

TECHNOSTRESS IN TEACHERS' PROFESSIONAL ACTIVITY: A NEEDS ASSESSMENT IN EARLY CHILDHOOD EDUCATION IN LITHUANIA

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Abstract

Research purpose. This research aims to investigate technostress in the professional activity of early childhood and pre-primary education teachers in Lithuania, including its prevalence, sources, consequences, and measures for its reduction.

Design / Methodology / Approach. A survey based on established theoretical frameworks of technostress and the Job Demands – Resources model was conducted, and a quantitative needs assessment instrument (a questionnaire) was developed. The survey involved 170 Lithuanian early childhood and pre -primary teachers. Data were analysed using descriptive statistics, including frequencies, percentages, and related indicators.

Findings. The research revealed that technostress is present in the professional activity of early childhood and pre – primary education teachers. The results showed intensive use of digital technologies in teachers' professional activities and identified information overload, workload, technological changes, and technical problems as the main sources of technostress. The findings also suggest that technology use has a dual impact on teachers' professional activity and well – being. While digital technologies were perceived as facilitating work performance, they were also associated with increased fatigue and stress. The results further highlight the importance of organisational, technological, and professional support measures aimed at reducing technostress. The findings indicate that although the reported level of technostress was moderate, technology – related stressors are regularly encountered in teachers' professional activities and therefore require continuous attention from educational institutions and policymakers.

Originality / Value / Practical implications. Results indicate that the majority of Lithuanian early childhood and pre-primary education teachers who participated in the research agree on the need for various organisational, technological, and professional development measures that can reduce technology-related stress. This suggests that the research is significant not only for determining the scope of the problem but also for formulating practical recommendations aimed at reducing technostress in educational practice. The research findings also support decision – making related to teacher professional development, digital competence enhancement, and the provision of organizational and technical support in educational institutions.

Keywords: technostress; digital technologies; early childhood education; digital transformation; needs assessment.

JEL codes: I21; I31; O33

Introduction

The rapid development of digital technologies is significantly transforming education systems. It is changing not only the forms of teaching, but also teachers' professional roles and their daily teaching practices. Digital transformation opens up new opportunities for the educational process, expands access to educational content, and enables the application of innovative pedagogical strategies. However, as technological opportunities expand, so do the demands on teachers continuous adaptation. They are required to adjust to a rapidly changing technological environment, acquire new digital competencies, and integrate digital tools into their professional practice (United Nations, 2015; OECD, 2023).

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The expansion of technology use in professional settings is linked to technology-related stress—technostress—which can have a negative impact on employees’ professional well-being, work efficiency, and job satisfaction. In the education sector, this phenomenon becomes particularly relevant. Teachers must not only adapt to technological changes themselves but also ensure the effective application of digital technologies in the educational process.

Despite growing interest in technostress, this phenomenon remains insufficiently studied among Lithuanian early childhood and pre – primary education teachers. Therefore, this study aims to investigate technostress in the professional activity of Lithuanian early childhood and pre-primary education teachers. The study focuses on prevalence, consequences of technostress, and measures aimed at its reduction.

This research contributes to the development of technostress research by providing empirical data on its manifestation in the professional activity of early childhood teachers in the Lithuanian context and by identifying priority measures for its reduction and support. Investigating technostress among early childhood educators is important due to their central role in children’s development and the potential implications of their psychological well – being for learning outcomes and instructional standards.

In this article, a review of scientific literature was conducted to analyse the concept of technostress, its causes, consequences, and manifestations in teachers’ professional activities. The analysis covers peer-reviewed scientific articles, books, and educational policy documents published between 2010 and 2025 that address technostress, digital competencies, and teachers’ professional well-being. Sources were selected based on their relevance to the research topic, scientific reliability, and contribution to understanding technostress in educational settings. The literature review enabled the identification of key theoretical approaches and research gaps, and provided the theoretical basis for the development of the research instrument. Based on the frameworks proposed by Demerouti (2001); Caena and Redecker (2019), Tarafdar et al. (2007), and Ragu-Nathan et al. (2008), a questionnaire was developed and administered to Lithuanian early childhood and pre-primary teachers. The survey data were analysed using descriptive statistical analysis, including frequencies, percentages, means and standard deviations.

Literature Review

The concept of technostress and its causes.

Technological advancements and digitalisation processes in work and learning environments have contributed to the emergence of technostress. Technostress is described as psycho-emotional tension or stress arising from the use of information and communication technologies (Salanova et al., 2012; Tarafdar et al., 2007). In contemporary literature it is viewed as a psychological state that occurs when technological demands exceed an individual’s abilities or available resources (Ragu – Nathan et al., 2008; Jena, 2015). Research indicates that intensive use of technologies may lead to cognitive overload, emotional fatigue, and psychological strain (La Torre et al., 2020; Dong et al., 2020), especially when the demands of technologies exceed the individual’s available abilities or resources (Kumar et al., 2025). Thus, technostress can be understood as a negative psychological response to a complex, intensive, and constantly changing technological environment.

The phenomenon of technostress is often explained based on theoretical models of organisational psychology. One of the most commonly used is the Job Demands–Resources Model (JD-R model) (Demerouti et al., 2001; Bakker & Demerouti, 2007), which states that the stress experienced by employees arises when job demands exceed available personal and organizational resources. In a digitalized work environment, the use of technologies can be considered an additional job demand that requires employees’ cognitive and emotional resources. Research on technostress also widely employs the Technostress Creators Model, which identifies the main sources of technostress: technology overload, technological complexity, technological uncertainty, technology intrusion into personal life, and technological insecurity (Tarafdar et al., 2007). These factors describe technological demands that can cause psychological strain and complicate the adaptation of employees or learners to a digital work or learning environment.

Based on theoretical models of technostress, particularly the Technostress Creators model, and analysis of the scientific literature, researchers have distinguished several main groups of causes of technostress:

The first group of causes relates to the intensity of technology use and information overload, which may complicate information processing and decision-making (Karr-Wisniewski & Lu, 2010; Chiappetta, 2017). In cases when employees are required to process vast amounts of digital information simultaneously, their cognitive capacity becomes overwhelmed, resulting in reduced efficiency or increased error rates. For early childhood teachers, this may manifest in managing multiple digital platforms while maintaining instructional quality. Over time, persistent information overload may contribute to mental fatigue and reduced work effectiveness.

The second group of causes is linked to techno – complexity, which arises from the increasing complexity of technologies, their continuous updating, technological uncertainty, and the need to constantly develop new knowledge and skills, requiring employees to repeatedly devote time and effort in learning new tools and systems, frequently without adequate institutional support (Dong et al., 2020; Kumar, 2024; Penado Abbileira et al., 2021). This continuous need to update digital competencies may increase feelings of uncertainty and anxiety. For teachers, frequent software updates and new digital tools may disrupt routines and reduce professional self – efficacy.

The third group of causes relates to techno – invasion and relates to the intrusion of technologies into personal life, constant availability, and the blurring of boundaries between work and leisure. Digital communication tools such as email or messaging applications create expectations of constant availability, making it difficult for employees to psychologically disengage from work. Blurred work – life boundaries may reduce opportunities for psychological recovery and rest, which are essential for long - term well- being. For teachers, the need to respond to parents or administrators after working hours may contribute to chronic stress (La Torre et al., 2020; Kumar, 2024).

The fourth group of causes is connected with techno-uncertainty and insufficient digital competencies, which may complicate technology use and increase feelings of anxiety and insecurity (Li & Wang, 2021; Tarafdar et al., 2007). For early childhood teachers, insufficient digital literacy may hinder effective technology integration in teaching (Soeprijanto et al., 2022; Hendriyani et al., 2023).

Research indicated that technostress is associated with psychological strain, irritability, difficulties in concentration and memory, lower job satisfaction, reduced productivity, and professional burnout among employees or learners (La Torre et al., 2020; Whelan et al., 2022; Kumar, 2024).

Manifestation of technostress and the need for support in the professional activity of early childhood and pre-primary education teachers.

Teachers face a continuous need to master and apply new technologies in the educational process. In Lithuania, the professional activity of early childhood and pre – primary education teachers involves diverse responsibilities that increasingly require the use of digital technologies. The growing use of technologies combined with expanding professional demands, may increase workload and creates conditions for the emergence of technostress.

The importance of digital technologies in teachers' professional activity is also emphasised in Lithuanian education policy documents. These documents highlight the role of the teacher as a reflective, collaborative professional who continuously develops his/her professional competencies, including digital competencies (Description of Teacher Professional Competencies, 2021; General Curriculum Framework for Pre-primary, Primary, Lower and Upper Secondary Education, 2022; Methodological Recommendations for the Development of Preschool Education Programmes, 2023). Digital systems are increasingly used for educational planning, communication with parents, document management, and monitoring of educational outcomes. As a result, teachers are required to perform a growing number of technology – mediated tasks in their daily professional activities, which may increase information load and require the continuous development of digital competencies.

In the professional activity of early childhood and pre-primary education teachers, technostress is influenced not only by technological factors but also by organisational and individual factors. These factors include the availability of digital resources, institutional technical and pedagogical support,

teachers' digital competencies, and the characteristics of work organisation (Tarafdar et al., 2007; La Torre et al., 2019). In the context of early childhood education, teachers face additional challenges, including the need to integrate technologies into the educational process, document children's achievements in digital systems, and maintain continuous communication with parents. These technological requirements increase work intensity and information load (Tarafdar et al., 2007; Kumar, 2024). Research indicates that insufficient technological preparedness or a lack of technical support may reduce the quality and effectiveness of professional activities and increase the risk of emotional fatigue (Jena, 2015; La Torre et al., 2019).

Studies conducted in Lithuania indicate that increasing professional and technological demands, insufficient technological preparedness, and limited technical support remain important sources of teachers' professional stress (Bubelienė & Merkys, 2017). These factors may contribute to professional strain and increase the risk of burnout (La Torre et al., 2020; Kumar, 2024). International research suggests that technological integration in early childhood education depends on teachers' digital competencies, the complexity of technology use, and institutional support (Blackwell et al., 2014; Dong et al., 2020). Insufficient preparation and limited institutional support may contribute to professional stress and technostress among teachers (Tarafdar et al., 2007; La Torre et al., 2019).

In summary, although research on technostress has expanded considerably in recent years, its manifestation in the professional activity of early childhood and pre – primary education teachers remains underexplored. Most studies focus on general education teachers or professionals in other fields, while evidence from the Lithuanian early childhood context is limited. Therefore, further empirical research is needed to better understand the manifestation of technostress and support needs among early childhood and pre-primary education teachers in Lithuania.

Research Methodology

Research design. The research was conducted from September 2025 to January 2026 using a quantitative cross-sectional survey research design to examine the manifestation of technostress and assess the need for measures to reduce it in the professional activity of early childhood and pre-primary education teachers in Lithuania. This research design allows for the assessment of the prevalence of the phenomenon and the description of teachers' experiences and perceptions at a specific point in time.

Research instrument. The content of the questionnaire was developed using several theoretical frameworks. The umbrella framework of this research is a job demands–resources (JD-R) model (Demerouti et al., 2001). Questionnaire section that investigated *needs of digital competences* is based on the DigCompEdu framework (Caena & Redecker, 2019); *sources of technostress* are analysed based on the categories of techno-stressors proposed by Tarafdar et al. (2007) and Ragu-Nathan et al. (2008); *challenges of workload, stress and competences* are directly linked to the extensions of the Technology Acceptance Model (Venkatesh & Davis, 2000), and research on the Negative Psychological Effects of ICT by Salanova et al. (2013). These foundations contributed to establishment of theoretically grounded and comprehensive questionnaire tool. The questionnaire consisted of 16 items in total, including the last three demographic questions.

The questionnaire items were rated using 5-point Likert scales. Depending on the nature of the item, either an agreement scale (1 – "strongly disagree" to 5 – "strongly agree") or a frequency scale (1 – "never" to 5 – "very often") was applied, where a higher score reflected stronger agreement or greater frequency respectively. Some items used categorical response options (e.g., device types, hours of technology use). Since each question in the needs assessment was analysed as a separate indicator, composite scales were not formed, and therefore the internal consistency of the instrument (Cronbach's alpha) was not calculated.

Respondents. The research involved early childhood and pre-primary education teachers working in Lithuanian preschool education institutions. Respondents for the research were selected using convenience (non-probability) sampling, and data were collected by means of an electronic survey. The final sample consisted of N = 170 teachers, of whom 73.2% were early childhood education teachers and 26.8% were pre-primary education teachers. Most respondents live and work in Lithuania's major

cities (Vilnius, Kaunas, Klaipėda, Šiauliai, Panevėžys) (60.5%). The remaining part is from smaller Lithuanian cities and towns. Only women participated in the research (100%), which corresponds to the prevailing gender distribution trend in the early childhood education sector in Lithuania. Most respondents work in public early childhood education institutions (89%), the remaining part (11%) works in private educational institutions. By qualification category, 75% consisted of early childhood and pre-primary education teachers, 10.2% - senior teachers, 8.3% - teacher-methodologists, and 6.5% - expert teachers. According to work experience, 62% of respondents had more than 15 years of work experience, 30% - more than 10 years, and 8% - up to 5 years of professional experience. Since convenience sampling was applied in the research, the obtained results cannot be considered statistically representative of the entire population of early childhood and pre-primary education teachers in Lithuania.

Research Procedure. The research was conducted from September 2025 to January 2026. Data were collected using the online survey platform Google Forms. The platform enabled the possibility to present a structured questionnaire with closed-ended and open-ended questions as well as Likert scale statements. This ensured a standardized data collection process, automated response collection and classification. Invitations to participate in the research were distributed via email and in professional teacher communities. Respondents completed the questionnaire independently via remote access. The data were exported and analysed using Microsoft Excel.

Data analysis. The collected data were analysed using descriptive statistical analysis. Frequencies, percentage distributions, means, and standard deviations were calculated to assess the manifestation of technostress, its prevalence, and the need for mitigation measures in the professional activity of early childhood and pre-primary education teachers. Because the aim of this study was to describe the prevalence of technostress, its sources, consequences and mitigation needs, descriptive statistics were considered sufficient for data analysis.

Research Ethics. The research was conducted in accordance with the principles of voluntary participation, anonymity, and data confidentiality. Before completing the questionnaire, respondents were informed about the purpose of the research, the intended use of the data, and the right to withdraw from the research at any time. During the research, no personal data allowing the identification of respondents were collected. The study involved anonymous adult participants and did not include the collection of sensitive personal data.

Research Results

The study sample consisted of 170 early childhood and pre- primary education teachers. All of them were women (100%), reflecting the typical gender distribution of the Lithuanian early childhood education sector. Among the participants, 73.2% were early childhood education teachers and 26.8% were pre-primary education teachers. Most respondents worked in public education institutions (89%), while the rest 11% were employed in private institutions. In terms of professional experience, 62% had more than 15 years of experience, 30% had more than 10 years, and 8% had up to 5 years of experience.

Based on the theoretical framework of the research, the research results are presented in four analytical directions: the intensity of technology use; manifestation and sources of technostress; consequences of technostress; and measures to reduce technostress.

Intensity of technology use

Table 1 shows the frequency of technology use in the professional activity of early childhood and pre-primary education teachers (1 = never, 5 = always).

Table 1. Frequency of technology use among early childhood and pre-primary education teachers (N = 170) (Source: Compiled by the authors)

Indicator	M	SD
Frequency of technology use in professional activity	3.98	0.76

The majority of teachers reported frequent technology use in their professional activity ($M=3.98$, $SD = 0.76$), with 70% reporting they use technologies often or always. This indicates that digital technologies became an integral part of teacher's daily professional practice.

The most commonly used devices are laptops or desktop computers (89.5%), tablets (77.3%), and smart boards (67.8%). Video conferencing platforms (e.g., Zoom, Microsoft Teams) (8.1%) and interactive early childhood education programs and tools (7.2%) are used less frequently.

71.7% of respondents indicated that they use technologies for work purposes for 1–4 hours a day, while 28.3% use it for 5 hours or more.

These data indicate that the use of technologies is an integral part of teachers' professional activity.

Manifestation of technostress

Table 2 presents the frequency of technostress experience among early childhood and pre-primary education teachers (1 = never, 5 = always).

Table 2. Manifestation of technostress among early childhood and pre-primary education teachers (N = 170) (Source: Compiled by the authors)

Indicator	M	SD
Frequency of technostress experience	2.88	0.81

Teachers reported a moderate level of technostress ($M = 2.88$, $SD = 0.81$), indicating that this phenomenon is present in the professional activity of early childhood and pre-primary education teachers. While the reported frequency does not indicate severe technostress, the results demonstrate that teachers encounter technology-related stressors on a regular basis. Taking into account the growing reliance on digital technologies in education, these findings underscore the relevance of technostress as an issue requiring ongoing attention and support mechanisms.

Sources of technostress

Table 3 summarizes teachers' assessments of the main sources of technostress based on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree).

Table 3. Sources of technostress (N = 170) (Source: Compiled by the authors)

Sources of technostress	M	SD
Techno-overload (excessive information flow, workload)	3,73	1,19
Techno-complexity (constant technological changes)	3,18	1,17
Technical problems and disruptions	3,18	1,20
Techno-invasion (transfer of work into home environment)	3,09	1,44
Techno-uncertainty (pressure to continuously improve competencies)	2,92	1,33
Uncertainty regarding technological skills needed in the future	2,96	1,33

The analysis of technostress sources revealed that teachers most strongly agreed with techno – overload ($M=3.73$, $SD = 1.19$), indicating that excessive information flow and workload are the most prominent stressors. The lowest ratings were recorded for techno – uncertainty ($M = 2.92$, $SD = 1.33$) and techno – invasion ($M = 3.09$, $SD = 1.44$), though all means exceeded the scale midpoint. These finding reveal that the volume of technology related task and information may be more challenging for teachers than concerns about future technological developments.

Consequences of technostress.

Table 4 illustrates teachers' assessments of the impact of technologies on their work and well-being (1 = strongly disagree, 5 = strongly agree).

Table 4. Teachers' assessment of the impact of technologies on work and well-being (N = 170) (Source: Compiled by the authors)

Statement	M	SD
Technologies make work easier	3.73	1.19
Technologies cause stress	3.24	1.06
Technologies cause fatigue	3.57	0.89

The results of this group of questions allow us to assess the relationships between the use of technology and teachers' professional well-being and experience with work organization. The research data show that the application of technologies in the educational process is associated not only with making work easier ($M = 3.73$, $SD = 1.19$), but also with certain changes in teachers' emotional ($M = 3.24$, $SD = 1.06$) and physical well-being ($M = 3.57$, $SD = 0.89$).

These results represent a dual phenomenon: while technology facilitates work performance, it may simultaneously contribute to emotional strain and fatigue among members.

Measures to reduce technostress.

Table 5 provides an overview of teachers' evaluations of measures needed to reduce technostress (1 = strongly disagree, 5 = strongly agree).

Table 5. Teachers' assessment of measures to reduce technostress (N = 170) (Source: Compiled by the authors)

Statement	M	SD
Organisational and technical support	3.94	1.05
The need for specific solutions	3.85	1.05
Training and strengthening of competencies	3.74	0.98

Teachers most strongly agreed with organisational and technical support ($M = 3.94$, $SD = 1.05$), followed by specific solutions ($M = 3.85$, $SD = 1.05$) and training and strengthening of competencies ($M = 3.74$, $SD = 0.98$). All means exceeded the scale midpoint, meaning broad agreement on the need for all three measures. The need for specific solutions encompasses clearer descriptions of technology use and guidelines for solving common issues, the availability of IT specialists or administrators within institutions, and the improvement of digital support mechanisms and mentoring programmes designed to enhance teachers' digital literacy and engagement.

In summary, it can be stated that the results of the research reveal the prevalence of technostress in teachers' professional activity and allow the assumption of a possible link to the intensity of technology use; they also highlight the importance of organizational and professional support measures in reducing stress related to technology use.

Discussion

One of the most significant findings of this research is that early childhood and pre-primary education teachers reported a moderate level of technostress ($M = 2.88$; $SD = 0.81$). This finding indicates that technostress is present among early childhood and pre-primary education teachers and represents a relevant challenge in their professional activities. This result is consistent with international studies showing that digital transformation in the education, while expanding opportunities for teaching and learning, may also increase psychosocial workload and contribute to technostress among educators (La Torre et al., 2020; Dong et al., 2020). Similar trends have been reported in other educational contexts, indicating that technostress is becoming an increasingly relevant challenge for teachers working in digitally intensive environments (La Torre et al., 2020; Dong et al., 2020).

The research results showed that digital technologies are widely used in the professional activity of early childhood and pre-primary education teachers. Daily technology use has become an integral part of pedagogical practice. This finding reflects broader trends in education digitalisation, where technologies are increasingly integrated into teaching, communication, documentation, and educational planning. Similar patterns have been reported in international studies, which highlight the growing reliance on digital technologies in educators' professional activities (Blackwell et al., 2014; Dong et al., 2020). Previous research also suggests that intensive use of technology is often associated with information overload and cognitive demands (Karr-Wisniewski, 2010) indicating that Lithuanian teachers may face challenges comparable to those identified in other educational contexts.

The research revealed that excessive information flow and workload (techno-overload), followed by technological changes and technical problems, were the most important sources of technostress reported by teachers. These factors correspond to the main sources of technostress identified in theoretical models, including techno-overload, techno-complexity, techno-invasion, and techno-uncertainty (Tarafdar et al., 2007; Tarafdar et al., 2010). Similar findings have been reported in international studies, suggesting that implementation of new technologies may contribute to professional strain and technostress, particularly when adequate organisational and technical support is lacking (Pennado Abbileira et al., 2021; Kumar, 2024).

The findings indicate a dual impact of technology use on teachers' professional activity and well-being. Although teachers generally agreed that technologies make work easier ($M = 3.73$), they also reported fatigue ($M = 3.57$) and stress ($M = 3.24$). These results are consistent with international studies showing that technostress is associated with psychological strain, lower job satisfaction, and a higher risk of professional exhaustion (La Torre et al., 2020; Whelan et al., 2022). Furthermore, similar research suggests that intensive technology use may blur work - life boundaries and increase expectations of constant availability, both of which are recognized contributors to technostress (Kumar, 2024).

Another important research finding is the clearly expressed need for organisational and professional support. Teachers most strongly emphasized the importance of organisational and technical support ($M = 3.94$), followed by the need of specific solutions ($M = 3.84$) and competence development measures ($M = 3.74$). These findings are consistent with international studies highlighting organisational support, technological infrastructure, and the strengthening of digital competencies as key factors that can reduce the impact of technostress on employees' professional activity and well-being (Molino et al., 2020; Kumar, 2024).

In summary, it can be stated that technostress is a relevant aspect of the professional activity of Lithuanian early childhood and pre-primary education teachers rather than an isolated phenomenon. Although teachers reported a moderate level of technostress, the results indicate that frequent technology use, information overload, technological changes, and technical challenges contribute to technology - related stress. The findings are consistent with international research highlighting the growing impact of digitalisation on teachers' professional well-being (La Torre et al., 2020; Molino et al., 2020). What is more, the strong demand for organisational, technical, and professional support underscores the importance of creating supportive working environments that facilitate the sustainable integration of technologies and help reduce the negative effects of technostress.

Conclusions

The research results showed that the use of digital technologies in the professional activity of early childhood and pre-primary education teachers is intensive and constitutes an integral part of daily pedagogical activity. Teachers reported a moderate level of technostress, indicating that technology - related stress is present in their professional activity and should not be overlooked in educational practice. The findings suggest that technostress is primarily associated with information overload and workload, followed by techno - complexity (continuous technological changes) and technical problems, and the need to continuously develop digital competencies. The research also showed that technology use has a dual impact on teachers' professional activity and well-being: while technologies facilitate work processes, they may simultaneously contribute to stress and fatigue. The findings further highlight the importance of organisational, technical, and professional support measures for reducing the impact

of technostress and promoting teachers' well-being, particularly in increasingly digitalised educational environments.

Practical recommendations

The research findings highlight the importance of organizational and professional support in mitigating the impact of technostress on teachers' professional activity. In order to reduce technostress, it is important to strengthen teachers' digital competencies, organize practical training in technology use, ensure continuous technical support, and encourage management support in the technology integration process. It is also recommended to create clear guidelines for technology use in educational institutions and to develop mentoring or collegial learning initiatives that would help educators adapt more effectively to digital changes.

Research limitations and possibilities for further research.

The obtained results should be interpreted with caution, as convenience sampling was used and the research involved only early childhood and pre-primary school education teachers. Therefore, the findings cannot be directly generalised to the entire population teachers in Lithuania. In the future, it would be purposeful to conduct larger-scale researches involving a larger sample of respondents and including educators from other levels of education, such as elementary school teachers or subject-specific teachers.

In future studies, it would also be useful to expand the range of demographic indicators analysed, for example, by including additional demographic variables, such as respondents' age, educational background or institutional characteristics. This would allow for a more detailed assessment of potential differences in the manifestation of technostress among different groups of teachers.

The developed questionnaire included not only sources of technostress but also measures aimed at reducing it. Future studies could further validate this instrument and examine its applicability in different educational contexts. Previous research has more often analysed scales of technostress sources, but this research also focused on factors that reduce technostress (mitigators). In future studies, it would be appropriate to examine the interaction between sources and mitigators of technostress in greater detail and to assess the interrelationships between these constructs in different samples of educators.

Furthermore, this research was based on the Job Demands–Resources (JD-R) model proposed by Bakker and Demerouti (2008); therefore, future studies could explore in greater detail the role of job and personal resources in mitigating the effects of technostress on teachers' professional well-being and work experience.

It is also important to note that this research analysed only one specific type of stress: technostress. Future researches should examine the impact of other forms of stress or general stress to gain a more comprehensive understanding of how stress experienced in the workplace can spill over into personal life and affect work-life balance.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Declaration of generative AI in scientific writing

During the preparation of this work the author(s) used “DeepL Translator” in order to translate from Lithuanian to English and ChatGPT (OpenAI) solely for language editing and stylistic improvement. After using these tools, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the publication.

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