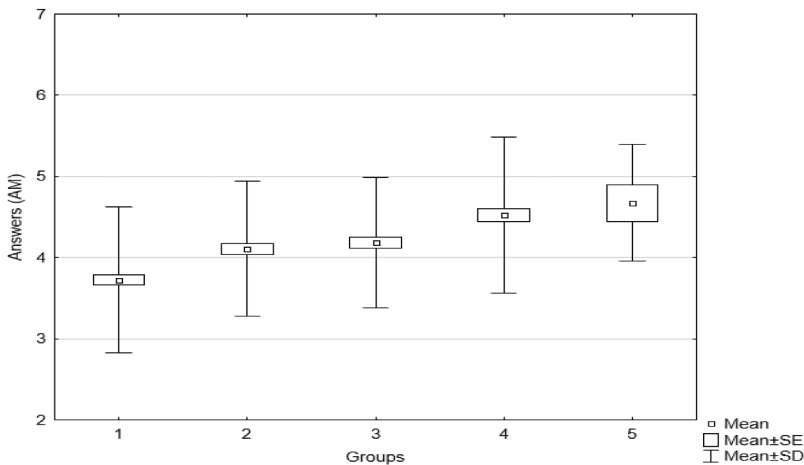


Figure 4. Average scores on the SOC comprehensibility dimension by age groups.

these differences are also statistically significant. We approach assessing each dimension in the same way we did in the previous cases when testing the validity of the research hypotheses H1–H3.

Regarding the comprehensibility dimension, we calculated a Kruskal–Wallis test criterion value of $H = 70.645$ and a probability value of $p = 0.000$. Since the calculated probability value p is less than 0.01, we can reject the null hypothesis to a significance level $\alpha = 0.01$, i.e. the difference between the five groups of teachers in average resilience values for the comprehensibility dimension is statistically significant. The multiple comparison test found that the statistically significant difference was mainly between Group 1 and the other teachers (Figure 4). This means that within the comprehensibility dimension, novice teachers (first age category) achieved a statistically significantly different resilience score compared to teachers in higher age categories. There is also a statistically significant difference in resilience in the comprehensibility dimension between the second and fourth age groups. The situation is illustrated in Figure 4.

We approached assessing the statistical significance of the differences between the five groups of teachers according to age category in average resilience values in the meaningfulness dimension in the same way. We calculated that a teacher's age affects the level of resilience score achieved in this dimension too in a statistically significant way. We also saw statistically significant differences between novice teachers and the other groups, and there was also a clear difference between the second and fourth age groups (Figure 5). As in our testing of the first dimension, in this case, there is no statistically significant difference between Groups 3, 4 and 5.

Analogously in the earlier dimensions, a multiple comparison test confirmed a statistically significant difference between Group 1 and Groups 2 to 5 for teachers in the manageability dimension – probability value p is less than 0.05. This means that novice teachers (first age group) achieved statistically significantly different (lower) resilience values in this dimension compared to teachers in the higher age categories (Figure 6). In this dimension too, there is a statistically significant difference in resilience level between the second and fourth group of teachers (Figure 5). However, in this

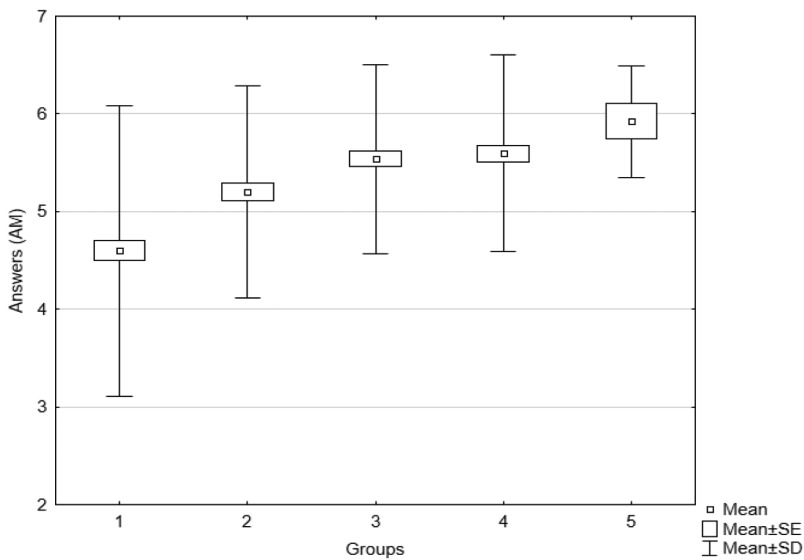


Figure 5. Average scores on the SOC meaningfulness dimension by age groups.

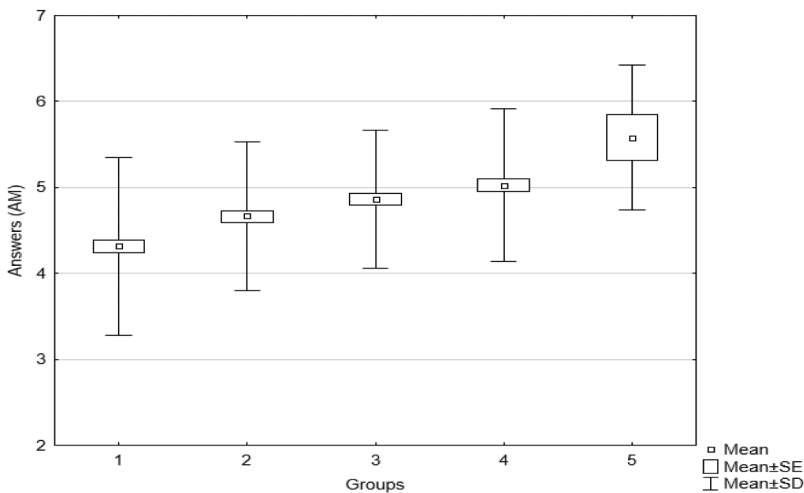


Figure 6. Average scores on the SOC manageability dimension by age groups.

dimension, there is not a statistically significant difference in resilience between age groups 3, 4 and 5, i.e. these age categories of teachers achieve roughly the same resilience values in this dimension (Figure 6).

In other words, statistical analysis confirmed that older teachers have higher resilience in all three dimensions (comprehensibility, meaningfulness and manageability) than younger teachers.

It was interesting to look at the group of novice teachers, whom we have determined as being within the age group of up to 30 years of age. Novice teachers are defined differently in different regions. The traditional division of novice teachers, who are in their

adaptation phase for roughly about five years, is not relevant in this case, because as it was demonstrated, teachers aged up to 30 have lower levels of resilience independently of their length of experience teaching. This is a phenomenon that Thorová (2015) describes as young adulthood. Young people today are different. We can see a transformation between generations. Thorová says that while we can define adulthood by law, one does not suddenly become a fully mature individual on the day of one's 18th birthday. 'Maturity is not defined by age, but rather by experience, and at the age of 18 one has little of that.' More than biological factors, it is life events and their resolution which have an effect on reaching maturity, and today's modern society is marked by a shifting of reaching personal maturity into a later age (over the age of 30 years). Experiences teach young people to accept responsibility for their actions and decisions and strengthen their ability to accept disappointment. Young adulthood is a dynamic period in which cognitive and physical development is essentially complete, one finds oneself at the peak of one's strength and one's personality matures. Young people are more stable than they were in adolescence, but their ability for self-control is still developing. People at this age are competitive, act impulsively, take risks and still experiment, often overestimate themselves and lack sufficient self-reflection. This is one reason why their resilience is lower than it is for older people.

Similarly, we can say that a young person who becomes a teacher at 18 has 'problems with him or herself' and therefore finds it much more difficult to deal with the pressures that the school environment places him or her under. This is one reason for extending teachers' education in a general sense. The relationships and environment in which young people find themselves are closely related to their career path as a teacher. This is shown, for example, by Moscovici and Pérez (2007; see also Lukas 2007), who describe how at the start of their career path, teachers endeavour to be more like critical friends to their pupils, while over time they may be perceived in more demanding and negative terms, something that is naturally reflected in the nature of mutual relationships, and in the form of the power structure within the classroom. And it is in this period that phenomena occur which we describe as reality shock (described, for example, by Dicke et al. 2015; Stokking et al. 2003; Wiegerová and Lukášová 2021).

It is natural, however, that in the period between the ages of 51 and 60 years, teachers undergo changes in their personalities. Their domestic context changes (their own children leave the nest), and so their professional preferences also take on different connotations. It is therefore understandable that there is a difference in resilience in this fourth group of respondents we have been looking at.

Discussion

We can characterise resilience (a resistance, or toughness) as a concept which denotes the number of processes by which an individual (or other social systems, such as a family, a school or a community) can adapt and operate well even when subject to significant adversity. Briefly, resilience is positive development despite negative circumstances, and it develops from the interaction of risk and protective factors.

Resilience is part of a teacher's professional identity, and that is why it is important that attention be paid to it during the undergraduate training of future teachers in the field of

strengthening protective factors. It is a factor supporting the very development of a positive attitude of the teacher/student in the desired direction.

From the research, we can say that positive factors which can positively influence teacher resilience include:

- experience in terms of length of teaching experience;
- level of educational attainment;
- type of school with positive rules and standards.

Teacher resilience research is important regarding factors of professional satisfaction, an ability to accept changes, the ability to manage one's own vulnerability, stress and emotional self-regulation, and effective interactions with the social environment (Le Cornu 2009; Mansfield et al. 2012).

From the data we present here, we can show that there are differences between groups of teachers according to the level of school at which the teacher works. Teachers at elementary schools are more resilient when compared to preschool teachers, something that can be attributed to the fact that they have had a longer period of education. They are five years older than preschool teachers, have more professional experience and have undergone more specific professional training. Education is thus a significant protective factor for resilience.

We also ascertained that the length of teaching experience influences resilience. Novice teachers have lower resilience, with particularly lower scores on the meaningfulness and manageability dimensions. They need to be managed more in their lives. They are less active in their approach to accepting criticism, and they need strengthening to ensure greater performance and self-reflection. Novice teachers appear to have basic resilient preconditions which need to be worked on. This is helped by the so-called protective factors, such as a stimulating institutional environment, support from colleagues, a good climate in the teaching staff and the like. We also saw higher levels of resilience amongst older, more experienced teachers. Here too, however, even resilient teachers may sometimes 'switch off'. Their feelings of failure, however, are often temporary and they are always able to re-join the situation and try out something different. Resilient teachers expand the values which are part of their background to incorporate the values of the culture where they teach (Harré and Van Langerhove 1991). Social aspects are important to them, they perceive rules and standards sensitively, and they feel the need to shape a positive culture at the institute where they work. Thus, a positive and supportive working environment in which the teachers feel safe with their pupils is another important protective factor for resilience. Of course, professionally older colleagues also show signs of burnout. However, according to research, these also appear among younger teachers (Smetáčková et al. 2020). Our research was not aimed at finding out the relationship between burnout syndrome and resilience, although it is obvious that there are links between these phenomena. We assume that we will devote more research to these topics in the coming years. However, we can state that becoming a teacher is also associated with resilience, because the construction of a teacher's identity is a social and personal process (it takes place within the framework of interpersonal interactions and the observation of social models and roles), but also on a personal level (internal interpretation of lived experiences and meanings).

Currently, there are noticeable changes in the characterisation of the current generation of children and pupils, also in terms of the acceleration of their development. Today, teachers will also have to deal with phenomena such as cyberbullying, communication technologies, social networks and so on. This is sure to change the significance of resilience and how to work with it. What remains the same over centuries is the fact that we can sometimes find ourselves facing a difficult trial of life (we may go through a crisis of identity, for example). Sometimes we can manage these alone, but sometimes we need somebody else's help. A significant role in supporting resilience can also be played by the institutions which train future teachers. However, they themselves must offer such a stimulating environment that will be protectively supportive, for example through the quality of their study programmes, which will create prerequisites for discussions on topics such as self-reflection, self-efficacy, self-concept, burnout syndrome, reality shock, self-regulation or resilience.

Conclusions

In this study, we have focused on ascertaining resilience amongst preschool and elementary-level schoolteachers. The data which we have made use of in our research show clear limits within our research. It would undoubtedly be interesting to expand the research sample and also to add to the quantitative design which we originally chose with a qualitative dimension for data analysis. New topics have arisen from our results, however, which could follow from the research we have presented here. One interesting component of this research is our comparison of the resilience of teachers at the two different school stages, who have different legal statuses and different professional training within the Czech context. The study also opens up possibilities for national discussions about innovations in the training of preschool and elementary school teachers.

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