

Digital Wellbeing of University Teachers

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Abstract: This paper focuses on identifying selected aspects of digital well-being among university teachers. It aims to determine the level of perceived technostress and threats caused by the digitization of work among a selected group of respondents. The methods used were questionnaire survey and in-depth interviews. Questionnaires were answered by 60 respondents from the Czech Republic and Slovakia, in-depth interviews were conducted with six respondents. The results showed that the respondents consider the use of digital technologies and tools in their work to be important, confirm that they have up-to-date and safe digital tools at their disposal and that using them does not cause them stress. However, the in-depth interviews revealed that certain technostressors are affecting them. Increased digitalization does not make respondents feel isolated or invisible and has not affected the level of communication in their workplace. The results show that the term technostress is not yet widely known among this population and that they are coping with the increase in digitalization quite successfully, although some at the expense of their personal lives.

Keywords: digital wellbeing; technostress; university teachers; Czech Republic; Slovakia

JEL Classification: M12; M54

1. Introduction

The Covid-19 pandemic has caused enormous damage worldwide, but it has also brought something positive. It has initiated or accelerated many changes in the field of work, some of which have become the new norm. In terms of the organizational environment, this is particularly true of remote working. Linked to this is the need for a greater presence of online communication and the use of mobile phones and emails.

A lot of research has been carried out on these aspects, looking at people's ability to cope with change, their satisfaction with it and the quality of support. As the situation returns to normal, employees are returning to companies, but many continue to use hybrid forms of employment and many take the option of working partly from home for granted. Legislation is gradually responding to this, education began to respond to some aspects even before the pandemic (Zatrochová et al, 2018). So far, however, only an amendment to the Labor Code has been prepared in the Czech Republic, which will now require employers to bear the costs of working from home. In the context of occupational health and safety, no modification of the current rules is being considered. Therefore, the conditions for working from home should be the same as for working on the employer's premises, including risk assessment. However, the risks do not yet include technostress and the right of unavailability speaks of normal working hours (Znalostní systém prevence rizik v BOZP, 2023).

This paper looks at the psychological aspects caused by the significant increase of digitalization in the work of university teachers. These are technostress and isolationism. It is based on research carried out within the Erasmus+ project DWEL, which aims to develop support materials to improve digital wellbeing in this category of employees.

1.1. Technostres

The term technostress comes from Craig Brod a clinical psychologist who used it first in 1984. It is a modern disease that impacts people they are not able to adapt enough to using informational technologies (Brod, 1984). Research realized by Nisafani et al. (2020) showed that technostress could be a reason for anxiety, exhaustion, decreasing of performance and therefore produces job dissatisfaction. It is broadly accepted that they are five causes of technostress (Tarafdar et al., 2007):

- Techno-overload – the potential of informational technologies (IT) to drive an employee to work faster.
- Techno-invasion – the potential of IT to invade an employee's personal life with possibilities to, for example, perform job tasks.
- Techno-complexity – an inherent quality of IT that makes employees feel incompetent.
- Techno-insecurity – a premise that the nature of IT is to change regularly, and that this may threaten employee job security.
- Techno-uncertainty – constant changes and upgrades of software and hardware may impose stress on employees.

Proactive coping can act as a protective factor for employees facing technostress (Pirkkalainen et al., 2019). Proactive coping refers to the effort an individual puts into building resilience to ongoing stressful situations (Schwarzer & Taubert, 2002). It seems, that they also exist some factors minimizing technostress. They could be higher educational level, higher technology self-efficacy (Ragu-Nathan et al., 2008), and a lower level of technology dependency (Shu et al., 2011 in Nisafany et al., 2020).

1.2. Isolationism

In the US, recent research has found that 37% of jobs can be done entirely from home, but with considerable variation across industries and cities (Dingel & Neiman, 2020). In Canada, an estimated 41% of jobs can be performed from home. There are studies that have shown the negative impact of new workplace models on employees through increased levels of stress and anxiety (Shaw et al., 2020). The COVID-19 pandemic has led to dramatic changes in various aspects related to leadership and management (Bednarikova & Kostalova, 2022). These changes are particularly in the areas of (Mirakyan & Berezka, 2021):

- Communication – indirect, electronically mediated communication is impoverished by some elements of non-verbal communication, often only problem-oriented, and the socializing elements of communication are lost.
- Conflict resolution – online environments make it easier to break contact when there is conflict, not to resolve the conflict and then it escalates.

- Leadership - the leader does not have the opportunity for sensitive informal control (e.g. when passing through the workplace, chance meetings with workers, etc.), communication is limited, problem-oriented, the opportunity to give small informal rewards is limited.
- Virtual teamwork – the technology exists but is not fully fledged; it is harder to ask for help; social support is lacking.
- Stimulation – workers do not have frequent informal feedback, must work more independently, tasks may be more complex with longer deadlines and therefore not enough stimulation from supervisor, lack of collective stimulation.

Many of them foster a sense of isolation among remote workers.

2. Methodology

The main purpose of this paper is to examine the perceived technostress, its coping and some negative aspects of digitalization at work. A questionnaire survey was used to collect data from at least partner countries involved in the project (Czechia, Ireland, Finland, and Slovakia;). The respondents were only from high education institutions. Six project partners – educational institutions used their networks and asked respondents to re-send the link to their partners (a snowball sampling method). We believed that no one would fill out the questionnaire a second time, but it is possible that someone may forget to fill it out and a request from another sender will make them fill it out. The questionnaire was created in English, put on website and the link for it was sent. For Czech respondents the questionnaire was translated to Czech and respondents received link for it. We took advantage of the similarity of Slovak and Czech languages and the interconnectedness of Czech and Slovak university teachers and the link to the Czech version of the questionnaires was also sent to some Slovak universities. The survey began on 1st June 2022 and finished on 30th June 2022.

The survey included demographic questions, focused only on gender, respondent's position in organization and country. A question on the respondent's position in the organization with multiple choice answers – Head of department, HEI manager, Lecturer, Researcher, another - was inserted to reveal whether the questionnaire was completed by a respondent outside the target group. The next group of questions asked the respondents about the digital tools and technologies in their education practice. The third group of questions was focused on digitalization aspects and digital wellbeing. The survey included multiple-choice questions, two from the 24 were open-ended questions that allow respondents to answer in open text. These questions were used at the end of the survey.

The questionnaire was developed by the Finnish partner based on a literature review. The questions and the answers offered were then sent to the partners for review and then a final version was produced.

We decided to receive about 40 respondents per country. Unfortunately, except of Czechia, the link was sent to formal network of project partners. In the Czech Republic the link was sent together with personal message to partners with informal relationships. Probably this was the reason, that we received 38 answers from the Czech Republic, 25 from

Slovakia (22 of them based on the Czech questionnaire), 13 from Finland and 4 from other countries. Based on the collected data, we decided to analyze only Czech and Slovak respondents who used the Czech version of the questionnaire (38 from CZ and 22 from SK). All the answers obtained in this way were usable. The Wilcoxon signed rank in program gretl was used to verify statistical significances.

After the questionnaire survey 6 deep interviews were realized. These interviews were unstructured, with only four areas of interest specified, core areas of interest and an expected interview length of 30 minutes. The respondents were mostly people who answered the questionnaire, but this was not a requirement. Each partner conducted approximately 5 interviews with randomly selected respondents. In total, 27 interviews were conducted.

Two research questions were formulated:

RQ1: Using digital tools causes teachers technostress.

The extent of the integration of digital technologies and tools into teaching increased during the Covid pandemic and has not declined to its original level even after it ended. Do teachers feel this negatively?

RQ2: Does digitalization make teachers feel isolated?

The incentives for feeling isolated are quite numerous. It is worth finding out whether they are perceived as such.

3. Results

The five points Likert scale was used (from 1 = strongly disagree, to 5 = strongly agree). Respondents agree that using technology and digital tools in teaching is important. Nevertheless, this is also the only significant difference in the answers of Czech and Slovak respondents (p-value of Wilcoxon signed rank test is 0.003). The respondents also express the belief that they have the most actual digital tools at their disposal and that these tools are safe, see Table 1. P-values verifying differences between answers of Czech and Slovak respondents are included.

Table 1. Digital tools used by university teachers

| Questionnaire statements | Czechia (38 resp.) | | Slovakia (22 resp.) | | Total (60 resp.) | | p-value |
|---|--------------------|-----------|---------------------|-----------|------------------|-----------|---------|
| | Average | Std. dev. | Average | Std. dev. | Average | Std. dev. | |
| I think it is important to use technology and digital tools in teaching | 4.16 | 0.960 | 4.73 | 0.538 | 4.37 | 0.875 | 0.003* |
| In my work, I have up-to-date digital tools at my disposal | 3.53 | 1.019 | 3.77 | 0.997 | 3.62 | 1.018 | 0.409 |
| In my work, I have secure digital tools at my disposal | 3.84 | 0.874 | 4.00 | 1.000 | 3.90 | 0.926 | 0.384 |
| In my work, I have up-to-date and secure digital tools at my disposal | 3.68 | 0.862 | 3.95 | 1.065 | 3.78 | 0.950 | 0.255 |

* significant at level 0.05

The positive information is that the use of these digital technologies does not cause technostress for them, see Table 2. P-value verifying difference between answers of Czech and Slovak respondents is included.

Table 2. Technostress caused by digital technologies

| Questionnaire statements | Czechia (38 resp.) | | Slovakia (22 resp.) | | Total (60 resp.) | | p-value |
|--|--------------------|-----------|---------------------|-----------|------------------|-----------|---------|
| | Average | Std. dev. | Average | Std. dev. | Average | Std. dev. | |
| The use of technology in teaching makes me feel technostress | 2.16 | 0.987 | 2.18 | 1.58 | 2.17 | 1.240 | 0.493 |

However, the standard deviation for Slovak respondents is very high. It is the highest standard deviation achieved for a single question in the survey. Therefore, it is interesting to compare the answers to the question whether respondents consider the use of technology important and whether the use of technology causes them stress. The responses are presented in Tables 3 and 4.

Table 3. Contingency table comparing the perceived importance of technology in teaching and the technostress exerted by it (Czech respondents)

| I think it is important to use technology and digital tools in teaching | The use of technology in teaching makes me feel technostress | | | | |
|---|--|----------|----------------------------|-------|----------------|
| | Strongly disagree | Disagree | Neither disagree nor agree | Agree | Strongly agree |
| Strongly disagree | 1 | - | - | - | - |
| Disagree | 1 | - | - | - | - |
| Neither disagree nor agree | 3 | - | 2 | 1 | - |
| Agree | 2 | 6 | 5 | - | - |
| Strongly agree | 4 | 8 | 3 | 1 | 1 |

Table 4. Contingency table comparing the perceived importance of technology in teaching and the technostress exerted by it (Slovak respondents of the Czech version of the questionnaire)

| I think it is important to use technology and digital tools in teaching | The use of technology in teaching makes me feel technostress | | | | |
|---|--|----------|----------------------------|-------|----------------|
| | Strongly disagree | Disagree | Neither disagree nor agree | Agree | Strongly agree |
| Strongly disagree | - | - | - | - | - |
| Disagree | - | - | - | - | - |
| Neither disagree nor agree | - | 1 | - | - | - |
| Agree | 2 | - | - | 2 | - |
| Strongly agree | 11 | 1 | - | 2 | 3 |

All Slovak respondents consider the use of technology in teaching to be important, although seven of them (31%) find its use technostressing. Respondents from the Czech Republic declared themselves less affected by technostress.

The sense of community has probably been eroded. The mean responses were in the average range, meaning that respondents did not comment negatively on the statement "Increased digitization has reduced the sense of community at my college". The difference between Czech and Slovak respondents is non-significant (p-value of Wilcoxon signed rank test is 0.097). However, they themselves do not feel isolated because of digitalization. This fact is confirmed by the responses to the statement about the invisibility of their work due to digitalization. In general, however, they confirm that digitalization has worsened their interaction with students. The data is presented in Table 5.

Table 5. Feelings caused by increased digitalization

| Questionnaire statements | Czechia (38 resp.) | | Slovakia (22 resp.) | | Total (60 resp.) | | p-value |
|--|--------------------|-----------|---------------------|-----------|------------------|-----------|---------|
| | Average | Std. dev. | Average | Std. dev. | Average | Std. dev. | |
| Increased digitalization has reduced the sense of community in my organization | 3.26 | 1.287 | 2.59 | 1.267 | 3.02 | 1.323 | 0.195 |
| Digitalization in my work has made me feel isolated | 2.37 | 1.132 | 1.77 | 1.041 | 2.15 | 1.138 | 0.119 |
| I think because of digitalization, my work is invisible | 2.58 | 1.224 | 2.14 | 1.254 | 2.42 | 1.256 | 0.130 |
| Digitalization impairs interaction with students | 3.37 | 1.468 | 3.36 | 1.263 | 3.36 | 1.402 | 0.307 |

4. Discussion

Responses to statements regarding the importance of using digital technology in teaching were the most agreeable across the survey. Nevertheless, here was the only one significant difference between the Czech and Slovak respondent groups. The reason for the stronger agreement of Slovak respondents was not found and is surprising given the very similar educational systems (Urbanová & Urbanec, 2013) and personal ties between Czech and Slovak colleagues. A possible reason is the longer and deeper closure of universities to students and teachers in Slovakia, where the use of these technologies was therefore necessary for a longer period of time.

Statements related to the safety (statement 6) and currency statement 5) of the digital tools used were further in the test confirmed by statements about using safe and up-to-date tools (statement 11). Respondents answered these questions almost equally, so these questions were not explored further.

Answering the RQ1, in the questionnaire, respondents generally disagreed with the statement that using digital technology causes them stress. A more detailed examination through in-depth interviews revealed that respondents did not know the exact meaning of the term technostress or the different causes that can trigger it. Also, Jena (2015) claims that there are more causes of stress. Many interviewees declared the inconveniences associated with the accrued digitalization, in particular the inability to work to a habitual standard because they did not have sufficient mastery of the digital tools used. This is consistent with Nisafani et al. (2020). There was often an invasion of work activities into personal life and uncertainty about whether technology would work when needed. They also appeared to consider stress to be a severe disruption of habitual behavior. Yet, even micro-stress is harmful when applied over a long period of time and its effects add up (Lindstrom et al, 2012).

The longer period of time and the stricter lockdown in Slovakia may also be reasons for the non-significantly (p -value of Wilcoxon signed rank test is 0.119) stronger disagreement of Slovak respondents with the claim that digitalization makes them feel isolated. Given the situation, it was these tools that in 2021, on the contrary, helped them to stay in touch with

both colleagues and students. Slovak respondents were also non-significantly (p -value = 0.130) more likely to disagree that their work was invisible in a digital environment.

The questionnaire responses lead to the conclusion that HE teachers do not feel more isolated due to increasing digitalization, but it is evident that there may be a reduction in sense of community and that interaction with students is deteriorating (RQ2). These results are in contrast to the results of a survey in Sweden (Hakansta, 2022), where the increasing of ICT increased social isolation amongst labor inspectors.

5. Conclusions

Digital well-being is a concept that is not yet widely known. Also, the legislation so far deals with physical rather than mental threats to people at work. At the same time, many employees, including university teachers, work with digital technologies and tools for most of their working hours.

The survey conducted showed that a selected group of respondents consider the use of digital technologies at work to be important and does not cause them excessive stress. They also do not feel isolated or invisibility of the results of their work due to digitalization.

It is good that the respondents consider the tools used to be modern and safe, as well as the fact that they are not stressed. However, it is only their subjective feeling. Similarly subjective as, for example, the feeling about one's own qualities of working with a computer.

Educational institutions should not give up on the implementation of training on how to work with new digital tools, not only from a technical point of view, but also from a mental point of view. Since there are still no legislative rules declaring minimum conditions for digital well-being, it is up to individual institutions to define them.

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Conflict of interest: none

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