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DIGITAL WELL-BEING OF PUBLIC SERVANTS

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Abstract

Research purpose. This study aims to investigate how work in the digital environment affects the emotional, mental, and physical dimensions of digital well-being among Latvian public administration employees, and to develop recommendations for both managers and employees to enhance digital well-being.

Design / Methodology / Approach. Primarily, a comprehensive literature review was conducted, followed by a survey, using the Mathew et al. (2023) developed research instrument (questionnaire). Latvian public administration employees participated in the survey. A descriptive frequency analysis of the Digital Well-Being Scale was conducted using non-parametric statistics, with items categorised by perceived importance. Differences were examined with the Kruskal–Wallis test, and open-ended responses were Content analysed to identify strategies and emotional categories.

Findings. The study found that nearly 90% of public servants surveyed experience moderate or high levels of stress. Key factors among these groups include psychological factors such as productivity and decisiveness. At the same time, emotional factors showed no significant influence, and physical aspects had only a moderate impact. In summary, it can be concluded that digital tools contributed to the development of cognitive abilities and efficiency. Still, for respondents with a higher level, digital resources caused negative physical consequences, such as sleep disturbance, physical discomfort, and decreased activity.

Originality / Value / Practical implications. The obtained results highlight factors that impact the digital well-being of employees in the Latvian state and local government institutions while working in a digital environment. Based on the received data, recommendations were developed for employers on how to improve the digital environment and digital well-being of their employees. Recommendations were also formulated for the employees themselves on how they can take care of themselves and improve their digital well-being.

Keywords: digital well-being; public servants; digital transformation; public administration employee survey; digital being factors.

JEL codes: I31; H75; H83; J82; C83; C38.

Introduction

The well-being of public servants concerns a very wide spectrum of issues, such as social responsibilities and efficiency of external and internal communication, motivation, engagement, physical activities, mental health, work satisfaction, economic outcomes, and others. All of these aspects get the attention of academic scholars to bring core conclusions, invent methods, and point out discussion issues to society on the creation of health-promoting working conditions and reaching work-life balance. Working people are especially under pressure, time-wise and skills-wise, when applying digital tools, which may serve in advanced support to meet daily goals or lower working capacities if

employee skills are insufficient, or even more, if emotional intelligence is lacking. And civil servants are subject to even greater pressure due to the specific nature of their work for the benefit of society and financed by the state or local government budget.

The research goal is to investigate how work in the digital environment affects the emotional, mental, and physical dimensions of digital well-being among Latvian public administration employees, and to develop recommendations for both managers and employees to enhance digital well-being. While some recommendations on digital well-being exist for children, pensioners, students, social media users, etc., there is a lack of empirical research on public servants and digital well-being in the workplace in Latvia. Moreover, research at the European level remains limited, which underlines the value of continuing this line of inquiry in other sectors and other national contexts. After a thorough literature review and several brainstorming sessions with scientific staff, a decision was made to conduct benchmark research based on the original study by Mathew et al. (2023) and to test the applicability of the "Digital Well-Being Scale" instrument in the Latvian context.

The current research is based on Mathew et al.'s (2023) questionnaire, which the authors limited to three dimensions (mental, emotional, and physical) due to focus on digital well-being. Therefore, the given paper contains results from the practical scientific research on the digital well-being scale of the public servants in Latvia. The authors conducted a literature review of the peer-reviewed scientific papers, research books, and officially published documentation. The following methods for data analysis were used: descriptive frequency analysis, Kruskal–Wallis test, a Content analysis and TGM Research online sample-size calculator.

Literature Review

The Concept of Digital Well-being

Well-being is a subjective evaluation, which makes people feel self-sufficient. Such a condition is complex as it is elaborated in the Maslow model (Gorman, 2010), job-demand resources or JD-R model (Borst & Knies, 2021, Demerouti et al., 2001, Xiao et al., 2025), multiple discrepancy theory (Rojas & Guardiola, 2016), hedonic tradition (Alexandrova, 2015; Mathew et al., 2023), Warwick–Edinburgh mental well-being scale or WEMWBS (Luhmann, 2017; Ong et al., 2021; Tennant et al., 2007), Integrative Model of Mobile Media Use, stressing the significance of both the benefits and potential harms from digital interactions (Bora & Neelakandan, 2023), and other methods and measurements. There are many dimensions of a well-being, it even might differ by age, wealth, family status, and any other aspects of people life, which affect the economic profile and determine personal needs (Arslankara et al., 2022; Ingelström, 2018; Wies et al., 2021), or social and emotional considerations (Gorman, 2010) may even distinguish in individual self-assessment, or unsatisfied needs determine the decrease of well-being (Bora & Neelakandan, 2023; Burr et al., 2020; Rojas & Guardiola, 2016). In current research, a self-assessment instrument of well-being (Mathew et al., 2023) has been applied. Mathew et al. (2023) elaborate on subjective well-being, suggesting life satisfaction, negative affect, and positive affect, in other words, a maximum of pleasure and minimum of pain (Bakar, 2022) or a hedonic scheme to be studied for the assessment of prosperity, happiness, success, and wellness.

Digital well-being is "a process of co-creation between technology providers and technology consumers" (Al-Mansoori et al.,2023). The main digital well-being research perspectives and concepts identified are summarised in Table 1, listing the main literature sources in each section.

Table 1. Key perspectives and concepts in digital well-being studies (Source: compiled by the authors)

Perspective	Concepts	References
Impact on a Good Life	***Positive computing:*** technologies to enhance human well-being	Abeele & Nguyen, 2022; Burr et al., 2020; Calvo & Peters, 2014; Giannopoulos & Vella-Brodrick, 2011
Experiential State	***Autonomy and self-determination:*** control over connectivity and digital life.	Abeele, 2020; Abeele & Nguyen, 2022, 2023; Burr et al., 2020;

	Digital disconnection: intentional limitation of connectivity to improve well-being.	Nassen et al., 2023; Nguyen et al., 2022; Ryan & Deci, 2010
Subjective Well-Being	***Harms/benefits of digital practices and Well-being:*** shapes of user well-being impacted by digital practices and their harms/benefits.	Al-Mansoori et al., 2023; Arslankara et al., 2022; Büchi, 2021; Dienlin & Johannes, 2020; Ghai et al., 2023; Kostkova, 2015 Luhmann, 2017; Meija et al., 2024 Twenge, 2019; Wies et al., 2021;
Balanced and Healthy Use	***Personalised human-computer interaction (HCI)*** - adapted digital experience to meet individual needs and enhance the well-being of the users.	Al-Mansoori et al., 2023; Arslankara et al., 2022; Büchi, 2021; Dienlin & Johannes, 2020; Luhmann, 2017; Twenge, 2019; Wies et al., 2021

Digital Well-being of Public Servants

Digital transformation might be one of the external impacts on people's well-being. Digital skills and communication are in the cognitive needs and self-actualisation categories. Digital transformation is risky and time-consuming; it requires the implementation of new business models. While small business units are more mobile to integrate innovations and take a risk on launching them, enterprises and public administration are likely to deal with the proven tools and methods; transformation requires thorough financial and resource analysis. Digital transformation is iterative (Allen, 2019).

The authors explored publications in line with research focusing on the digital well-being of public servants. According to Scopus data source, over the last two decades, academic scholars have published more than 1320 scientific articles concerning digital well-being and public servants as key interactive concepts. The authors got a parallel of the digital transformation history and the given statistics' dynamics. Authors elaborate that there is a 5 to 10-year gap between the digital market's gradual steps and scientific research relevance to the changes influencing local authorities' working environment.

The job-demand resources (JD-R) model (which has been used for analysing workers' burnout in crisis periods (Van der Meer et al., 2022)) to explore the reasons for workers' burnout, was published by the public administration scholars in 2001, which stated "increases of job resources may enhance employees' engagement" (Demerouti et al., 2001). However, only a few scientists touched on the topic of digital well-being of servants before a jump ahead in 2013 to 2017, when the annual quantity of publications increased multiple times, from a couple to 20 a year. Even more, the digital well-being subject at a broader scale was not sufficient yet in that period of academic research (Mathew et al., 2023).

According to Borst and Knies (2021), public servants' well-being at work influences their health, which was not sufficiently explored before 2021. Even a few years ago, one of the key dimensions, technological innovation, was examined by researchers with organisational restructuring, aggression from citizens, and integrity pressure. In the Dutch public administration, technological innovations were the least hindering demand (Borst & Knies, 2021), and in direct relationship with age burnout. The researchers marked several key aspects: public management is less attentive to technological innovations, public servants agree on positive outcomes of the software usage to improve accessibility of governmental services; however, they are doubtful about its effects on themselves, and public servants have weak advanced digital skills. Busch et al. (2018) infer that public servants in Norway especially agree on digitisation when it promotes their professional skills, and they prefer to have a free choice on the use of digital solutions when completing professional tasks.

Many workers or managers prefer non-digital methods or escape from using specific software in a daily work routine or demands to simplify or make it in broadly used practice, like phone calls, private meetings, group chat platforms, paper schedules, enterprise applications getting more satisfaction or thinking of more efficient way of doing business even if the specific software provides same or similar features, therefore algorithmic management generates more negative than positive outcomes for workers (Parent-Rocheleau & Parker, 2022). Digital competences turn out to be especially important in remote working (Van der Meer et al., 2022). That research, which was held in the Netherlands, proved that self-efficacy is more important than digital competencies in burnout and engagement. Ong et al. (2021) argue that online well-being assessment needs specific issues to be included in a survey "contextually important to the online world". Other researchers in China and Iran elaborate that the leadership of public servants and managerial support are essential aspects that define the motivation for the innovative behaviour of employees (Ghlichlee & Larijani, 2024; Xiao et al., 2025). Hybrid working is a new model available for public administration in some organisations. In Germany, where mental stress of employees is included in job risk assessment, Jaß et al. (2024) carried semi-structured interviews and stated, that hybrid work model is a challenging for public servants due to many reasons, both positive and negative: an increase in work dynamics, prompt, but sometimes difficult communication, time pressure, less informal communication and time to support new entrants, limited flexibility, lack of boundaries, a need in encouragement and support from managers and other aspects. The researchers elaborated that it is important to create health-promoting hybrid working conditions as early as possible to get public servants to digital well-being.

There are already some sound opinions (Andreessen, 2011; Fore, 2025) on how people might be replaced with software and artificial intelligence, which in the near future will do most people's jobs. The problem of increasing unemployment highlights the importance of quality education, professional skills, and emotional intelligence. The modern health concept, including digitalisation of health services, encourages well-being and health of society sustainably (Blake, 2008). Households' economic insecurity impacts the deterioration of work-life balance (Schneider & Harknett, 2019).

Since the 2022 era of Generative Artificial Intelligence (AI) has made more organisational corrections in employment, job tasking, and digital well-being. Job displacement, anxiety, personalised learning experiences, and real-time feedback are named hindrances, and increasing productivity and efficiency, improved communication and collaboration, greater flexibility and mobility, and access to information and sources are among the marked opportunities (Tiwari et al., 2024). Herewith, digital transformation has an impact on employees' well-being. Despite the younger generation's belief in the helpfulness of digital tools, the implementation of digital tools might be assessed through the impact on the health and welfare of people, with specific recommendations ensuring a holistic strategy (Shahzad et al., 2024). Emotional intelligence lately has come along with other important reasons, such as prioritisation at work, working-life balance, or emotional intelligence increases workers' efficiency and well-being even when working remotely (Harry & Saidi, 2025). Some digital tools are even functioning in preventing burnout by controlling people's work-life balance. Employee assistance programs are an invention to improve employee well-being and work outcomes (Abdul Aziz & Ong, 2025).

Digital well-being is identified as one of several essential digital competencies that every individual, including public administration employees, should acquire. This recommendation has been incorporated into the main policy document regulating the digital transformation process in Latvia, "Guidelines for Digital Transformation 2021–2027" from Council Recommendation of 22 May 2018 on key competences for lifelong learning. (Latvijas Republikas Ministru kabinets, 2021).

Methodology

On March 28, 2023, the Digital Academy of the School of Public Administration organised a webinar "How to take care of yourself in the digital age", with lecturer Evija van der Beek. The webinar aimed to support public administration employees in building a healthy relationship with digital technologies in order to reduce digital fatigue and motivate them to find a balance between online and in-person work and life. Approximately 1,800 participants – public administration employees – participated in the webinar.

Instrument

During the webinar, a questionnaire was launched. The instrument used in this study was adapted from the Digital Well-Being Scale developed by Mathew et al. (2023). Mathew et al. (2023) developed this instrument based on a comprehensive literature review and refined it through a brainstorming process, followed by expert evaluation, after which the instrument was administered, and its psychometric properties were tested. The final version demonstrated high reliability with a Cronbach's alpha of 0.921, and its validity was confirmed by confirmatory factor analysis.

Following the original structure by Mathew et al. (2023), the questionnaire used in this study consisted of three subscales measuring mental digital well-being (12 items), emotional digital well-being (4 items), and physical digital well-being (4 items). All items were assessed using a five-point Likert scale, ranging from *1 = not important at all* to *5 = very important*. In addition, respondents from the Latvian sample were asked background questions about their digital work environment, including the number of e-mails received daily, average screen time, and self-reported stress level.

To ensure internal consistency, Cronbach's alpha coefficients were tested for the entire instrument and for each subscale separately. Reliability values were high for the overall scale ($\alpha = 0.889$), as well as for the mental ($\alpha = 0.865$), emotional ($\alpha = 0.841$), and physical ($\alpha = 0.772$) subscales. These results indicate that the instrument was reliable for application in the Latvian public administration context.

The current research instrument was supplemented with four background questions characterising the respondents' work specifics in the digital environment: *(1) How many emails do you receive on average each day? (2) How many hours on average per working day do you spend in front of screens (TV, telephone, computer, digital watch)? (3) What is your stress level? (4) What percentage of your time does work take?*

In addition, one open-ended question was included regarding attitudes toward the introduction of AI in the workplace (*"What kind of feeling or emotion do you experience when thinking about the future work environment with the entry of artificial intelligence?"*), as well as one multiple-choice question on how public administration employees plan to improve their well-being while working in the digital environment and protect themselves using proposed strategies (see Table 11).

Data Analysis

For data processing, the authors used Jamovi open-source statistical software. The dataset was first cleaned and prepared for analysis, after which descriptive statistics and frequency distributions were calculated to provide an overview of respondent characteristics. For inferential analysis, non-parametric methods were applied due to the ordinal nature of the main variables.

Data analysis was performed in three stages:

- Correlation analysis. Spearman's rank correlation coefficients were computed to assess associations between perceived stress level, number of e-mails received per day, average screen hours per day, and work time percentage. This approach allowed the identification of significant relationships between key indicators of digital workload and stress.
- Descriptive frequency analysis was applied to all items of the Digital Well-Being Scale to identify which aspects of digital well-being were perceived as most and least important. For each item, distributions were examined, and non-parametric descriptive statistics (median, mode) were reported. Items were categorised as *high importance* (≥60% of respondents rated 4–5), *moderate importance* (30–59% rated 4–5), or *low importance* (<29% rated 4–5).
- To examine whether perceptions of digital well-being differed according to stress level, respondents were grouped into three categories (low: 1–3, moderate: 4–7, high: 8–10). A Kruskal–Wallis test was conducted for each item to test for significant differences between groups. This non-parametric approach was chosen, given the ordinal nature of the Likert-scale data.
- To analyse the open-ended questions, a Content analysis was performed. In the first question, where respondents selected predefined strategies to improve their digital well-being, responses

were disaggregated and summarised by frequency to reveal the most common intentions. In the second open-ended question, concerning feelings and emotions towards AI in the workplace, responses were coded inductively into four Content categories (positive emotions, uncertainty, negative emotions, neutral/mixed). Frequencies were calculated for each category, and representative expressions were used to illustrate nuances in perceptions.

Research Procedure

During the webinar, participants were invited to complete an online questionnaire. The survey was integrated into the event's online platform and conducted live through its internal polling system. Prior to the completion of the questionnaire, participants were informed about the study's purpose, voluntary participation, and data confidentiality, ensuring that the procedure complied with GDPR and research ethics principles. Completing the questionnaire implied informed consent. After the webinar, responses were exported from the polling system, screened for completeness, and prepared for statistical analysis in Jamovi software.

Participants

The survey collected 668 valid responses from employees of Latvian public administration institutions – including state budget institutions, state- and municipality-controlled and funded enterprises, as well as municipal institutions and institutions of other local government structures, etc. The participants were from 18 to 65, or working age, to get generalised characteristics without identifying age groups and the outcomes from the Latvian public administration employees' responses.

Participation was voluntary and fully anonymous: the questionnaire did not request personal identifiers such as gender or age, and no restrictions were imposed on who could take part.

According to the Central Statistical Bureau of Latvia and data compiled by the State Chancellery, the number of employees in the public sector in 2023 was 287,212 (Valsts kanceleja, 2023). Using the TGM Research online sample-size calculator (TGM Research, 2025), a representative sample for this population would require 384 respondents. With 668 completed questionnaires, the achieved sample substantially exceeds this threshold and can therefore be considered statistically representative of Latvia's public-sector workforce.

The sample is described from the perspective of work in a digital environment, based on survey background questions. The majority of respondents (73%) reported that they receive less than 20 emails per day, and time spent in front of screens exceeds 9 hours (62%), which is more than a standard working time per day. Here TV, telephone, computer, and digital watch cumulative time is included. 17% of respondents receive up to 40 e-mails per day. Notably, 10 % receive up to and more than 60 e-mails per day. Also, respondents reported varying levels of stress, reflecting a highly negative trend. 28% reported high levels of stress (8-10 points from 10), 58% reported average levels of stress (4-7 points from 10), and only 14% reported low stress levels, that is, under 3 points from 10.

Results

Correlation Analysis

Spearman's rank correlations were computed to examine associations between four ordinal variables: perceived stress level, number of e-mails received per day, average screen hours per day, and work time percentage. The results are presented in Table 2:

Table 2. Correlation Matrix (Source: Compiled by the authors)

		Perceived stress level	Received e-mails per day	Average screen hours per day	Work time percentage
Received e-mails per day	Spearman's rho	0.105**	—		
	df	666	—		

	p-value	0.006	—		
Average screen hours per day	Spearman's rho	0.153***	**0.612*** **	—	
	df	666	666	—	
	p-value	<.001	<.001	—	
Work time percentage	Spearman's rho	-0.023	0.117*	0.091	—
	df	314	314	314	—
	p-value	0.684	0.038	0.108	—

*Note. * p < .05, ** p < .01, *** p < .001*

Spearman's rank correlations indicated weak but significant positive associations between perceived stress and both the number of e-mails received per day (ρ=0.105, p=0.006) and average screen hours per day (ρ=0.153, p<0.001). The strongest relationship emerged between the number of e-mails received and average screen hours (ρ=0.612, p<0.001), indicating that respondents receiving more e-mails also spend considerably more time in front of screens.

Frequency Analysis and Group Comparison

To identify which aspects of each Digital Well-Being are considered to be the most and least important, non-parametric descriptive statistics (median, mode) and percentage distributions for the extreme response categories were calculated for each Digital Well-Being scale. Share of answers in the low-importance range (1–2) and in the high-importance range (4–5) are reported, excluding the neutral category (3). The items that were evaluated with 4-5 by more than 60% of respondents are interpreted as highly important; 30-59% as moderate importance; and those when less than 29% as items with low importance.

In further analysis, a Kruskal-Wallis test was applied to compare responses between low, moderate, and high stress groups, allowing for the exploration of potential links between perceived mental digital well-being and self-reported stress.

The results of frequency analysis for the Mental Digital Well-Being scale are presented in Table 3**.**

Table 3. Frequency Analysis: Mental Digital Well-Being Scale (Source: Compiled by the authors)

	Mental DWB Items	N	Med	Mod	Aggregated Score		**Importance**
					Not important (1-2)	Important (4-5)	
M8	Access to the online world has made me more decisive	664	4	5.00	6,20%	77,30%	**High (> 60%)**
M1	I feel I am productive when I am online	663	4	3.00	9,20%	52,80%	
M5	I find that my problem-solving skills have improved since going	663	3	3.00	23,50%	43,70%	
M3	I feel more connected to other people when I am online	662	3	3.00	23,50%	43,10%	**Moderate (30-59%)**
M6	The online environment makes me feel good about myself	665	3	3.00	22,70%	35,50%	
M7	Being online helps me feel closer to other people	663	3	3.00	35,00%	33,20%	
M11	The online resources make me feel more in control of my life	661	3	3.00	34,40%	32,40%	
M2	Being online helps me relax	666	3	3.00	30,70%	27,60%	
M4	The online environment makes me feel energetic	666	3	3.00	41,30%	19,40%	
M12	I feel uncomfortable when disconnected from the online environment	661	2	1.00	61,10%	18,60%	**Low (< 29%)**
M10	I feel cheerful when I am connected online	662	2	3.00	51,20%	12,40%	
M9	Being online makes me feel loved	661	2	1.00	67,80%	6,70%	

Note. Scale: 1=not important at all… 5 = very important; neutral category 3 not shown in aggregated columns

As observed, item M8 *"Access to the online world has made me more decisive"* shows the highest endorsement: 77% of respondents rated it as important/very important (4-5). This item stands out as the clearest positive driver of perceived mental digital well-being; item M1 *"I feel I am productive when I am online"* is evaluated as important in 53% of cases.

Statements like, M5 *"I find that my problem-solving skills have improved since going",* M3 *"I feel more connected to other people when I am online",* M6 *"The online environment makes me feel good about myself",* etc., are evaluated at an average level, showing a neutral attitude to these aspects of digital well-being.

Statements like M9 *"Being online makes me feel loved"* or M10 *"I feel cheerful when I am connected online"* were rated as important by fewer than 20% of respondents and unimportant by more than half, signalling that emotional or affective benefits are largely not associated with online presence.

The pattern shows a clear emphasis on instrumental/cognitive benefits (e.g., decisiveness and productivity) and far less importance attached to emotional or relational gains from being online.

Table 4. Kruskal-Wallis comparison results for Mental DWB items across different stress-level groups (Source: compiled by the authors)

Mental DWB Item	χ^2	df	p
M1_I feel I am productive when I am online	0.9811	2	0.612
M2_Being online helps me relax	0.0312	2	0.985
M3_I feel more connected to other people when I am online	2131954	2	0.250
M4_The online environment makes me feel energetic	1853639	2	0.260
M5_I find that my problem-solving skills have improved since going	0.3860	2	0.825
M6_The online environment makes me feel good about myself	0.9831	2	0.612
M7_Being online helps me feel closer to other people	0.0767	2	0.962
M8_Access to the online world has made it more decisive	162931	2	0.327
M9_Being online makes me feel loved	0.9702	2	0.616
M10_I feel cheerful when I am connected online	1267484	2	0.103
M11_The online resources make me feel more in control of my life	**11.4669****	2	0.003
M12_I feel uncomfortable when disconnected from the online environment	2405914	2	0.146

*Note. * p < .05, ** p < .01, *** p < .001; Groups: High stress (8-10), Moderate (4-7), Low (1-3)*

As presented in Table 4, the Kruskal-Wallis test revealed a significant difference in responses to the item M11 "The online resources make me feel more in control of my life" across the stress level groups (p=0.003).

Notably, respondents with high stress levels (Table 5) rated this item more positively, suggesting that they perceive digital resources as supportive in managing or regaining control over their lives. This may reflect a form of adaptive digital coping, where individuals under stress turn to online tools, platforms, or information to counteract feelings of unpredictability or pressure. In contrast, individuals with lower stress levels showed less endorsement of this item, possibly because they do not rely on digital tools for this purpose.

Table 5. Descriptive Statistics of Stress Level Groups for Item M11 (MDWB) (Source: Compiled by the authors)

Item	Stress level group	N	Missing	Median	Mode
M11_The online resources make me feel more in control of my life	Low	55	0	3	2.00
	High	115	0	3	4.00
	Moderate	234	1	3.00	3.00

These findings reinforce the instrumental nature of mental digital well-being, where perceived cognitive benefits (e.g., decisiveness, control) appear more valued than emotional or social aspects, particularly among high-stress individuals.

The frequency analysis for the Emotional Digital Well-Being Scale is presented in Table 6.

Table 6. Frequency Analysis: Emotional Digital Well-Being Scale (Source: Compiled by the authors)

	Emotional DWB Items	N	Median	Mode	Aggregated Score		Importance
					Not important (1-2)	Important (4-5)	
E16	Being online has made me interested in new things	661	4	4.00	7,90%	71,00%	**High (> 60%)**
E15	Access to online resources makes me feel confident	662	3.00	3.00	24,20%	38,80%	**Moderate (30-59%)**
E14	Online resources help me think more clearly	662	3.00	3.00	29,00%	32,20%	
E13	Access to online resources makes me feel optimistic about my future	660	3.00	3.00	35,80%	27,50%	**Low (< 29%)**

Within the Emotional Digital Well-Being scale, one item was rated as highly important by the majority of respondents: 71% agreed that E16 *"Being online has made me interested in new things",* highlighting curiosity and exposure to novelty as the main emotional benefits of digital engagement.

Other emotional aspects were less strongly endorsed: *feeling confident* (E15) and *thinking more clearly* (E14) reached moderate importance levels (39% and 32% respectively), while *optimism about the future* (E13) was considered important by only 28% of respondents.

The findings suggest that emotional benefits are perceived as less central to digital well-being compared to mental (cognitive or instrumental) benefits.

Table 7. Kruskal-Wallis comparison results for Emotional DWB items across different stress-level groups (Source: Compiled by the authors)

Emotional DBW Items	χ^2	df	p
E13_Access to online resources makes me feel optimistic about my future	2,08	2	0.354
E14_Online resources help me think more clearly	3,03	2	0.219
E15_Access to online resources makes me feel confident	1,69	2	0.429
E16_Being online has made me interested in new things	3,65	2	0.161

A Kruskal–Wallis test (Table 7) revealed no significant differences across stress groups for the Emotional Digital Well-Being items (all $p>0.05$). This indicates that respondents, regardless of stress level, evaluated the emotional aspects of digital presence – such as confidence, clarity, optimism, and inspiration – in a similar way.

The frequency analysis of Physical Digital Well-Being scale items is presented in Table 8.

Table 8. Frequency Analysis: Physical Digital Well-Being Scale (Source: Compiled by the authors)

	Physical DWB Items	N	Median	Mode	Aggregated Score		Importance
					Not important (1-2)	Important (4-5)	
P20	Being online implies that I have less physical exercise	663	4	5.00	21,60%	59,10%	**Moderate (30-59%)**
P17	I feel spending time online has affected my sleep patterns	662	3.00	4.00	28,40%	47,90%	
P19	Being online has added to my physical discomforts, like aches	661	3	3.00	39,90%	34,40%	
P18	Spending more time on the online environment has impacted b	664	2.00	1.00	50,60%	23,70%	**Low (< 29%)**

Within the Physical Digital Well-Being scale, the item P20 *"Being online implies that I have less physical exercise"* received the strongest endorsement, with 59% of respondents rating it as important, highlighting reduced activity as the most recognised physical cost of online presence. *Sleep disruption* (P17) reached a moderate importance level (48%), while *physical discomforts* (P19) and *eating habit changes* (P18) were endorsed by fewer respondents (34% and 24% respectively).

These results suggest that the physical dimension of digital well-being is primarily defined by concerns about reduced exercise and, to a lesser extent, sleep, while other aspects are considered less central.

Table 9. Kruskal-Wallis comparison results for Physical DWB items across different stress-level groups (Source: Compiled by the authors)

	Physical DWB Items	χ^2	df	p
P17	I feel spending time online has affected my sleep patterns	**26,80*** **	2	< .001
P18	Spending more time in the online environment has impacted my eating habits	**16,90*** **	2	< .001
P19	Being online has added to my physical discomforts, like aches and pains	**16,00*** **	2	< .001
P20	Being online implies that I have less physical exercise	**11,50*** **	2	0.003

*Note. * p<0,05, ** p<0,01, *** p<0,001; Groups: High stress (8-10), Moderate (4-7), Low (1-3)*

Kruskal-Wallis tests (Table 9) indicated significant differences across stress groups for all Physical Digital Well-Being items. Respondents with higher stress levels more frequently reported negative physical consequences of online activity, including disrupted sleep patterns (χ^2=26.80, p<0.001), impacted eating habits (χ^2=16.90, p<0.001), physical discomforts (χ^2=16.00, p<0.001), and reduced physical exercise (χ^2=11.50, p=0.003).

Descriptive analyses (Table 10) revealed that while low-stress respondents tended to disagree with these statements (Mode=1-2), high-stress respondents endorsed them more strongly (Modes=3-5).

Table 10. Descriptive Statistics of Stress Level Groups for Mental DBW Items (Mental Digital Well-Being Scale) (Source: Compiled by the authors)

Physical DBW Items	Stress level group	N	Median	Mode
P17_I feel spending time online has affected my sleep patterns	High	115	4	5.00
	Moderate	233	3	3.00
	Low	55	2	1.00
P18_Spending more time on the online environment has impacted b	High	115	3	3.00
	Moderate	234	2.00	1.00[a]
	Low	55	2	1.00
P19_Being online has added to my physical discomforts, like aches	High	115	3	4.00
	Moderate	231	3	3.00
	Low	55	2	1.00
P20_Being online implies that I have less physical exercise	High	115	4	5.00
	Moderate	233	4	5.00
	Low	55	3	5.00

[a] *More than one mode exists, only the first is reported*

The findings suggest that stress level intensifies the perception of physical costs associated with digital engagement.

To summarise the findings of the quantitative analysis, the most important factors influencing digital well-being were found within the mental dimension, where instrumental and cognitive benefits such as decisiveness, productivity, and a sense of control stood out as central drivers. By contrast, the emotional dimension was perceived as least important, with confidence, optimism, and affective gains receiving much weaker endorsement. The physical dimension occupied a middle ground, where reduced exercise and disrupted sleep emerged as the most notable concerns. Differences were identified across stress-level groups: respondents with higher stress consistently placed greater emphasis on digital resources as a source of control, while also reporting more pronounced negative physical consequences such as sleep disturbance, physical discomfort, and reduced activity.

Content Analysis

To further explore proactive strategies for digital well-being, respondents were asked *which actions they intend to implement in the future*, with the possibility of selecting multiple predefined options.

The most common responses focused on time management, with many indicating plans to review their screen time and reduce unproductive use of social media. A substantial proportion emphasised health-oriented practices, such as taking micro-breaks at work or avoiding phone use before sleep. Other strategies included skill development (e.g., learning to use AI tools) and self-regulation techniques, such as writing down concrete steps to support well-being. The distribution of these responses is presented in Table 11.

Table 11. Reported actions that respondents intend to implement to improve their digital well-being (Source: Compiled by the authors)

Q21_What will you do more for your digital well-being?	Count	Percentage
I will reduce the meaningless time spent on social media	207	19,68%
I will take more micro-breaks at work	195	18,54%
I will review my screen time use	187	17,78%
I will look for opportunities to learn how to use AI tools	132	12,55%
I will write down concrete steps I can take for my well-being and implement them	132	12,55%
I will not look at my phone in the mornings and evenings before sleep	125	11,88%
I will discuss possibilities at work to reduce meeting time	37	3,52%
I will conduct an audit of the amount of information received and sent	37	3,52%

Respondents most frequently emphasised strategies aimed at reducing screen exposure. The leading responses included decreasing meaningless time spent on social media (20%), reviewing overall screen time use (18%), and, to a slightly lesser extent, taking more micro-breaks at work (19%). A smaller proportion highlighted self-regulation practices (e.g., writing down concrete steps for well-being, avoiding phone use before sleep) and skill development (learning to use AI tools), each chosen by approximately 13% of respondents. By contrast, only 3–4% indicated plans to reduce meeting time or audit information flows, suggesting that organisational-level strategies are far less salient. Overall, these findings indicate that digital well-being is primarily approached through individual-level behavioural adjustments focused on limiting and regulating screen time, a result that resonates with the physical dimension findings, where reduced exercise and disrupted sleep emerged as key concerns.

Additionally, respondents were asked to describe in their own words *what kind of feelings and emotions they associate with the anticipated entry of artificial intelligence into their work environment*. This open-ended question provided insights into both positive expectations and negative concerns of future digital well-being.

In total, 191 items reflected respondents' attitudes towards AI entry. They were coded around four major themes, presented in Table 12.

Table 12. Content analysis of Q22 answers (Source: Compiled by the authors)

Themes	**Counts**	**Examples**
Positive emotions	81	Excitement, interest, opportunities, positive, relief, new knowledge, help, progress, innovation, effectiveness, satisfaction, speed, support, trust, future, joy, productivity, optimism, performance, etc.
Uncertainty	64	Uncertainty, unsafe, changes, challenge, scepticism, insecurity, loss of identity, unknowns, unsteady self-assessment, vagueness, etc.
Negative emotions	39	Concern, fear, mistrust, anxiety, worrying, shock, falsehood, stress, addiction, bad doubts, damage, end, powerlessness, uncomfortable, unemployed, etc.
Neutral/ mixed	7	Careful, cautious, it will be fine, neutral, partial, acceptable, adaptation.

Overall, these findings suggest that while AI evokes considerable enthusiasm, it is simultaneously associated with widespread uncertainty and notable apprehension, underscoring its role as both an opportunity and a source of stress in perceptions of the future workplace.

Conclusions

Research concluded that almost 90% of respondents feel stress, subjectively measured at an average and high level. "I feel I am productive when I am online" item stands out as the positive driver of

perceived Mental Digital Well-Being, “Being online has made me interested in new things” - Emotional Digital Well-Being, and “Being online implies that I have less physical exercise” - within the Physical Digital Well-Being scale.

According to findings, there are factors that digital tools do not significantly or positively affect, such as problem-solving skills, communication, valued, or joyful when engaged online, and self-esteem. Other emotional aspects, such as feeling confident and thinking more clearly, were estimated at moderate importance levels. Optimism about the future was expressed by less than 30% of respondents. Therefore, the authors conclude that the digital well-being of public servants has been perceived as least influenced by the emotional dimension but mainly dominated by the mental dimension's factors. And their managers get the following instrumental and cognitive employees’ gains: decisiveness, productivity, and a sense of control, staying online. Middle importance has been expressed on the physical dimension; however, respondents with higher stress levels have negative physical consequences, such as sleep disturbance, physical discomfort, and reduced activity.

These findings correspond with previous research highlighting that digitalisation and hybrid work environments simultaneously enhance productivity and elevate stress levels among public employees (Borst & Knies, 2021; Demerouti et al., 2001). In line with the Job-Demand Resources (JD-R) model, mental overload emerges when digital demands exceed organisational and emotional resources, confirming earlier evidence of burnout during crisis periods (Van der Meer et al., 2022). Similar to Jaß et al. (2024), this study shows that digitally intensive work models require new forms of managerial support and boundary setting to sustain wellbeing. Moreover, servant leadership and trust in management can mitigate stress caused by digital tools and promote innovative behaviour (Ghlichlee & Larijani, 2024). The results also align with Mathew et al. (2023) and Ryan and Deci (2011), who argue that digital well-being depends largely on mental and emotional balance rather than technical mastery. In the context of AI integration, the present findings support Tiwari et al. (2024) and Shahzad et al. (2024), who stress that while AI tools may increase efficiency, they also introduce anxiety. Consistent with Büchi (2021) and Burr et al. (2020), this study reinforces that achieving digital well-being involves both technological literacy and the cultivation of reflective, responsible digital habits supported by institutional policy frameworks such as Latvia’s Guidelines for Digital Transformation 2021–2027 (Latvijas Republikas Ministru kabinets, 2021).

Based on the research findings, the authors developed recommendations for managers and employees of public administration; however, these recommendations may also be applied to a broader range of organisations, including private companies.

Recommendations for Managers

- Monitor and reduce stress levels among employees by developing a stress management system that includes regular stress checks and identification of stress-causing factors. Based on the results of these checks, take measures to minimise these factors.
- Develop a comprehensive strategy to create a healthy work environment within your organisation, as it has been proven internationally to improve productivity.
- During the onboarding process, new employees are taught time management skills and control over the reasonable use of screen time at work and in their free time, and a program regulating the use of screen time is integrated into the work process.
- Ensure systematic testing and monitoring activities to maintain these competencies.
- Ensure the implementation of AI-based tools by supporting employees and providing ongoing training, and paying special attention to employees who may be experiencing negative emotions or resistance.
- Provide opportunities for physical activity in the workplace or after work (e.g., gym access) to maintain physical fitness and improve employees' digital well-being.

Recommendations for Employees

- Develop the digital intelligence in yourself - the ability to use digital technologies wisely is more important for digital well-being than simply mastering technical skills.
- Take short breaks (micro-breaks) during working time to reduce stress and prevent burnout.
- Track your screen time both at work and in your free time and use monitoring apps to maintain a healthy balance between productivity and digital well-being.
- Exercise to relieve stress and avoid the consequences of long periods of computer time, such as poor sleep, fatigue, and decreased energy.
- Use simple techniques to support your digital and mental well-being: prioritise your work, pay attention to your emotions, and try to remain optimistic about future challenges.
- Use AI tools as a learning tool to improve productivity but be mindful of their potential impact on your emotional state, manage your time, and seek support when needed.

The authors suggest repeating the study, taking into account that the survey was conducted in 2023. Since then, two and a half years have passed, the situation has changed, AI has become a regular part of daily work and life, and many initiatives have been implemented to improve digital skills. It is therefore important to examine how stress levels among public administration employees have changed and which factors are now more significant. In addition, extending the research to other countries would help to fill the current gap in studies on the digital well-being of public administration employees.

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Disclosure statement

The authors declare no competing interests.

Declaration of generative AI in scientific writing

During the preparation of this work, the authors used *GPT-5 (OpenAI)* to assist with the description of data analysis, *Elicit* to select the most relevant studies, and *Grammarly* to check the clarity of language. After using this tool, the authors reviewed and edited the content as needed and took full responsibility for the final version of the publication.

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