



## **Jacek Pyżalski**

Uniwersytet im. Adama Mickiewicza w Poznaniu

ORCID 0000-0001-5817-276X

## **Piotr Plichta**

Uniwersytet Wrocławski

ORCID 0000-0002-9238-0113

# **Stress and coping in teachers during COVID-19 school lockdown – content analysis of Polish teachers’ discussions on Facebook**

## **Stres i radzenie sobie nauczycieli podczas zamknięcia szkół w czasie pandemii COVID-19 – analiza treści dyskusji polskich nauczycieli na Facebooku**

**Abstract:** The authors analysed the content of Polish teachers’ discussions on Facebook during the pandemic. The statements were gathered from different groups during the first 9 months from the schools’ closure. Only the content published after the lockdown of schools in Poland was included in the sample. The main aim of the study was to identify and classify the stressors after the lockdown of schools and the new occupational situation experienced by teachers. Additionally, the second main research aim focused on coping strategies used by the respondents. The study brought new qualitative data on teachers mental health through analysing traditional occupational stressors and new ones that occurred during school closure caused by COVID-19 lockdown. Application of the qualitative research (thematic analysis) procedure resulted in identification of four main categories of stressors that are in each case divided into subcategories: 1) Criticism concerning teachers’ performance during the pandemic, 2) Organizational stressors, 3) Stressors concerning work organization at individual level and 4) Stressors connected to implementing distance education. Additionally, we identified three

categories of coping strategies (with subcategories) teachers use to cope with occupational stressors during the pandemic: 1) Social support, 2) Finding positive aspects and 3) Searching for sense of meaning. The results show that traditional workplace stressors experienced by teachers are modified and accompanied by qualitatively new stressors that reinforce the negative impact. Those stressors should be acknowledged and addressed while planning, implementing and evaluating prevention programmes. Such data is crucial for creating workplace health promotion (particularly occupational stress prevention programmes) for school personnel.

**Keywords:** COVID-19, teachers, occupational stress, coping strategies, distance education, mental health.

### **Introduction - Occupational stress in teaching**

The most widely utilized concept in studying mental health of teachers is occupational stress analysed through the lens of transactional theory of stress (Lazarus and Folkman, 1984; Foloştină and Tudorache, 2012). as The stress is moderated by a relationship between an individual and their environment, including their social situation and its requirements as overstepping their ability to process them and threaten optimal functioning (McCarthy, Lambert, Lineback, Fitchett, and Baddouh, 2016).

Stress and coping are discussed and analysed in the context of employees' health and wellbeing (Lazarus and Folkman, 1987). From the transactional perspective, professional stress experienced by teachers is defined as a subjective, negative response to aspects of their work which threaten their self-perception and wellbeing, while their professional requirements are divergent from their skills, abilities and needs (e.g.: Kyriacou and Sutcliffe, 1978; Manthei and Solman, 1988; Travers, 2017).

Chronic exposure to psychosocial stressors at work has many negative effects such as poor mental health, psychosomatic symptoms and low job satisfaction. In many studies, teachers report significant, even extreme burden (e.g. Kyriacou, 2001), and the teaching profession ranks highly when it comes to stress (Johnson et al., 2005). Definitions of professional stress take account of specific aspects which are the greatest sources of stress. They include:

1. Overwork, too many duties.
2. Lack of time to meet teaching goals, in particular concerning SEN students.
3. Poor motivation of students, slow progress.
4. Dysfunctional behaviour of students.

5. Poor communication with parents and lack of support.
6. Lack of appreciation and support for teachers from society.
7. Bad school management, poor work organisation.
8. Material conditions (Kyriacou, 1987; Borg, 1990).

Additionally, teachers can experience rivalry with colleagues, deal with students with different educational needs and feel inadequately prepared for their job (Eddy, Herman, and Reinke, 2019).

There is strong evidence that teacher-student relationship is associated positively with learning and socialization of young people (e.g. Hattie, 2009). However, the ability of teachers to build and develop relationships of that kind is associated with their competence to develop and maintain their own wellbeing that predominantly means to cope with occupational stressors effectively. Therefore, broader understanding of this relationship leads to utilization of wellbeing concept. This concept in school context in both students and teachers is connected to both learning processed but predominantly with a quality of interpersonal relationships in this setting. Among them the most vital are those between teachers and students, teachers and parents and peer relations among students/staff (Noble and McGrath, 2012; Roffey, 2012). From this perspective teacher and student wellbeing are the sides of the same coin and interact permanently (Roffey, 2012). It is worth to note that teacher well-being was proved to influence such „hard” outcomes as students’ grades or results in the standard tests measuring outcomes regardless the subject taught. Obviously, teacher wellbeing is responsible only for part of the variance but still it is relevant and should be acknowledged. It is also a factor that is relatively easy to influence comparing to other issues, for instance those associated to students family situation (Briner and Dewberry, 2007).

Any general assessment of educators’ work should take into account its psychosocial aspects and associated stressors, as well as examining positive health factors (salutogenesis). In this context Antonovsky theory may of use with its central sense of coherence dimension.

It is understood as a holistic orientation of an individual and is expressed by the degree to which he/she has a permanent sense of certainty in three areas: 1) the belief that the stimuli that flow to him during his life from the internal and external environment are structured, predictable 2) availability of resources that will enable meeting the requirements posed by these stimuli; 3) these requirements are a challenge worth the effort and commitment (Antonovsky, 1979). Contemporary research on teachers’ stress adopts the concept of resilience and are more focused on „ what sustains

teachers and enables them to thrive rather than just survive in the profession” (Beltman, Mansfield, and Price, 2011, p.185). Resilience is defined as the dynamic process or its outcome (between between a person and the environment) and capacity for successful adaptation despite difficult, threatening situations (Masten, Best, and Garmezy, 1990). In other words the resilience perspective „rather than focusing on deficits focuses on what is going right” (Howard and Johnson, 2004, p. 399).

### **Coping with occupational stress in teaching**

Issues of psychosocial professional stress faced by educators are important in terms of prevention and treatment, as well as being an expression of concern for the wellbeing of students and, in general terms, promoting wellbeing in the workplace (Innstrand, Espnes, and Mykletun, 2002; Roeser et al., 2013). Coping is defined as a behavioural and psychological response to social demands (Lazarus, 1993). Generally speaking, coping strategies can target the source of stress or help the individual learn how to tolerate it better (Kyriacou, 2001). Folkman and Lazarus’ theory (Folkman, 2011) posits two main strategies: problem-focused coping and emotion-focused coping. The former aims to reduce, adapt or change sources of environmental stress. Emotion-focused coping strategies aim to reduce emotional perception of stress and strain by seeking emotional support and positive reappraisal. Kyriacou (2001) uses different terms for coping strategies in teaching: direction action techniques (similar to problem-focused coping) and palliative techniques (similar to emotion-focused coping). They can involve actions such as tackling the challenge (e.g. gaining skills necessary to deal with challenging behaviour of students) and using positive self-talk to calm oneself at times of stress (Herman, Prewett, Eddy, Savala, and Reinke, 2020). Teachers who successfully cope with stress tend to have strong supportive networks of family and friends. They use humour, reflect on the situation and take part in activities such as physical exercise or hobbies (Richards and 2012).

The prolonged occupational stress may lead to burnout when the individual no longer being able to cope and adapt, and leading to poor performance at work. Teachers’ burnout results in absenteeism, disengagement and quitting (Cherniss, 1980; Kyriacou, 2001; Golembiewski, Scherb, and Boudreau, 1993; Maslach and Leiter, 1997; Pines, 2000). While stress and coping can be described as variable, burnout is defined as a chronic state of emotional exhaustion accompanied by depersonalisation and reduced personal accomplishment at work. These three factors are the most

recognisable and frequently used conceptualisation of professional burnout (Maslach, 1993).

### **Teacher stress during COVID-19 lockdown**

Covid-19 situation associated with school lockdown may have a significant impact on teachers occupational stress through at least three mechanisms (Pyżalski and Poleszak, 2022):

1. It may modify the traditional stressors present in the workplace, e.g. those connected to staff relationships, school management issues or contacts with students' parents/guardians. This modification may be of quantitative kind (e.g. less or more conflict situations with colleagues) or qualitative kind (such as less confidence concerning the proper utilization of occupational tasks, that before the pandemic have been implemented with confidence)
2. It may bring new stressors that were not present or only in a small scale before the epidemic. The content of those stressors is not clear and obvious, and is to great extent the topic of the study present in this article. However, below we speculate about some possible factors that can add up to the traditional stressors.
3. It may be heightened by the general level of stress caused by the Covid-19 situation. Despite the potentially burdening occupational situation teachers are influenced by general stressors connected to anxiety caused by risk for their own or their family members' health, economic problems created by the lockdown, etc. Such coherence between stress experience via different roles has been confirmed in many studies, underlying mostly bi-directional relation between work and home stress (Bolger, DeLongis, Kessler, and Wethington, 1989) and should be also analysed in this context. Certainly in pandemic situation those aspects of work/home stress may overlap as in the situation when a teacher providing online teaching from home should at the same time take care of his/her own children that stay at home.

The obvious structural fact is that the work-home imbalance obtained a new dimension, observed in the implementation of complex tasks related to professional duties resulting in blurring the boundaries between school and home, as well as the physical, temporal as well as psychological boundaries (MacIntyre, Gregersen, and Mercer, 2020). The challenges of a professional nature were extended by fears about health, financial situation, the need

to deal with personal and family challenges, which were more common at that time, etc.

Among new stressors one can expect those connected with sudden excessive use of ICT tools in distance education. The utilization of such technologies is incorporated in all national policies in developed countries for a few decades (Hawkrige, 1990; Tondeur, Braak, and Valcke, 2006). However, before the pandemic such usage was to a great extent the choice of the teacher and was only a part of what is called a hybrid or blended teaching/learning (Gerbic, 2011). The Covid-19 lockdown forced teachers to use technology at one point and as the only mode, no matter how digitally competent they were and what their experience in using ICT for education was. It is worth underlying that even before the pandemic the necessity to incorporate ICT tools in teaching practices have been identified as an occupational stressor (e.g. Al-Fudail and Mellar, 2008; Syvänen, Mäkinieni, Syrjä, Heikkilä-Tammi, and Viteli, J., 2016). Presently, the stress with ICT usage may also be associated with the fact that teachers often before pandemic focused on technical ICT skills and did not integrate ICT fully into curriculum (Tondeur, Braak and Valcke, 2007). Although the crisis nature of the forced remote education brought the strains of ICT use to the higher level, the stress related to the use of new technologies in the area of education was explored much earlier. Pandemic-related technostress affected all the teachers regardless of their level of education. Research indicates a lack of confidence even among university teachers in use of digital tools during the pandemic (Wang and Li, 2019). The results show the highest technostress among women, people with longer work experience, and in higher professional positions (Penado Abilleira et al., 2021).

Some authors indicate that the burdensome nature of teachers' work to a large extent results from the constant rapid changes in the technological area since the 1990s (e.g. Gumbau et al., 2011; Salanova et al., 2013; Korunka, C., and Hoonakker, P., 2014). Technostress is understood as a result of the mismatch between the person and the environment (in the perspective of the Person-Environment misfit theory (P-E fit theory) (Edwards, et al., 1998; Ayyagari et al., 2011) It negatively affects everyday functioning at work, heightening the risk of burnout or encouraging decision to leave the profession (e.g. Wang and Li, 2019a multidimensional person-environment misfit framework of technostress was proposed and validated by 343 teachers from universities in China. The findings indicate that person-organization (P-O; Pignata et al., 2016). The perceived stress is influenced not only by the

technology itself, but also by the institution that sets the certain requirements for its use, and other members organization (Avanzi et al., 2018).

The term technostress first appeared in *The Human Cost of the Computer Revolution* (Brod, 1984), described as adaptive problems caused by people's inability to deal with new technologies in a constructive way. The subjective experience of technostress is sometimes referred to as *technostrain*, understood as a negative psychological experience resulting from the use of technology. The affective dimension of technostrain (Salanova, M., Llorens, S., and Cifre, E., 2013) consists of the anxiety factor (*technoanxiety*), techno-fatigue associated with the use of technology, *techno-skepticism* induced in this way, and techno-inefficacy in use of technology. In the cognitive dimension, technostrain is expressed in beliefs about one's own insufficient competences in the use of technology (*techno-ineffectiveness*).

The similar mechanism may be present in the work with other groups of students. For instance, supporting students with emotional disorders and other serious problems that may prevent or significantly hinder concentration on school tasks was also a significant burden (Petrie et al., 2020). This was acknowledged by one of the recommendations of the OECD document, which was 'Keep a pulse on students' emotional health (Education Responses to COVID-19, 2020). The aggravating relationship also includes the relationship with students' parents who were to large extent unprepared to support their children in remote education in a crisis caused by the pandemic. Such problems may also lead to communication problems and conflicts with students' parents/guardians who may be not satisfied with the quality of educational service.

Despite the risks caused by the pandemic, such a crisis may also constitute an opportunity (e. g. an increase in teachers' digital competencies). However, an effective return to the classrooms will not be possible without properly supported teachers. Authors of the 'COVID-19 Pandemic: Shocks to Education and Policy Responses' report (World Bank, 2020) postulate not only increasing the awareness of the importance of the well-being of students and their families but also of their supporters, namely teachers. Early recognition of work overload symptoms is recognized as a prerequisite for reducing the risk of teachers' burnout.

There is a great possibility that teachers will experience the stressors and higher levels of stress/burnout that may influence negatively the quality of their work. Additionally, it may lead also to a kind of vicious circle when the increased stress influences the work quality that in return develop higher levels of work stress. To avoid this situation the proper diagnosis is

needed. However, as the situation is new it should be started with qualitative research in order to identify all stressors and contexts that influence teachers' situation. Such approach may be useful for the further quantitative tool and diagnoses and address all the important stressors in prevention and intervention programmes.

Nowadays many teachers are members of online discussions groups organized institutionally or by teachers themselves in bottom up approach. Such groups are often placed within the biggest social networking sites such as Facebook. They play numerous roles but mostly act as for a where teachers present and comment topics currently valid for their profession, exchange and comment practical experience and provide to each other social support of all kinds. Due to the medium used and mediated mode of communication the statements in such discussion groups are often characterised by high level of openness and sincerity (Lantz-Andersson, Lundin and Selwyn, 2018; Kelly and Antonio, 2018; Kling and Courtright, 2003). Those characteristics may speak for using content analysis of those statements as a significant and reliable source of knowledge on sensitive topics such as teacher stress and other mental health issues.

## **Methods**

### **Objectives**

The main of the study was to identify and classify the stressors that affect mental health of Polish teachers during the COVID-19 pandemic after the lockdown of schools. That meant for the teachers the sudden change in working conditions and procedures since they were obliged to offer distance education to their students. The second main research aim concerned positive coping strategies that teachers used to deal effectively with those stressors. The main advantage of the study is the contribution to teacher stress concept (since new stressors/coping strategies or modifications of traditional ones are recognized). From practical perspective the study brings detailed information on opportunities to support teachers at both institutional and individual level in a way that their mental health and wellbeing.

### **The Rationale for Qualitative Research**

The complex, multifaceted as well as frequently unclear aspects of teachers' mental health, presenting as stress and burnout (*fuzzy-set*) (Burish, 1993), means scholars should use a wide range of approaches and perspectives in their research. However, those phenomena should not be isolated from the broader context in which they are analysed (such as the current situation, values, personal circumstances), and qualitative data allows us to



take perspective, capture and present perspectives of individuals such as teachers (Regan et al., 2012). Researchers who choose this approach note that teachers' experiences are always rooted in a specific time and context, in their social relationships and in their complex work environment (which has a whole new dimension, given the ongoing pandemic). By focusing on the narrative concerning the complex nature of teachers' work, we can improve our understanding of the social, collective and relative aspects of the burnout process (e.g. Pyhältö, Pietarinen, and Salmela-Aro, 2011; Sharplin, O'Neill and Chapman, 2011).

However, even a cursory analysis of research databases reveals an overrepresentation of studies conducted in a positivistic paradigm, quantitative and longitudinal studies and self-reporting. While these approaches are essential and significant, they should be supplemented by qualitative and explorative studies. According to some scholars (e.g. Trenberth and Dewe, 2006), the widespread reliance on questionnaires may have diverted resources from learning more about the interconnections between different stressors.

The ubiquity of quantitative longitudinal studies has consequences. For example, given that few studies are horizontal, any conclusions on the causes of stress and burnout must be drawn with care. Data obtained through qualitative studies can be useful – even fundamental – in developing preventive strategies and interventions as part of supporting teachers' mental health. In this instance, the advantage is gaining „live” knowledge and an insight into how participants see the current situation. This is focused on perceptions and personal experience of stress in the context of organisation, procedures, relationships and the social climate. Additionally, a qualitative approach allows us to gain a greater understanding of many aspects of the burnout process, which are difficult to capture in quantitative studies (e.g. dynamics, motivation, values, ethical issues). An additional advantage of qualitative data collection and analysis is that it provides an insight into spontaneous declarations by teachers on other issues they perceive as important or difficult in their professional and personal lives, unprompted by the researcher.

It is also important to remember that qualitative studies are not only the alternative method of analysing social realities. They can form the stage preceding quantitative studies, for example to devise questionnaire tools (through recognising, completing and updating information on the given subject, for example by recognising work pressure and coping mechanisms).

## **Procedure and Analysis**

We used thematic analysis - an approach within qualitative paradigm. In this case, it is applied to the secondary data of Internet posts (Yi, Wu, Xiang and Liu, 2020; Blake and Scanlon, 2014). The approach consists of identifying, analysing and reporting patterns (themes) noted in the collected research materials. It is described as a method that allows for effectively identifying, ordering and connecting diverse threads in rich, unorganized databases through a five-stage approach: compiling, disassembling, reassembling, interpreting, and concluding (Castleberry and Nolen, 2016). However, a lack of clear-cut criteria contributes to a large discrepancy in the way the approach is applied (Braun and Clarke 2006; Nowell, Norris, White, and Moules, 2017). A similar approach was used in the study by Motteram et al. (2020).

The authors analysed approx. 5000 the teachers' statements gathered from 7 different Facebook groups during the first 9 months from the schools' closure. Only the statements published after the lockdown of schools in Poland were included in the sample. During the first stage the Authors selected two kinds of statements: (1) those describing factors that are stressors for teachers during the pandemic, (2) those describing actions and methods that teachers described as effective coping strategies that helped them to deal with occupational stressors during the pandemic. The statements were coded individually by both authors and then discussed in case of inconsistency and it was decided whether to use particular statement in the study or not. Then the whole material was read independently by both authors and the proposals for post hoc categories were proposed and defined. After discussion the material has been read again and the examples of statements illustrating proposed categories were made. The suitability of our categorisation of statements was verified by four competent judges drawn from the population of interest (teachers and other educators). The quotes were translated and indicated in all cases where it was possible by gender of the teacher (M-Male; F-Female). We decided not to gather and present descriptive statistics due to three reasons: (1) in many cases it is not possible to identify gender as pseudonyms are used; (2) we sometimes analyze numerous statements of a single user; (3) we do not analyze gender differences when exploring teachers' statements.

Since the methodology does not require active human participation and the analysis is made on publicly accessible online content no official ethical approval is required. There are no citations in the text that are attributed to particular respondents. Additionally, the material was analysed from the perspective of any contextual data that may make the personal data

identifiable or searchable. All those data were omitted or changed (without changing the meaning of statements).

## Results

### Factors affecting teacher mental health

Factors affecting teachers' mental health (stressors) identified in the study are presented in the „onion” order. That means the presentation starts with the factors that are burdening for teachers but they are not directly connected to their everyday work duties.. Then close to the core we focus on those stressors that are directly connected to the circumstances and the way teaching occupational are implemented.

The first identified category concerned criticism experienced by the teachers during the pandemic.

**Table 1.** Criticism concerning teachers' performance during the pandemic

I. Category: Hostile criticism against teachers' performance during pandemic		
Subcategories	Example of qualitative evidence	Context
1. Hostile criticism by general public	<i>My daughter likes it, and this is probably the most important, why so much criticism, if someone does not like it, do not watch (F).</i>	The comment refers to strong criticism concerning publicly broadcasted lessons prepared by national TV.
2. Hostile criticism expressed by the other teachers	<i>We join as a professional group to hating our colleagues. In addition, giving an excuse to speak negatively about teachers by disseminating these opinions and programs on the net (F). Teachers focus on criticism... Without thinking about the fact that we ourselves put a hand to creating a negative image of the teacher in society (F). I spoke to my husband today about some of the statements. I found that if some comments were words of a student about another student, most of us would probably find them inappropriate and would react. You can criticize the most. Why insult, however? (F).</i>	The statements refer to the comments expressed by the teachers mostly in public communication online (on private social networking profiles or while discussing in professional fora).
3. Critical assessment by students' parents	<i>Whatever you do, it would be wrong. At our beginning (Monday, short info from children is to read and do 10 activities - grade 1 in elementary school). The argument is too little, that makes no sense. So, the next day, specific page numbers in the exercise and textbook (class 1 ... so you don't need to translate anything, the children had all activities, bigger, smaller), make letters, maths tasks .... now too much. Parents of children without problems: still not enough Parents of children with problems: why so much .... (F). I have the impression bordering on certainty that no one is completely satisfied with this so-called distance education. As a teacher, I can't satisfy everyone. I have 25 students in the class but the parent has one or possibly two in my class, and different expectations e.g. expecting a live lesson in front of the camera, but not necessarily at the appointed time, or not because the parent is at work and the child does not have a telephone, computer to instructions (I teach 3rd grade at Primary School), tasks sent to work is too little or too much, the Internet fails ... And I can't satisfy everyone (F).</i>	The opinions of parents was directly sent to the teachers/headmasters or presented publicly in school fora or open fora online.

The generalized public opinion (or some aspects of it) about teachers as an occupational group, particularly when widely present in both traditional and Web 2.0. proved to be harmful for many teachers. That was particularly

true when it has the form of unjustified criticism that present particular cases as examples of the general situation (subcategory 1). It is very much connected to the new situation brought by the lockdown of schools and widespread usage of distant education. Parents but also general public gained the easy access to the electronic content showing directly teachers' work (such as broadcasted lesson on national television, but also synchronic live lessons provided by the teachers online). Obviously, some of material shows low quality of teachers' work, e.g. basic mistakes while teaching or poor didactic skills. Due to the four characteristics of the digital content on the Internet (*persistence, searchability, replicability, and scalability*) (Boyd, 2008) the materials are fast disseminated and are easy to access by the wide public called invisible audience (a large number of people, difficult to identify and count) (Boyd, 2008). In such a situation numerous teachers take efforts in adjusting to the new situation and try to fulfil all their duties properly. At the same time they felt that they are treated unjust mostly by students' parents but also by general public. This was particularly difficult when such harsh criticism was expressed by the other teachers. Due to this qualitative difference it was defined as the second subcategory. It is worth underlying that despite the fact that teachers are not criticised as individuals, they experience negative emotions since they feel affiliated to the occupational group in general.

The third subcategory connected to criticism was closer to a particular teacher's individual work. Teachers stated in many cases the same aspects of distance teaching methodology was criticised by some disputants and praised by the others. For example teachers providing lessons online were praised for having direct synchronous contact with students but at the same time criticised for not taking into account students individual situations (such as access to hardware or the Internet).

The next category of teachers' statements covered macro organizational stressors both at a macro level and institutional (school) level.

**Table 2.** Organizational stressors

II. Category: Organizational stressors		
Subcategories	Example of qualitative evidence	Context
1. Organizational uncertainty at macro level	<i>The specific date back to school is unknown. It is said that only in June (M). It is said we do not go back to schools this school year (F). The whole problem is that you „talk“ instead of making decisions and don't keep kids waiting for the exam. It comes to my mind that it's keeping students hostage (M).</i>	Lack of information concerning organizational plans at country level (mostly those concerning re-start of school activities. This is connected to uncertainty about the wellbeing of students who feel anxious about their future (particularly those who take this year primary or secondary school final exams).
2. Fear of getting infected when back to work	<i>Before they let teachers go to work - parents should press for teachers to be examined. Teachers, however, would also be calmer believing that students are also healthy and have no contact with the sick (F).</i>	There is not a general law requiring COVID-19 tests for both teachers going back to work or children. However some local governments decided to conduct tests locally.
3. Fear of teachers suffering health problems when back to work	<i>Please first get reliable information on how to get infected. One of the main factors is the time of exposure to the virus. It's easy to handle someone's life. Is human life at stake here on the one hand, and 2 on the other? 3? class hours that can be held online (F).</i>	Some teachers suffering from poor health status (diagnosed or not) have got higher fear of getting back to work since the risk to get infected is higher.
4. Work organization and vertical communication at school level	<i>The school is still too rigid, too much evaluation, criticism, too little freedom (M). I experienced this clearly this week, but the rest did not understand. It is not about money, it is about the dignity that has long been taken away. The headmaster should say! You work for 40 hours so-called directors, but you'll get 80 percent of your salary by adding „because it's meant to be“ or „because that's what I want“. Money is not everything!!!? (F).</i>	Most of the tasks and responsibility connected to distance education have been placed upon the school headmasters. In many cases they felt pressure to keep the distance education standards without proper training and sufficient competences. As a result sometimes they took bureaucratic management style in order to assure that teachers will fulfil their tasks properly.

The first subcategory covered uncertainty at macro level. It was caused by lack of clear legislation and requests from educational administration (both the Ministry and regional authorities). The school headmasters and teachers were not clear about educational priorities during the pandemic, organizational aspects they should implement as well as the way all the activities should be documented. In such situation all aspects of work may be a subject to control and criticism (in some cases even accusation of violating work contract).

Stressors connected to health hazards connected to possible COVID-19 infection (subcategory 2 and 3) seem to be the most obvious. Since for a long time during the quarantine public official information and government announcements underlined the high possibility to get infected through direct contacts, the teachers working environment appears as substantially risky. Those stressors are connected to general anxiety connected to infection risks. It is sometimes heightened by the fact that certain teachers suffer from other conditions that may multiply consequences of the possible infection. Additionally, there were at the time no formal central decisions concerning

testing teachers before restarting direct work with students what can make them also anxious about being a possible infection source for the children. However, this kind of stressors is not found in the research material.

The subsequent two kind of stressors are very specific to the pandemic situation since they are connected to the possibility to get infected by the virus. They stem from the fact that opening schools and final examination for primary schools were planned in traditional forms at the time of writing this article. Teachers felt fear to get infected (subcategory 3), particularly those who had some health issues heightening the risks of health consequences of infection. The last subcategory within „Organizational stressors” covers the issues of communication problem between a headmaster and teachers at the school level. It was mostly stemming from demands put upon schools by the administration.

The third category of internet posts covered the problem of stressors connected to organizational aspects of work at individual level.

**Table 3.** Stressors concerning work organization at individual level

III. Category: Organization of work at individual level		
Subcategories	Example of qualitative evidence	Context
1. Work overload	<i>I do not work at home, I live at work (F). And today I have counted the number of hours worked and I did 38. You get it, tomorrow I will write only a report on the actions taken. From Monday I organize my work (technically I work similarly to you - messenger, email, Google Drive and broadly understood Internet). I have 170 students, hundreds of emails, almost thousands of attachments that I need to archive and review somehow. I don't have time to provide feedback separately for each student. I'm starting to get lost (F).</i>	Distance education brought numerous teaching tasks that are very time consuming, eg. a lot of e-correspondence with students and their families.
2. Work-life balance	<i>Majority of teachers are parents of children. Nurseries, kindergartens and closed schools, it is better not to contact grandparents for their good, neighbour support groups inadvisable, husband at work, and the wife-teacher tries to juggle taking care of younger offspring, help in lessons of a third grade SP student, a home, meals, etc. - and how is it supposed to cover dozens or several hundred students? Nobody thought about that either. It's all a vicious circle and I don't know if it's right (F).</i>	The children of teachers are also obliged to stay at home and take part in distance education. That overlaps with implementation of teaching duties making both activities hard to conduct.

Covid-19 pandemic brought a new dimension to the two traditional aspects of occupational teacher stress. Complete revolution in conducting teaching tasks combined with the need to acquire new skills added a lot of extra hours to teachers work. That resulted in an excessive workload (subcategory 1). Additionally working at home often when taking care about own children at the same time had a negative impact on work-life balance (subcategory 2).

The next identified category (Table 4) was connected to implementing distance education during the pandemic. Those stressors could be perceived as the most specific for current situation and present to the much less extent during the pandemic.

**Table 4.** Stressors connected to implementing distance education

IV. Category: Distance education as a source of burden		
Subcategories:	Example of qualitative evidence	Context
1. Lack of ICT equipment or insufficient equipment in teachers.	<i>My laptop is currently holding 2 cables (the hinge has also been destroyed).  Thanks! I will try Zoom. But first I need to get some work laptop out of school next week. I'm tired of installing and testing the application on my own hardware ... The more that I have neither a camera nor a microphone on my PC, so I tested everything either on the phone or on the laptop of another family member.</i>	Teachers in vast majority had to use their private e-equipment to provide online teaching. In some cases they possessed no equipment or their equipment was not of sufficient quality.
2. Lack of ICT equipment or insufficient equipment in students.	<i>My students do not have the proper equipment for this. Most use a parent's phone. And how do you deal with the equipment? Children have online lessons at the same time? In many large families of my students there is one computer. Such children will not be able to participate in the classes at the same time.</i>	Due to socioeconomic inequalities some proportion of students was unable to take part in the online learning activities. Teachers felt helpless since in many cases there was no other possibility to provide those students with decent education.
3. Online hygiene	<i>But you can't work three months working on a cell phone (M).  In distance education is a student who has always had problems with motivation.</i>	Teachers screen time has been often much longer than before the pandemic. It was perceived by many teachers as a serious physical burden (associated with eye-aches, spine-aches, etc.).
4. Necessity to switch to distance education despite low digital skills.	<i>My mother is 65 years old, she teaches mathematics and cried at the beginning of the need for remote teaching (F). For teachers who are not IT specialists, these are often difficult issues (we do not have appropriate digital competences) (F).</i>	Distance education required sudden usage of ICT by many teachers including those who before the pandemic had very modest or no experience in educational digital technology usage.
5. Substantial changes in educational activities	<i>Please tell me what kind of online lesson this is, when students are not on vision, do not turn on their cams ... Now in the remote disappears. Work hard on his motivation in this system (F).</i>	Many traditional teaching activities undergone substantial change mostly due to computer mediated communication. In many cases teachers interpret necessity to use the Internet tools as lowering the possibility to achieve educational aims.
6. Inability to fulfil some occupational tasks in distance learning methodology.	<i>I teach PE, so at most I can do remotely make crunches and rompers ... But I wish I wasted my time, because I prepared children for various professions all year round and after such a break it is a pale ass with a form, or it is not known if any competitions will take place (M).</i>	Teachers felt that current distance teaching methodology do not provide the possibility to reach educational full in a way it was possible before the pandemic.

<p>7. Legal aspects and responsibility of the teachers providing distance education.</p>	<p><i>I don't understand this laugh. I have two personal children. If I found out that someone had recorded them without my permission, the case would have been to the police that day (F). You don't care about GDPR, you record your students without the consent of their parents and react ironically when someone draws your attention to it. As for the duties, one of the basic duties of the teacher in distance learning is to take into account the technical capabilities of the students (F).</i></p>	<p>Most of the online instruments provide the possibility record lessons. Teacher felt uncertain about the legal aspects concerning the students images and usage of distance teaching technology in a broader sense.</p>
<p>8. Concerns about own online image and privacy</p>	<p><i>My students are teenagers. And I've already seen photos on the web that they have published..it ... so you know ... there are such individuals that will, however, come across wonder new ideas.</i></p>	<p>Teachers felt fear that students may record the teacher and make improper use of recorded material (e.g. disseminating it online, etc.).</p>

The first two subcategories are connected to the aspect of digital inequalities concerning teachers and students. Both end up in limited possibility to conduct distance education in an effective manner. Online education is also affecting teachers who spend long screens hours in forced positions that is sometimes a painful experience (subcategory 3). Subcategories 4 and 5 are connected since they refer to the necessity to switch to teaching with ICT in a distance mode often without proper skills (e.g. Al-Fudail and Mellar, 2008; Syvänen, Mäkineniemi, Syrjä, Heikkilä-Tammi, and Viteli, J., 2016). At the same time many teachers had the impression that it is not possible to do as much educationally as it was possible before the pandemic (subcategory 6). Negative emotions are also brought by teachers concerns about legal issues of distance education and their potential responsibility for violations in this field (subcategory 7). They feel also fear about their privacy and potential misuse of their image (e.g. when recorded by students during online lessons).

### **Resilience and coping with occupational stressors during COVID-19**

Teachers online discussions may also be analysed as a way of coping, expressed as: reaching out for help (mainly in the form of information, as well as instrumental and emotional support) and a desire to help others. We searched through online resources for statements directly referring to how teachers are coping with the current situation and how they are supporting others. We found numerous examples of non-constructive ways of coping, such as looking to shift the blame (e.g. complaining of a supposed lack of support or excessive demands from students' families). However, we decided to focus on analysing positive examples of coping (both as self-care and supporting others). At the same time it will be interpreted as the resilience manifestations.

By conducting thematic analysis concerning various aspects of coping manifestations, we have identified three main categories of coping in teachers' discussions. They are: social support (received as well as delivered), finding



positive aspects as a way of coping and strategies focused on searching for meaning.

The first category includes statements whose authors respond to explicit questions of other participants, speak on given topics, offer support or discuss remote teaching during the pandemic. The category comprises three subcategories concerning technical support, self-care and teachers' humour.

**Table 5.** Social support as a way of coping

V. Category: Social support		
Subcategories	Example of qualitative evidence	Context
1. Technical/practical support	<p><i>Discord is a free app, quick to register by email, and it allows you to stream and make voice calls. It works as a PC program or in a browser, and as a phone app.</i></p> <p><i>You record a lesson and upload it to YT as a private post, then send the link.</i></p> <p><i>I repeat: you don't video your face because it is irrelevant here. You're working with your voice, not your face. You record yourself speaking, with your screen serving as the whiteboard (M).</i></p> <p><i>Most of all, you have to remember to set up your laptop mic properly. I had it on factory settings, and it picked up everything that went on in the house. As a result, my students got a good insight into my family life. My kids and their constant demands, my husband shouting into his phone because of course he was also working (F).</i></p> <p><i>There's also a ton of tutorial videos! (F).</i></p>	<p>These statements are a reflection on frequently reported technological and practical problems faced by teachers, and concerns over their private lives becoming public.</p> <p>Advising for searching tutorials regarding professional needs is an example of the informational support .</p>
2. Mental hygiene/ Taking care of oneself	<p><i>Everyone needs to find their own way of venting (F).</i></p> <p><i>Oh yes, tai chi is a wonderful hobby – you work on your body and give your mind a rest, because it is too preoccupied with controlling movement (F).</i></p> <p><i>We can and we must, it's just more difficult at the moment (F).</i></p> <p><i>We have to be our own psychologists and teachers to cope with these demands from all sides (F).</i></p> <p><i>If the teacher doesn't value themselves and their time, others won't value them either. Headteachers and parents notice weaknesses and take advantage of them.</i></p> <p><i>You have to know how to set boundaries, be a bit selfish and look after yourself (F).</i></p> <p><i>About a week ago I learned to turn off my WiFi at 9pm. I try to rest until 6.30 the next morning. I get text messages, but I put my phone on silent (F).</i></p> <p><i>I promised myself that I'll NEVER download the Librus app [school electronic communication system] onto my phone – so far so good;-)</i></p> <p><i>Don't answer, call back the next morning at 9.</i></p>	<p>The need to find/develop personal interests, hobbies was broadly undertaken.</p> <p>Teachers expressed the need to find inner strength to find positive sides to working under the current conditions.</p> <p>Setting boundaries and trying to maintain the work-life balance were advised as a way to maintain mental health.</p>

<p>3. Humour/Sarcasm</p>	<p><i>We're just training, or, realistically, ticking boxes (M).</i></p> <p><i>Oh, I have no problems. Parents are really supportive of us, and we are of them. Assessments of our online work, which is how we've been working since 16 March, are very positive. 98% of the kids are really engaged with their work. We're not going crazy, we've slowed down with looking for new ideas. We're looking after ourselves and our families (F).</i></p> <p><i>They're talking about me again... about the burnout;-) (F).</i></p>	<p>Some statements were paradoxical responses to teachers' complaints about the current difficulties.</p>
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The first subcategory is something of a response to the very commonly expressed need for support in using technology in terms of choosing and using the right tools and uncertainties and worries, for example for privacy. Given how commonly teachers report high levels of stress and describe difficulties in finding the right way to exist and work during the pandemic, it is especially important to pay attention to voices showing support on levels such as emotional (self-care), cognitive (understanding one's professional role) and practical and technical support. It is clear that the subcategories are intertwined; for example, gaining technical support for the practicalities of remote teaching may also result in the teacher becoming more confident and efficient and better able to cope emotionally.

The second subcategory comprises statements on self-care at the time of remote teaching. This concerns topics including specific examples of encouragement and providing resources such as physical exercise, meditation, hobbies etc. (the latter are indicated as a preventative measure for professional burnout) and suggestions of setting boundaries. Such boundaries concern specific activities, such as limiting availability to students and parents to school hours, and more general care to keep private and professional life separate. Issues of work-life balance are widely described in the context of mental health and wellbeing (e.g. Schonfeld, 2017). Being able to take advantage of experiences of people in similar situations may encourage individuals to take action to improve their health and wellbeing, even if they previously had no desire or motivation to do so. The current situation is particularly challenging, partly because keeping private and professional lives is exceptionally difficult as people are forced to work from home during the pandemic.

The last subcategory is one of a humorous character, which is expressed in the sarcastic expressions of the teachers. It provides a way of dealing with difficult experiences (Desai, Sengupta, Kumar, Shivalkar, and Mehrotra, 2006), relieving tension or, on another hand, an expression of cynicism (Wu and Chan, 2013). This points to attempts at distancing from emotionally burdening experiences. When identified in individuals involved

in educational processes (students, teachers, parents etc.) it can be a symptom of a burnout.

The next category distinguished by analysis of the collected materials are personal statements, which can be described as self-reflection. It comprises two subcategories: finding positive aspects („light side of the moon”) and finding sense in the current situation.

**Table 6.** Finding positive aspects as a way of coping

VI. Category: Finding positive aspects		
Subcategories	Example of qualitative evidence	Context
1. Perspectives of individual benefits	<p><i>I've learned the most by asking those students who found Teams trivial (M).</i></p> <p><i>I've learned a lot from my students (F).</i></p> <p><i>I feel revived, although I have more work than usual... but my sense of agency has improved (F).</i></p> <p><i>I'd like to work out a strategy for remote working which I'll be able to use once schools reopen while implementing educational projects (F).</i></p> <p><i>If it weren't for the technical issues, teaching this way isn't so bad. At least I'm not stuck in traffic every day (F).</i></p> <p><i>This time has also made me realise who we can count on (F).</i></p> <p><i>This time has somehow helped my self-development (F).</i></p> <p><i>I have discovered a lot of new things (M).</i></p>	<p>Positive comments indicating students as a support for acquiring new skills.</p> <p>The expression of hope that new skills acquired under the current situation can be used in the future.</p> <p>Practical positive aspect of remote teaching during the pandemic.</p> <p>Comments in discussions on other positive aspects of the current situation.</p>
2. Benefits for the others	<p><i>Remote teaching benefits introverted students who usually keep quiet (M).</i></p> <p><i>My opinion is that we have developed key competencies for the time of distance learning (F).</i></p>	Some teachers list advantages for the others involved in distance education (students, teachers).
3. Hopes for the profession	<p><i>I'm just hoping that this situation will open our minds a bit, because that's really the biggest problem, and without this [digital competences - ed.] we won't be able to move forward (...).</i></p> <p><i>In reality, there are almost boundless ways of making teaching easier for us and learning easier for students (M).</i></p> <p><i>At every parents' evening I get accusations of over-reliance on electronics, that it shouldn't be allowed, that kids don't need computers and they won't die if they have to use a standard phone.</i></p> <p><i>Parents want a stop to kids writing essays and homework on computers or taking pictures of the board if they didn't copy everything in time. Then we needed to start teaching online, and suddenly kids are expected to have the equipment and know how to use it, to be available electronically in several ways, and to help one another on social media.</i></p> <p><i>I have a glimmer of hope that the coronavirus will shift this attitude, or at least that sticklers to „traditions” will keep quieter at parents' evenings (F).</i></p>	Focusing on the positives aspects and expressions of hope that the situation may lead to professional development of teachers as a group.

The first subcategory covers statements declaring that the respondents are able to focus on positive aspects of the current situation. These include authors posting positively about themselves (first subcategory), describing specific situations (e.g. saving time by not having to commute)

and talking about gaining and developing new skills which would have been difficult were it not for the pandemic. The next subcategory concerns teachers finding positive aspects of the current situation for others, for example students with special educational needs, those who are shy and those who perform better when given more flexibility. This especially concerns children and young people who benefit from being able to communicate indirectly and choose how and when they are in touch with their teachers (e.g. live streaming with or without camera or sending messages). The third subcategory concerns positive thinking and hopes that the current situation will somehow benefit the teaching community. This mainly includes an expectation of a positive shift towards a greater appreciation of online education and improving digital competences among all participants in education, including teachers. In other words, statements in this subcategory express a strong hope for improvements in online education and IT skills, essential in the contemporary world.

When discussing socialisation and professional development, we must not overlook the role played by other teachers; it would seem that statements expanding perspectives and indicating aspects which are usually ignored may support coping mechanisms. This is confirmed by studies on the buffering role of support provided by colleagues (e.g. Hamama, Ronen, Shachar, and Rosenbaum, 2013). Membership of a community (in this case an online one) focused around shared experiences is naturally highly important to its members by allowing them to see themselves in the context of others, find inspiration and provide it to others, and enable them to express themselves emotionally. According to Howard and Johnson (2004, p. 412) resilient individuals have strong relationships with others and „know that there are people who care about what happens to them”.

The next category concerns statements indicating that the respondents have been reflecting on the meaning of their work, especially in the context of the current situation. Issues of seeking and finding sense in the context of teachers' wellbeing, stress and risk of burnout are considered as part of the burnout model seen through the existential perspective (Pines, 1993), while lacking existential fulfilment is an important determinant of professional burnout in teachers (Tomic and Tomic, 2008). The most important practical implication of this model is turning attention to the significance of meaning and sense as experienced by individuals when they help others. An individual's negative self-perception or burnout may not necessarily be driven by actual setbacks or problems, but their belief that their actions have no sense or meaning.

Table 7. Sense of meaning as a way of coping

VII. Category: Strategies focused on meaning		
Subcategories	Example of qualitative evidence	Context
1. Taking control	<i>But I got my head around it quite quickly, and since 25 March it's been going OK, even really well. I've done it very differently and my own way (F). Now I know I have to draw up my own timetable and plan my activities (F). In the end I had to just make my own decision and let my students know how online teaching will work. I should have done this from the start I'm glad that I got a grip in time and trusted my own intuition, and now I'm relatively calm (F).</i>	Some teachers name successes in tackling the challenges of remote teaching.
2. Accepting uncertainty	I think the greatest problem is that we have got used to always being able to plan and predict everything. But this time we really know very little, and I think that's one of the greatest challenges for me at the moment: living in uncertainty (F).	The common desire for professional certainty in these uncertain times were expressed.
3. Focusing on the „here and now”	<i>You know, I'm just ignoring everything. I'm focusing on the here and now, so I'm working as though all deadlines are the same as before. I've simply stopped planning, because all my plans have gone upside-down and I don't want to waste my energy on something which won't be relevant in a few days. It's my way of avoiding stress (...) I simply focus on the here and now, otherwise I'd go crazy (F). Each period of time has its purpose. Everything serves something, something important (M).</i>	These describe a personal coping strategy by focusing on „doing own thing” and starting with oneself  A need for finding a meaning under every circumstances.
4. The right to imperfection/self-acknowledging one's limitations	<i>Yes, everyone (even teachers) have a right to not know something! (F). It helps to not take myself too seriously, to admit that I will do what I can, and that I can't influence everything (F). What needs to be overcome is the fear and shame of something not working out (F). That's it... they even appreciate that, they appreciate that we're trying! (F). Students have more trust in those that make mistakes and admit them compared to those that pretend to be infallible (M). Oh yes. Admitting mistakes is indeed difficult, especially in a teaching job (F).</i>	The right to accept one's limitation and limited influence on teaching outcomes were expressed.
5. Perspective taking	<i>We frequently don't support headteachers, and only expect them to support us! (M). You have to always remember what it must be like on the other side... the side of the students... their parents... (F). But everything is better when I see all the thumbs up when I finish my Zoom meeting with my students.  I'm learning everything myself, I am doing my very best for the kids and their parents because I know they're counting on us (F). There is no „rat race” at my school. I'm full of admiration for my colleagues who previously took no interest in IT and who are now coping, some of them rather well. Some of my colleagues didn't want to teach on camera, but they got over it and persevered (F). But there are plenty of teachers who don't use some of the tools available for remote teaching. It doesn't mean that their teaching will be terrible. It will just be different (M).</i>	Some statements reflect the ability to empathise with people on the other side of remote teaching.  Appreciating positive changes even if they are minor.

The statements can be regarded as a way of seeking and finding sense in the current situation and the challenges that go with it. The first subcategory concerns ways of taking control of the situation, having faith in oneself, trusting one's intuitions and, as a result, declaring a more positive self-perception in professional terms. Having no control over one's situation is described in literature as a risk factor for professional burnout.

Statements in the second subcategory are examples showing an ability to reconcile with the current situation and accepting a degree of uncertainty. This is important, since it does not just concern the pandemic but the present day in general. Additionally, uncertainty is an inherent feature of the teaching profession. It has myriad aspects such as ambivalence, ambiguity and low confidence. There are no clear criteria of professional success. The teaching profession is described as inherently inconsistent, mentally challenging and likely to clash with other roles, for example within the family.

Personal coping strategy focusing on „here and now” and „doing own things” expresses a need for finding a meaning under every circumstances. The validity and the ethical dimension of this approach is confirmed in both the existential and axiological perspective on education (e.g. Meirieu, 1999).

Some teachers admit to their limitations which is listed as the third subcategory of statements in this sphere. This concerns a kind of humility regarding factors which one has little or no influence over. There are also elements of allowing oneself the right to be imperfect and make mistakes. It should be noted that this is not resignation or surrender but rather focusing attention on things which are possible and necessary in the current situation. Problems of unrealistic expectations are also highlighted in statements about providing direct help and support to others (first sphere). Declarations of being able to cope were classified as a focus on the „here and now” – a task-based approach and cutting oneself off from issues which could disturb optimal functioning under the current circumstances.

The last subcategory concerns appreciation of engagement and effort under the current circumstances. Statements describe taking on board perspectives of other individuals involved with remote teaching (parents, other teachers, managers). This mechanism of empathy is key in the context of the current situation, as well as being a symptom and condition essential in supporting others. The described coping mechanisms are often close to the strategy of ‘meaning-focused coping’, which is rooted in personal values and beliefs, encompassing goal revision, focusing on strengths gained from life experience, and reordering priorities, among others (Folkman, 2011).

## **Discussion and conclusions**

The study brought new qualitative data on teachers mental health through analysing stressors and their impact on teachers mental health as well as the coping strategies teachers adopt to deal effectively with those stressors. The data was gathered during a very specific time of a school lockdown caused by COVID-19 pandemic. One can criticize such approach as focusing only on temporary situation. However, we should remember that such lockdown of schools due to epidemic or other reasons is very likely to happen again in the future. Since mental health of teachers is connected to their quality of work and in a broader perspective to wellbeing of students the knowledge concerning hazards to teachers mental health may be very useful from practical perspective. On the other hands the empirical materials brings knowledge that can extend or modify the stressors present in traditional conceptions of teachers mental stress, also in a context of ordinary situation (not only the pandemic distance education time) (Travers, 2017). Many of the stressors are also present during „normal” situation but in many cases they are not acknowledged properly and operationalized in research projects.

The stressors were identified by analysing statements published by the teachers in social media. Since the study had an explanatory character using qualitative data was the justified methodology to find new categories and contexts (Sharplin, O'Neill, and Chapman, 2011).

The study has been done by analysis of statements presented in social media fora for teachers. Since the identity of members analyses is not controlled formally, there is a slight possibility that small part of the material comes not from the real teachers but from the people creating such fake position online. However, this is very unlikely since the open profiles of forum members checked by the researchers revealed a lot of material confirming teacher status (such as the concrete school information, photos presenting pupils or a teacher at work, etc.).

It is worth remembering that some occupational stressors in teaching profession are directly connected to country-specific factors, such as organization of educational system, possession of ICT equipment, etc. Therefore, one should be very cautious to extrapolate the results of this studies to understand COVID-19 teacher stress in other countries contexts. Still, some stressors (like that caused by limiting education to distance mode and mediated communication) are universal and with high probability are present in all the countries when schools locked down.

Due to qualitative methodology the study do not provide prevalence data on stressors and coping strategies. To obtain this kind of data the

quantitative studies should be conducted that incorporate identified stressors and coping strategies into questionnaire tools.

The main aim of the study was to identify the specific and non-specific stressors experienced by Polish teachers during the pandemic. Application of the qualitative research procedure resulted in identification of four main categories of stressors that are in each case divided into subcategories. They are synthetically presented in Fig.1.

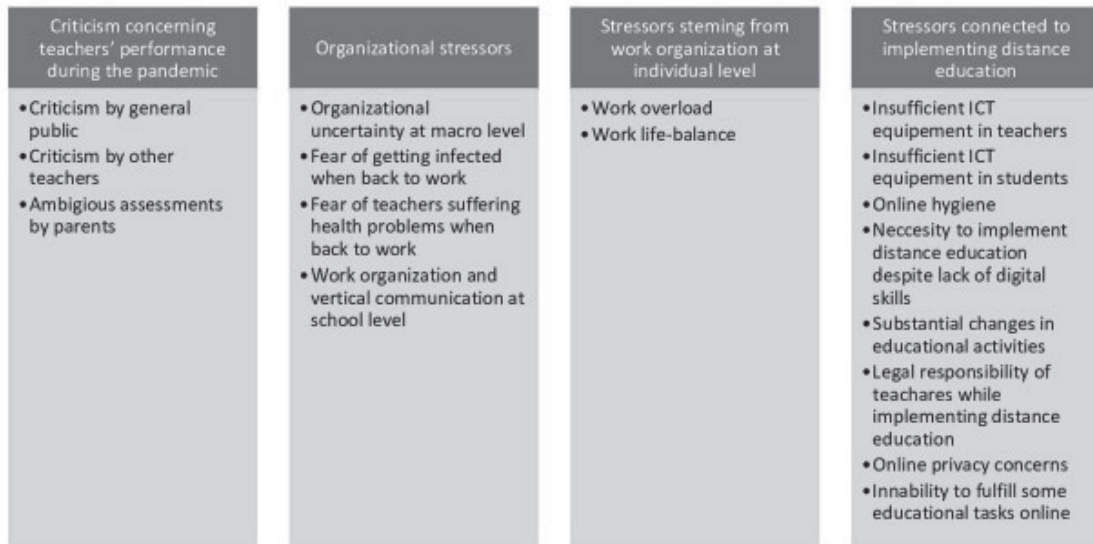


Fig. 1. Categories of teachers' occupational stressors identified in the study

Additionally, we identified three categories of coping strategies (with subcategories) teachers use to deal with occupational stressors during the pandemic. They are presented in Fig 2.

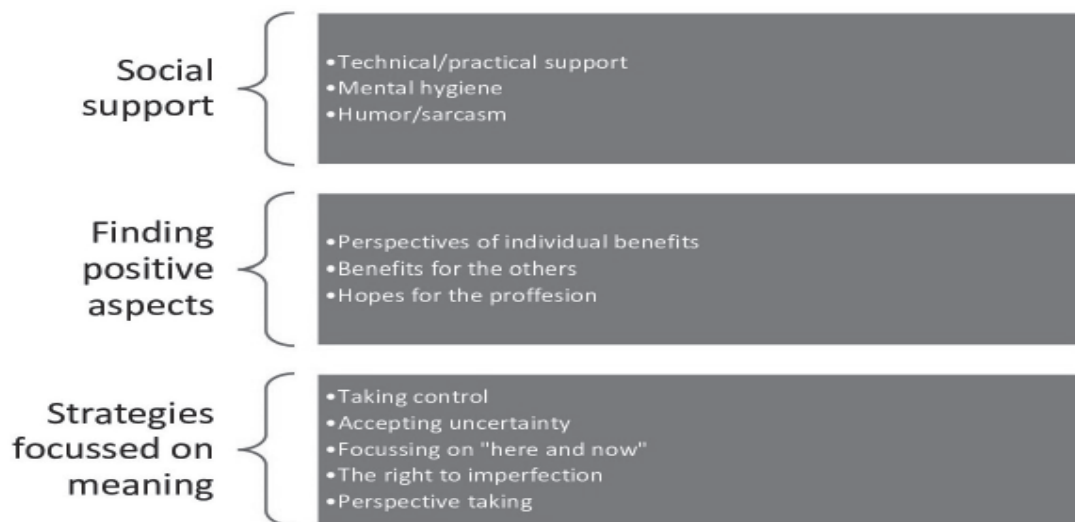


Fig. 2. Teachers' coping strategies identified in the study



The frequency of these phenomena is not a critical factor of their importance in qualitative studies. However, it should be noted that declarations of physical and mental wellbeing and good stress management were rare in our research material. The vast majority of statements expressed frustration, dissatisfaction and helplessness. The second notable issue is a relatively low number of teachers clearly describing where they are able to find support in the current situation. Professional, supportive peer-to-peer relationships may play crucial role important in building resilience and therefore contribute to sustain the teachers' well-being and indirectly positively impact pupils' mental health. Adopting a resilience perspective allows us to identify teachers' voices indicated successful coping with 'pandemic' occupational stress and shed more light on protective factors in dealing with crisis. Although we have not controlled gender status of our respondents some studies indicate that occupational burdens may be higher in females due to overlap of occupational and home duties (Stachteas and Stachteas, 2020).

Such data is crucial for creating workplace health promotion (particularly occupational stress prevention programmes) for educational settings. The results show that traditional workplace stressors experienced by teachers are modified and accompanied qualitatively new stressors that reinforce the negative impact. Those stressors should be acknowledged and addressed while planning, implementing and evaluating prevention programmes. Without inclusion of teacher perspectives, occupational stress may lead e.g. to deterioration of teacher wellbeing, and negatively affect outcomes of their students (Robinson, Valido, Drescher et al., 2022). Among the issues that specifically may support teachers one can name modification on teacher ICT competences list in order to support their instruction efficacy. This should include the following aspects identified in other research conducted during crisis remote education: using ICT for building educational relations and assessment as well as supporting young people mostly endangered by digital exclusion (Walter and Pyżalski, 2022).

UNESCO (2020) based on needs analysis proposed the following long and short terms measures to support teacher wellbeing:

1. Regular monitoring on teachers needs (professional, financial, socioemotional)
2. Identification of groups of teachers that significantly need more support
3. Provision of adequate occupational support (also in online versions)
4. Provision of counselling and advisory support

5. Supporting relationship development between teachers and caregivers
6. Providing channels for caregivers and students to give feedback to teachers (in order to fix all potential problems before they escalate)
7. Sensitization of school personnel to the issues of mental health (both in students and teachers).

Obviously, actual implementation of those measures is country specific and requires individual diagnosis in each case.

### References:

- Al-Fudail, M., Mellar, H. (2008). Investigating teacher stress when using technology. *Computers and Education*, 51, 1103–1110. <https://doi:10.1016/j.compedu.2007.11.004>.
- Antonovsky, A. (1979). *Health, stress, and Coping*. Jossey-Bass.
- Ayyagari, R., Grover, V., Purvis, R. (2011). *Technostress: technological antecedents and implications*. *MIS Q.* 35, 831–858. doi: 10.2307/41409963.
- Beltman, S., Mansfield, C., Price, A. (2011). Thriving not just surviving: A review of research on teacher resilience. *Educational Research Review*, (6)3, 185–207. <https://doi.org/10.1016/j.edurev.2011.09.001>.
- Blake, C., Scanlon, E. (2014). Analysing online discussions in educational and work based settings. In: *Proceedings of the 9th International Conference on Networked Learning*, 25–32. Retrieved from <http://oro.open.ac.uk/42074/1/blake.pdf>. Accessed January 31, 2021.
- Bolger, N., DeLongis, A., Kessler, R. C., Wethington, E. (1989). The contagion of stress across multiple roles. *Journal of Marriage and the Family*, 51, 175–183.
- Borg, M.G. (1990). Occupational Stress in British Educational Settings: a review. *Educational Psychology*, 10(2), 103–126. <https://doi.org/10.1080/0144341900100201>.
- Boyd, D. (2008). *Taken Out of Context: American Teen Sociality in Networked Publics*. Unpublished PhD dissertation. Retrieved from <https://www.danah.org/papers/TakenOutOfContext.pdf>. Accessed January 31, 2021. Berkeley, University of California.
- Braun, V, Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>.
- Brod, C. (1984). *Technostress: The Human Cost Of The Computer Revolution* (1st edition). Reading: Basic Books.

- Burisch, M. (1993). In search of theory: Some ruminations on the nature and etiology of burnout. In: W. B. Schaufeli, C. Maslach, T. Marek (eds.), *Series in applied psychology: Social issues and questions. Professional burnout: Recent developments in theory and research* (pp. 75–93). London: Taylor and Francis.
- Castleberry, A., Nolen, A. (2018). Thematic analysis of qualitative research data: Is it as easy as it sounds? *Currents in Pharmacy Teaching and Learning*, 10(6), 807–815. <https://doi.org/10.1016/j.cptl.2018.03.019>.
- Cherniss, C. (1980). *Staff Burnout. Job Stress in the Human Services*. California: Sage Publications.
- Covid-19: Global action for a global crisis—OECD*. (b.d.). Pobrano 5 luty 2022, z [https://read.oecd-ilibrary.org/view/?ref=120\\_120544-8ksud7oaj2andtitle=Education\\_responses\\_to\\_Covid-19\\_Embracing\\_digital\\_learning\\_and\\_online\\_collaboration](https://read.oecd-ilibrary.org/view/?ref=120_120544-8ksud7oaj2andtitle=Education_responses_to_Covid-19_Embracing_digital_learning_and_online_collaboration)
- Desai, N. G., Sengupta, S. N., Kumar, D., Shivalkar, R., Mehrotra, S. (2006). ‘Humour-ability’ of mental health Professional. *Indian Journal of Psychiatry*, 48(4), 270–271. <https://doi.org/10.4103/0019-5545.31567>.
- Eddy, C. L., Herman, K. C., Reinke, W. M. (2019). Single-item teacher stress and coping measures: Concurrent and predictive validity and sensitivity to change. *Journal of School Psychology*, 76, 17–32. <https://doi.org/10.1016/j.jsp.2019.05.001>.
- Edwards, J. R., Caplan, R. D., and Harrison, V. R. (1998). Person-environment fit theory: conceptual foundations, empirical evidence, and directions for future research, in *Theories of Organizational Stress*, ed. C. L. Cooper (Oxford: Oxford University Press), 28–67.
- Endler, N. S., Parker, J. D. A. (1992). Coping with coping assessment: A critical review, *European Journal of Personality*, 6(5), 321–344, <https://doi.org/10.1002/per.2410060502>.
- Folkman, S. (Ed.). (2011). *Oxford library of psychology. The Oxford handbook of stress, health, and coping*. Oxford: Oxford University Press.
- Foloștină, R., Tudorache, L. A. (2012). Stress Management Tools for Preventing Burnout Phenomenon at Teachers from Special Education. *Procedia - Social and Behavioral Sciences*, 69, 933–941. <https://doi.org/10.1016/j.sbspro.2012.12.018>.
- Gerbic, P. (2011). Teaching using a blended approach – what does the literature tell us? *Educational Media International*, 48(3), 221–224. <https://doi.org/10.1080/09523987.2011.615159>.
- Golembiewski, R. T., Scherb, K., Boudreau, R.A. (1993). Burnout in cross-national settings. Generic and model - specific perspectives, In:

- W. B. Schaufeli, C. Maslach, T. Marek (eds.), *Professional Burnout: Recent Developments in Theory and Research* (pp. 217–236). London: Taylor and Francis.
- Gumbau, S. L., Soria, M. L. S., Campos, M. V. (2011). *Tecnoestrés*. Madrid: Sintesis.
- Hamama, L., Ronen, T., Shachar, K., Rosenbaum, M. (2013). Links Between Stress, Positive and Negative Affect, and Life Satisfaction Among Teachers in Special Education Schools. *Journal of Happiness Studies*, 14(3), 731–751. <https://doi.org/10.1007/s10902-012-9352-4>.
- Hattie, J. (2009). *Making learning visible: A synthesis of over 800 meta-analyses relating to achievement*. London: Routledge.
- Hawkrige, D. (1990). Who needs computers in school, and why? *Computers and: Education*, 15, 1–6. [https://doi.org/10.1016/0360-1315\(90\)90121-M](https://doi.org/10.1016/0360-1315(90)90121-M).
- Herman, K. C., Prewett S. L., Eddy, C. L., Savala, A., Reinke, W. M. (2020). Profiles of middle school teacher stress and coping: Concurrent and prospective correlates. *Journal of School Psychology*, (78), 54–68. <https://doi.org/10.1016/j.jsp.2019.11.003>.
- Howard, S., Johnson, B. (2004). Resilient teachers: resisting stress and burnout. *Social Psychology of Education*, 7(4), 399–420. <https://doi.org/10.1007/s11218-004-0975-0>.
- Innstrand, S. T., Espnes, G. A., Mykletun, R. J. (2002). Burnout among people working with intellectually disabled persons: a theory update and an example. *Scandinavian Journal of Caring Sciences*, 16(3), 272–279. <https://doi.org/10.1046/j.1471-6712.2002.00084.x>.
- Johnson, S., Cooper, C., Cartwright, S., Donald, I., Taylor, P., Millet, C. (2005). The experience of work-related stress across occupations. *Journal of Managerial Psychology*, 20, 178–187. <https://doi.org/10.1108/02683940510579803>.
- Kelly, N., Antonio, A. (2016). Teacher peer support in social network sites. *Teaching and Teacher Education*, 56, 138–149. <https://doi.org/10.1016/j.tate.2016.02.007>.
- Kling, R., Courtright, C. (2003). Group Behavior and Learning in Electronic Forums: A Sociotechnical Approach. *The Information Society*, 19, 221–235. <https://doi.org/10.1080/01972240309465>.
- Korunka, C., Hoonakker, P. (2014). *The Impact of ICT on Quality of Working Life*. London: Springer Science and Business.
- Kyriacou, C. (1987). Teacher stress and burnout: An international review. *Educational Research*, 29(2), 146–152. <https://doi.org/10.1080/0013188870290207>.

- Kyriacou, C. (2001) Teacher Stress: Directions for future research. *Educational Review*, 53(1), 27–35, <https://doi.org/10.1080/00131910120033628>.
- Kyriacou, C., Sutcliffe, J. (1978). Teacher stress: Prevalence, sources, and symptoms. *British Journal of Educational Psychology*, 48(2), 159–167. <https://doi.org/10.1111/j.2044-8279.1978.tb02381.x>.
- Lantz-Andersson, A., Lundin, M., Selwyn, N. (2018). Twenty years of on-line teacher communities: A systematic review of formally-organized and informally-developed professional learning groups. *Teaching and Teacher Education*, 75, 302–315. <https://doi.org/10.1016/j.tate.2018.07.008>.
- Lazarus, R. S. (1993). Coping theory and research: Past, present, and future. *Psychosomatic Medicine*, 55(3), 234–247. <https://doi.org/10.1097/00006842-199305000-00002>.
- Lazarus, R. S., Folkman, S. (1984). *Stress, appraisal and coping*. New York: Springer.
- Lazarus, R. S., Folkman, S. (1987). Transactional theory and research on emotions and coping. *European Journal of Personality*, 1(3), 141–169. <https://doi.org/10.1002/per.2410010304>.
- Manthei, R., Solman, R. (1988). Teacher stress and negative outcomes in Canterbury state schools. *New Zealand Journal of Educational Studies*, 23(2), 145–163.
- MacIntyre, P. D., Gregersen, T., Mercer, S. (2020). Language teachers' coping strategies during the Covid-19 conversion to online teaching: Correlations with stress, wellbeing and negative emotions. *System*, 94, 102352. <https://doi.org/10.1016/j.system.2020.102352>
- McCarthy, C., Lambert, R., Lineback, S., Fitchett, P., Baddouh, P. (2016). Assessing Teacher Appraisals and Stress in the Classroom: Review of the Classroom Appraisal of Resources and Demands. *Educational Psychology Review*, 28(3), 577–603. <https://doi.org/10.1007/s10648-015-9322-6>.
- Maslach, C. (1993). Burnout: A multidimensional perspective. In: W. B. Schaufeli, C. Maslach, T. Marek (eds.), *Series in applied psychology: Social issues and questions. Professional burnout: Recent developments in theory and research* (pp. 19–32). London: Taylor and Francis.
- Maslach, C., Leiter, M. P. (1997). *The truth about burnout*. New York: Jossey-Bass.
- Masten, A., Best, K., Garmezy, N. (1990). Resilience and development: contributions from the study of children who overcome adversity.

- Development and Psychopathology*, 2, 425–444. <https://doi.org/10.1017/S0954579400005812>.
- Meirieu, P. (1999). *Le Choix d'éduquer. Ethique et pédagogie*. Paris: ESF.
- Motteram, G., Dawson, S., Al-Masri, N. (2020). WhatsApp supported language teacher development: A case study in the Zataari refugee camp. *Education and Information Technologies*, 25(6), 5731–5751. <https://doi.org/10.1007/s10639-020-10233-0>.
- Noble, T., McGrath, H. (2012). Well-being and resilience in young people and the role of positive relationships. In: S. Roffey (ed.), *Positive relationships: Evidence-based practice across the world* (pp. 17–33). Springer.
- Nowell, L. S., Norris, J. M., White, D. E., Moules, N. J. (2017). Thematic Analysis: Striving to Meet the Trustworthiness Criteria. *International Journal of Qualitative Methods*. <https://doi.org/10.1177/1609406917733847>.
- Penado Abilleira, M., Rodicio-García, M.-L., Ríos-de Deus, M. P., Mosquera-González, M. J. (2021). Technostress in Spanish University Teachers During the COVID-19 Pandemic. *Frontiers in Psychology*, 12, 496. <https://doi.org/10.3389/fpsyg.2021.617650>.
- Petrie, C., Aladin, K., Ranjan, P., Javangwe, R., Gilliland, D., Tuominen, S., Lasse, L. (2020). *Current opportunities and challenges on Covid-19 in education. Spotlight: Quality education for all during Covid-19 crisis*. OECD/Hundred Research Report #011. Retrieved from [https://hundred-cdn.s3.amazonaws.com/uploads/report/file/15/hundred\\_spotlight\\_covid-19\\_digital.pdf](https://hundred-cdn.s3.amazonaws.com/uploads/report/file/15/hundred_spotlight_covid-19_digital.pdf).
- Pignata, S., Winefield, A. H., Provis, C., Boyd, C. M. (2016). Awareness of stress-reduction interventions on work attitudes: the impact of tenure and staff group in Australian universities. *Front. Psychol.* 7, 1225. doi: 10.3389/fpsyg.2016.01225.
- Pines, A. M. (1993). Burnout: An Existential Perspective. In: W. B. Schaufeli, C. Maslach, T. Marek (eds.), *Professional Burnout: Recent Developments in Theory and Research* (pp. 33–51). London: Taylor and Francis.
- Pines, A. M. (2000). Treating career burnout: a psychodynamic existential perspective. *Journal of Clinical Psychology*, 56(5), 633–642. [https://doi.org/10.1002/\(sici\)1097-4679\(200005\)56:5<633::aid-jclp5>3.0.co;2-#](https://doi.org/10.1002/(sici)1097-4679(200005)56:5<633::aid-jclp5>3.0.co;2-#).
- Pyhältö, K., Pietarinen, J., Salmela-Aro, K. (2011). Teacher–working-environment fit as a framework for burnout experienced by Finnish teachers. *Teaching and Teacher Education*, 27(7), 1101–1110. <https://doi.org/10.1016/j.tate.2011.05.006>.
- Pyżalski, J., Poleszak, W. (2022). Polish Teachers' Stress, Well-being and Mental Health During COVID-19 Emergency Remote Education

- a Review of the Empirical Data. *Lubelski Rocznik Pedagogiczny*, 41(2), 25–40. <http://dx.doi.org/10.17951/lrp.2022.41.2.25-40>.
- Regan, K., Evmenova, A., Baker, P., Jerome, M. K., Spencer, V., Lawson, H., Werner, T. (2012). Experiences of instructors in online learning environments: Identifying and regulating emotions. *Internet and Higher Education*, 15(3), 204–212. <https://doi.org/10.1016/j.iheduc.2011.12.001>.
- Richards, J. (2012). Teacher Stress and Coping Strategies: A National Snapshot. *The Educational Forum*, 76(3), 299–316. <https://doi.org/10.1080/00131725.2012.682837>.
- Robinson, L. E., Valido, A., Drescher, A. et al. (2022). Teachers, Stress, and the COVID-19 Pandemic: A Qualitative Analysis. *School Mental Health*. <https://doi.org/10.1007/s12310-022-09533-2>.
- Roeser, R. W., Schonert-Reichl, K. A., Jha, A., Cullen, M., Wallace, L., Wilensky, R., Oberle, E., Thomson, K., Taylor, C., Harrison, J. (2013). Mindfulness training and reductions in teacher stress and burnout: Results from two randomized, waitlist-control field trials. *Journal of Educational Psychology*, 105(3), 787–804. <https://doi.org/10.1037/a0032093>.
- Roffey, S. (2012). Student well-being: Teacher wellbeing – two sides of the same coin. *Educational and Child Psychology*, 29(4), 8–17. <https://www.sueroffey.com/wp-content/uploads/import/32-Roffey%20ECP29-4.pdf>.
- Salanova, M., Llorens, S., Cifre, E. (2013). The dark side of technologies: Technostress among users of information and communication technologies. *International Journal of Psychology: Journal International De Psychologie*, 48(3), 422–436. <https://doi.org/10.1080/00207594.2012.680460>.
- Sharplin, E., O'Neill, M., Chapman, A. (2011). Coping strategies for adaptation to new teacher appointments: Intervention for retention. *Teaching and Teacher Education*, 27, 136–146. <https://doi.org/10.1016/j.tate.2010.07.010>.
- Schaufeli, W. B., Maslach C., Marek, T. (Eds.) (1993). *Professional burnout: Recent developments in theory and research*. London: Taylor and Francis.
- Schonfeld, I. S. (2017). *Occupational Health Psychology*. Springer Publishing Company.
- Syvänen, A., Mäkineniemi, J. P., Syrjä, S., Heikkilä-Tammi, K., Viteli, J. (2016). When does the educational use of ICT become a source of technostress for Finnish teachers? In Seminar. *Net: Media, Technology and Life-Long Learning*, 12(2). <https://journals.oslomet.no/index.php/seminar/article/download/2281/2073/7473>.

- Tomic, W., Tomic, E. (2008). Existential fulfillment and burnout among principals and teachers, *Journal Of Beliefs and Values-Studies In Religion and Education*, 29, 11–27. <https://doi.org/10.1080/13617670801928191>.
- Tondeur, J., van Braak, J., Valcke, M. (2007). Curricula and the use of ICT in education: Two worlds apart? *British Journal of Educational Technology*, 38(6), 962–976. <https://doi.org/10.1111/j.1467-8535.2006.00680.x>.
- Travers, C. (2017). Current Knowledge on the Nature, Prevalence, Sources and Potential Impact of Teacher Stress. In: T. McIntyre, S. McIntyre, D. Francis (Eds.), *Educator Stress. Aligning Perspectives on Health, Safety and Well-Being* (pp. 23–54). Cham, Switzerland: Springer.
- Trenberth, L., Dewe, P. (2006) Understanding the experience of stressors: The use of sequential analysis for exploring the patterns between various work stressors and strain. *Work and Stress*, 20(3), 191–209. <https://doi.org/10.1080/02678370600999944>.
- UNESCO. (2020). *Supporting teachers and education personnel during times of crisis*. <https://unesdoc.unesco.org/ark:/48223/pf0000373338>
- Walter, N., Pyżalski, J. (2022). Lessons Learned from COVID-19 Emergency Remote Education. Adaptation to Crisis Distance Education of Teachers by Developing New or Modified Digital Competences. In: Tomczyk, Ł., Fedeli, L. (eds.), *Digital Literacy for Teachers. Lecture Notes in Educational Technology* (pp 7–23). Singapore: Springer.
- Wang, X., Li, B. (2019). Technostress Among University Teachers in Higher Education: A Study Using Multidimensional Person-Environment Misfit Theory. *Frontiers in Psychology*, 10, 1791. <https://doi.org/10.3389/fpsyg.2019.01791>.
- World Bank. (2020). *The COVID-19 Pandemic: Shocks to Education and Policy Responses* [Policy Note]. World Bank. <https://doi.org/10.1596/33696>.
- Wu, J., Chan, R.M.C., (2013). Chinese Teachers' Use of Humour in Coping With Stress. *International Journal of Psychology*, 48(6), 1050–6. <https://doi.org/10.1080/00207594.2012.734623>.
- Yi, S., Wu, N., Xiang, X., Liu, L. (2020). Challenges, Coping and Resources: A Thematic Analysis of Foreign Teachers' Experience of Cultural Adaptation in China. *Frontiers in Psychology*, 11, 1–14. <https://doi.org/10.3389/fpsyg.2020.00168>.