

The Influence of personal skills for telework on organisational commitment: The mediating effect of the perceived intensity of telework*

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Abstract

This study investigated the influence of personal skills for telework on organisational commitment as mediated by the intensity of telework. Data collected from a survey of 320 employees whose organisations provided the option of remote work were analysed. The results reveal that the influence of personal skills for telework on the affective, continuance, and normative organisational commitment dimensions is partly mediated by the perceived intensity of telework. The study revealed that this relationship is mediated at different levels by the intensity of telework. Good personal telework skills have the strongest influence on emotional attachment to the organisation, a somewhat weaker influence on continuance commitment that is linked to the fear of changing jobs, and the weakest influence on normative commitment, which emphasises the sense of responsibility to remain with an organisation. This study fills a research gap and contributes to existing telework intensity studies in the context of crisis (i.e., the COVID -19 pandemic).

Keywords: Teleworking, Intensity of telework, Personal skills, Organisational commitment

JEL Codes: M54, J24, J29

Introduction

The changing organisational environment precipitated by the reduced importance of a physical workplace due to the COVID-19 pandemic has influenced the spread of home-based telework. Studies have shown that the average percentage of teleworkers in Lithuania has grown from 13 % (2017) to 40 % (2020); in comparison, 48 % of EU employees worked remotely; 34 %

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worked from home and 14 % in a mixed format (Eurofound and the ILO 2017, 2021). Telework may be considered beneficial to both employees and employers as it reduces real estate costs (Nakrošienė/Bučinienė/Goštautaitė 2019), ensures work continuity (especially during the ongoing pandemic) (Ollo-López/Goñi-Legaz/Erro-Garcés 2020), increases employee efficiency (Tavares/Santos/Diogo/Ratten 2020), reduces transportation costs and commute time (Ollo-López et al. 2020), and contributes to a better work–life balance (Thulin/Vilhelmsson/Johansson 2019).

However, researchers tend to analyse telework during pandemic conditions in the context of the issues and challenges that occur during interactions between an organisation and an individual (Tavares et al. 2020; Wang/Liu/Qian/Parker 2021). Organisational changes are related to changing professional status and mobility (Kramer/Kramer 2020), limited career opportunities (Restubog/Ocampo/Wang 2020), decreasing manager support (Nakrošienė et al. 2019), and the influence of telework systems and software quality on performance (Kuru-zovich/Golden/Goodarzi/Venkatesh 2021). In contrast, the effects on individuals are related to exhaustion and stress (Luceño-Moreno/Talavera-Velasco/García-Albuerne/Martín-García 2020; Restauri/Sheridan 2020), social isolation (Wang/Albert/Sun 2020), disruption of the work–life balance, and employee well-being (Vaziri/Casper/Wayne/Matthews 2020; Palumbo 2020). Despite the significance of all of the consequences of telework, the social isolation and stress caused by the increased intensity of home-based full-time work remain among the most substantial challenges.

According to Thulin et al. (2019), few empirical studies have analysed employees' everyday work arrangements. Further, unlike an employee working in a physical office, one performing telework is available anywhere and anytime, regardless of the distance and IT solutions used (Tavares et al. 2020). Studies also revealed that information technologies reduce the time spent in face-to-face communication with colleagues and managers – a significant source of social interaction. Moreover, teleworking prevents employees from perceiving organisational values as they become less visible and experience less manager support (Nakrošienė et al. 2019). Therefore, the increasing intensity of telework may reduce employees' commitment to the organisation (Beauregard/Basile/Canonic 2019).

Hence, the question arises: Do particular skills affect employees' commitment to organisations under the increased intensity of telework? The literature suggests that skills including time management and self-discipline help employees remain more productive and more satisfied with telework (Nakrošienė et al. 2019; Wang et al. 2021). However, the understanding of whether these personal skills also help teleworkers remain committed to the organisation is lacking. Furthermore, the scientific literature lacks studies investigating whether tele-

work intensity in the context of the pandemic is a direct or mediating factor influencing organisational commitment. Prior studies revealed that depletion at work mediated the relationship between the degree (intensity) of telework and commitment to the organisation (Golden 2006). Moreover, an analysis of the moderating effect of informal communication with co-workers on full-time or high-intensity teleworkers' commitment to an organisation has shown the positive impact of informal communication with co-workers on organisational commitment (Fay/Kline 2012).

Given the existing literature, we note a lack of empirical studies on the mediating role of the intensity of telework. Hence, we aimed to examine how personal skills, mediated by telework intensity, influence organisational commitment. This article includes a literature review on teleworking, personal skills, and organisational commitment relationships, a description of the study methodology, the research results, and a discussion of the findings. Finally, conclusions emphasising the theoretical and practical implications are presented.

Theoretical framework

Telework and its use intensity

Scientific discussions of telework as a social phenomenon began in the 1990s when Niles (1994) proposed the concept of telecommuting: performing work functions by using telecommunication tools without being physically present at the workplace. Later researchers used the terms *telework*, *telecommuting*, and *remote work* as synonyms (Wang et al. 2020) or closely related terms, emphasising that they described 'a work arrangement form in which employees perform their regular work at a site other than the ordinary workplace, supported by information technologies' (Fonner/Roloff 2010). Researchers (Allen/Golden/Shockley 2015) have also identified a geographical division in usage: *telecommuting* is common in the USA, while *telework* is widespread in Europe. The latest scientific literature in the field of management more frequently uses *telework*, which Bridoux and Taskin (2010) argue is a more holistic term that includes various forms of work beyond the permanent workplace, such as working from home, at clients' offices, in co-working spaces, or while travelling. Therefore, this paper uses the term *telework*.

To further define telework, the intensity refers to the time employee spends at sites other than a traditional workplace, and work time indicates whether work is performed during regular or alternative working hours and places (Nakrošienė/Butkevičienė 2016). Rosenfield and Alves (2011) stated that the workplace element includes home-based telework, working in remote places other than the traditional workplace, or combining environments outside the traditional workplace and mobile working (Tavares et al. 2020). Work time is associated with telework performed during standard working hours, after working hours, or at

weekends and encompasses tasks that are not executed within the official work time (Nakrošienė et al. 2019). The intensity element includes full-time telework, partial telework, and ad hoc (occasional) telework (Nakrošienė/Butkevičienė 2016). Recently, home-based and multi-site telework has been emphasised, including partially home-based, partially on-site, or remote-location telework (e.g. on a client's premises).

Before the COVID-19 pandemic, about 20 % of employees occasionally or regularly worked away from their employers' premises and only 5 % worked exclusively from home (Ollo-López et al. 2020). During the pandemic, the frequency and intensity of telework increased; 34 % of employees regularly performed home-based telework (Eurofound and the ILO 2021).

Usually, teleworkers spend at least half of their working time away from an organisation's headquarters. A threshold of 50 % of the week (or 2.5 days) distinguishes teleworkers from non-teleworkers (Gajendran/Harrison 2007). Many studies have not separated teleworkers by periodicity or eventuality and have focused on full-time teleworkers only. However, some studies included periodical or eventual teleworkers who work only specific hours remotely and perform other functions on their employers' premises (Garett/Danzinger 2007). Gajendran et al. (2015) defined *higher-intensity teleworkers* as employees that spend a substantial part of workdays or all workdays at remote workplaces and *lower-intensity teleworkers* as employees that spend a significant proportion of workdays at the office and work remotely for only 1 or 2 workdays. Golden et al. (2008) also noted that lower-intensity teleworkers are less likely to experience social isolation.

The intensity of telework is often measured objectively by the hours or days per week spent working remotely (Biron/van Veldhoven 2016; Hoornweg/Peters/van der Heijden 2016) or the percentage of telework (Golden 2006). However, telework intensity can be measured subjectively through such aspects as workload (Burke 2010), effort, working hours, and work pace (Green 2004; Ozutku/Altindis 2013; Boxal/Macky 2014). As our study comprises reflective measurement, we use scale indicators, not indexes. Therefore, we measured the intensity of telework not as hours worked but subjectively, based on tasks.

As indicated above, the intensity of telework in the context of the pandemic can result in negative consequences, such as exhaustion and stress (Luceño-Moreno et al. 2020; Restauri/Sheridan 2020), social isolation (Wang et al. 2020), and the disruption of work–life balance and employee well-being (Vaziri et al. 2020; Palumbo 2020). Therefore, researchers have highlighted factors that might reduce the negative consequences of the intensity of telework. For instance, DeSanctis (1984) stated that tasks that do not require intensive communication with other employees are more suitable for telework (DeSanctis 1984), and Waber (2013) stressed that informal interaction and communication between co-

workers should be ensured for telework efficiency. Other researchers highlighted organisational infrastructure solutions (i.e. software quality) (Kuruzovich et al. 2021), as well as individual goals and personal skills (Nakrošienė et al. 2019; Wang et al. 2021).

The relationship between personal skills and commitment to the organisation in the context of telework

Based on the job demands–resources model (Demerouti/Bakker/Nachreiner/Schaufeli 2001), one of the essential factors that reduced the negative impact of the intensity of telework is personal resources (or personal skills). Bakker (2014) suggested that the job environment forms particular requirements for an employee and provides the resources needed to perform work. A combination of job and personal resources increases work efficiency through employee engagement at work. Employee engagement (and commitment) is more likely when an employee faces complex challenges and possesses adequate job and personal resources to solve them (Hu/Schaufeli 2011). Although personal resources decline with age, some personal skills (e.g. resilience, self-efficacy, and optimism) may be strengthened through external elements. Hence, they may be directly influenced by the employer and increase employee commitment (Çetin 2011).

Researchers addressing individuals' abilities to perform telework specify the following skills: the ability to work independently and solve technical issues; individual work pace management; a reduced need for face-to-face communication (Bailey/Kurland 2002); self-motivation and the ability to maintain discipline in the workplace (Lapierre/Allen 2012; Beauregard et al. 2019; Wang et al. 2021); the ability to self-manage work and task performance and the ability to set and meet priorities and personal goals (Raghuram/Wiesenfeld/Garud 2003). These skills are significant in the assessment of an employee's ability to work within a flexible work organisation context.

We found that 'discipline at the workplace', 'work task execution', and the 'ability to set priorities and personal goals and follow them' are particularly important 'personal skills' as they are linked to a person's ability to plan and manage their time, concentration, responsibility for getting things done, and determination to complete what was planned.

Time-planning skills may also be a significant resource to reduce time pressure and stress levels, which increases productivity and satisfaction with telework (Nakrošienė et al. 2019). Allen et al. (2015) noted that planning and other self-management skills allow people to focus on job tasks, ignore conflicting work and family requirements, and experience greater control when working from home (Lapierre/Allen 2012). According to Wang et al. (2021), self-discipline has become more than a selection criterion to determine whether an employee can perform telework; rather, it is a fundamental condition for work

efficiency and employee well-being. Discipline in the workplace, task execution, and the ability to set and meet priorities and personal goals are particularly significant as they are linked to personal planning and time-management abilities, concentration, responsibility for task execution, and willingness to complete planned activities. Self-discipline is associated with structural behaviour and is focused on making proactive strategic choices to create a work environment that reduces obstacles, helps the employee meet task deadlines, and enables daily performance goals (Allen et al. 2015). Self-discipline is closely related to self-efficacy, which significantly increases with goal achievement. Thus, an employee acquires the belief that they can accomplish tasks, which increases their self-pride and positive emotions (i.e. optimism) and leads to higher organisational commitment (Çetin 2011).

Hence, researchers state that individuals with these telework skills are more satisfied with their jobs and, therefore, are more committed to their organisations (Bailey/Kurland 2002). Employee commitment to the organisation is positively associated with higher job satisfaction (Meyer et al. 2012), reduced employee turnover and absenteeism (Meyer/Maltin 2010), higher motivation (Fernet et al. 2012), citizenship behaviour at work (Bagdžiūnienė et al. 2013), and work performance (Wang et al. 2010). However, Hunton and Norman (2010) emphasised that to achieve teleworker commitment to an organisation, different workspaces (i.e. home, the office, clients' premises, and cafes or other remote places) must be combined. Commitment to the organisation does not decline only in circumstances when the intensity of telework (when working from home) does not exceed 2–3 days or 15.1 hours per week (Beauregard et al. 2019; De Vries et al. 2019). Golden et al. (2008) revealed that although teleworkers experience more intense social and professional isolation, their commitment to the organisation does not decline. A higher intensity of telework enables additional personal benefits and manifests the organisation's trust and support, which increases employee commitment (Golden 2006).

Development of hypotheses

Studies revealed that employees with the aforementioned skills experience lower stress levels and lower work–personal life conflict (Raghuram et al. 2003). They work more productively, are more satisfied with telework, and benefit from the advantages of teleworking (Morgan 2004). Presumably, higher personal skills lead to more positive perceptions of the intensity of telework, meaning such employees are more tolerant of longer working hours and can cope with work better when working remotely. We formulated the following hypothesis based on these arguments:

Hypothesis 1: Personal skills for telework positively influence the perceived intensity of telework.

Researchers have stated that individuals with the mentioned telework skills are more satisfied with their jobs and, therefore, more committed to their organisations (Bailey/Kurland 2002). The three-component commitment model (Meyer/Allen 1991) has typically been used to analyse employee commitment. The model comprises affective (emotional commitment to the organisation), continuance (commitment to continue working for the organisation due to financial benefits and the lack of alternatives), and normative (the employee's sense of duty and responsibility to remain in the organisation) elements. As the three elements of the model are perceived as separate components, employees may experience each of these psychological states at a different level.

Some researchers have assessed commitment without the normative dimension as they believe it correlates with affective commitment. However, Wang et al. (2020) stated that some studies have identified differences between affective and normative commitment and, therefore, both should be included as independent constructs in empirical studies. Therefore, to highlight all relationships between teleworkers' personal skills and their organisational commitment, we examine all three elements of commitment. Furthermore, Wang et al. (2020) disclosed ambiguous relationships between telework and elements of organisational commitment due to the isolation during the pandemic. Specifically, they found that telework, due to psychological isolation, was positively related to continuance commitment, negatively related to affective commitment, and had no statistically significant relationship with normative commitment. Thus, we assumed that particular personal skills, such as self-discipline, help teleworkers complete job tasks despite boredom or other obstacles to their commitment to work (Hirschfeld/Field, 2000). Based on these arguments, we formulated the following hypotheses:

Hypothesis 2: Personal skills for telework positively influence organisational commitment.

Hypothesis 2a: Personal skills for telework positively influence affective commitment.

Hypothesis 2b: Personal skills for telework positively influence continuance commitment,

Hypothesis 2c: Personal skills for telework positively influence normative commitment.

Previous studies have supported the relationship between telework intensity and organisational commitment (Golden 2006). High-intensity teleworkers (no less than 3 days per week) remain committed to their organisations (Golden et al. 2008) despite experiencing isolation, separation, and uncertainty (Fay/Kline 2012). Meanwhile, individuals with strong time-planning skills (Nakrošienė et

al. 2019), self-discipline (Wang et al. 2021), and abilities to set and meet personal goals (Raguram et al. 2003) tend to perform full-time telework efficiently. Therefore, exploring whether the intensity of telework mediates the relationship between personal skills for telework and employees' commitment to their organisations is reasonable.

We selected the intensity of telework as a mediator based on other authors' assumption that a higher intensity of telework demonstrates organisational trust and support, which increases employee commitment (Golden 2006). Organisations with a supportive and high-commitment organisational culture have more committed employees (Khan/Jam/Akbar/Khan/Hijazi 2011). This assumption is supported by social exchange theory, which states that individual commitment to organisations derives from small-scale investments made over time that limit an employee's desire to leave the organisation. Thus, employees value organisational benefits when their needs are considered and greater flexibility is provided (continuance commitment) (Herrera/Las Heras-Rosas 2021). Moreover, when deciding to change jobs, an employee might feel guilty for leaving an organisation that provided telework possibilities and tend to continue working for that employer (normative commitment) (Meyer/Parfyonova 2010). In contrast, an employee may perceive their contribution to the greater good as consistent with organisational goals and choose to sacrifice some of their own needs. Thus, an employee recognises the pursuit as a source of intrinsic motivation that encourages them to continue working for the organisation, become emotionally attached to it, and believe that it is right (Herrera/Las Heras-Rosas 2021). Based on these arguments, we formulated the following hypotheses:

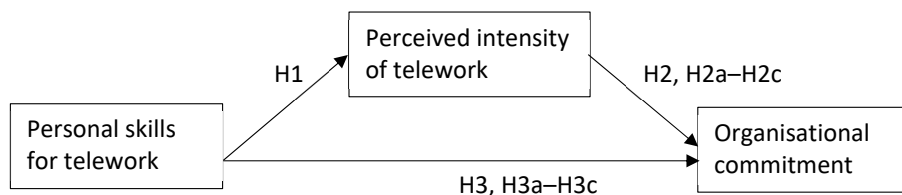
Hypothesis 3: The perceived intensity of telework mediates the relationship between personal skills for telework and organisational commitment.

Hypothesis 3a: The perceived intensity of telework mediates the relationship between personal skills for telework and affective commitment.

Hypothesis 3b: The perceived intensity of telework mediates the relationship between personal skills for telework and continuance commitment.

Hypothesis 3c: The perceived intensity of telework mediates the relationship between personal skills for telework and normative commitment.

Figure 1 presents this study's research model.

Figure 1. Research model.

Methodology

We collected quantitative data through a survey of teleworking individuals. The data were processed and analysed using the statistical data analysis software IBM SPSS. The mediating effect was measured with the PROCESS macro add-on.

Sample and data collection

The study population comprised the working citizens of the Republic of Lithuania who were 18–64 years old, employed on a contract basis, and offered telework. The survey was conducted online using non-probability convenience sampling. Questionnaires were distributed through the website *apklausa.lt* and via email to randomly selected organisations with a request that they distribute the questionnaire among their employees, according to data protection and regulation principles. Responses were collected for three months and the average duration of response was 17 minutes. The total survey sample was 413 citizens of Lithuania; 320 respondents who were offered telework completed the survey without omitting data and these data were selected for further analysis.

An analysis of social-demographic characteristics revealed that 34.7 % of the respondents were male and 65.3 % were female. Respondents were 35 years old on average (mode 25–34 years; 39.4 %); the youngest respondent was 18 and the oldest was 62 years old. Most respondents had a higher university education (67.5 %) and 35.13 % held bachelor's degrees. Almost half of the respondents' households consisted of one person (26.6 %) or two people without underage children (16.9 %), although most (62.2 %) households comprised individuals with children.

Concerning job-organisational characteristics, 38.8 % of respondents occupied leading positions and had subordinates. Most respondents (37.2 %) indicated 1–5 years of work experience with their current organisations, and a significant proportion of respondents (42.2 %) worked in small organisations (10–49 employees). The largest group of respondents (42.2 %) performed telework for 1–9 hours per week, 28.8 % of respondents performed telework for 20–39 hours per week, and 23.1 % performed telework for 10–19 hours per week. A significant

proportion of respondents (36.7 %) indicated home as their primary telework location and 39.7 % of teleworkers reported having a dedicated workplace at home. Another 17.8 % reported teleworking from client premises, 11.4 % from satellite offices, 9.3 % while commuting (i.e. in cars, aeroplanes, buses, trains, etc.), 6.1 % from cafes, and 4.7 % from co-working spaces. The largest groups of respondents reported telework in sales and consulting (23 % and 20.2 %, respectively).

Measurement of variables

The conceptual model of this study was based on the relationship among three constructs: personal skills for telework, the perceived intensity of telework, and organisational commitment. Table 1 summarises the measurement of the constructs used in the questionnaire.

Table 1. Measurement of the constructs used in this study

Construct		No. of items	Source
Personal skills for telework		8	Compiled by the authors based on Bailey/Kurland (2002), Nakrošienė et al. (2019), Lapierre/Allen (2012), Beauregard et al. (2019), Wang et al. (2021), and Raghuram et al. (2003).
Perceived intensity of telework		16	Compiled by the authors based on Kurland/Bailey (1999), Perez Perez et al. (2003), Gajendran/Harrison (2007), and Nakrošienė/Butkevičienė (2016).
Organisational commitment	Affective commitment	24	Allen and Meyer (1990)
	Continuance commitment		
	Normative commitment		

Personal skills for telework. Personal skills for telework were measured on an 8-item scale compiled by the authors based on the scientific literature analysis. The following essential traits and skills for telework were included: the ability to work individually, individual work pace management, a low need for face-to-face communication (Bailey/Kurland 2002), planning skills and other self-regulation skills (Nakrošienė et al. 2019), self-motivation and self-discipline in the workplace (Lapierre/Allen 2012; Beauregard et al. 2019; Wang et al. 2021), and the ability to arrange work, set priorities and personal goals, and follow them (Raghuram et al. 2003). The scale included example statements such as, ‘*I am able to set personal goals and follow them*’, ‘*I am able to individually organise my own work time*’, ‘*I am able to work individually*’, and ‘*I am able to quickly*

find solutions for technical issues. Respondents were asked to assess their telework skills using a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Perceived intensity of telework. To measure the perceived intensity of telework, the authors compiled a 16-item construct. The construct is one of the first attempts to fill the gap in the telework literature, which lacks subjective constructs measuring the analysed phenomenon. The construct included workplace elements (Kurland/Bailey 1999) that classify telework by its location and consistency and intensity elements that classify telework by periodicity (Perez Perez et al. 2003; Gajendran/Harrison 2007; Nakrošienė/Butkevičienė 2016). This construct also included the job task and communication elements. The scale included example statements such as, *'There are often days when I can work without showing up at the office'*, *'I coordinate my tasks with other team members even when I am not in my organisation's office'*, *'I usually perform individual job tasks or tasks that do not require cooperation from home or in a place away from my office'*, *'I usually perform job tasks that require creativity and/or concentration not in my office but in a different environment that has less interference'*. Respondents were asked to assess the statements using a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Organisational commitment. To measure employees' commitment to the organisation, we used the widely applied three-component, 24-item organisational commitment construct by Allen and Meyer (1990). The scale comprises affective, continuance, and normative commitment subscales. Its example statements include, *'I think that I could easily become as attached to another organisation as I am to this one'*, *'This organisation has a great deal of personal meaning for me'*, *'I think that people these days move from company to company too often'*, and *'If I got another offer for a better job elsewhere I would not feel it was right to leave my organisation.'* Respondents were asked to assess the statements on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*).

Control variables. We controlled for socio-demographic characteristics (gender, age, education, and household composition), job-organisational characteristics (number of subordinates, work experience in the current organisation, and organisation size), and telework characteristics (duration in hours per week, location, and nature).

Construct validity and reliability analysis

Exploratory factor analysis was used to test the validity of the data. We tested the data adequacy and the correlation between variables, and applied Bartlett's test of sphericity. The Kaiser–Meyer–Olkin (KMO) test was performed to ensure that pairwise correlations were explained by other variables. The results affirmed the high suitability of the perceived intensity of telework (KMO =

0.926, $p = .000$), personal skills for telework ($KMO = 0.939$, $p = .000$), and organisational commitment ($KMO = 0.867$, $p = .000$).

Orthogonal varimax rotation was performed to determine the number of factors. The items of the 16-item construct of perceived intensity of telework resulted in two factors. This could be because some subscales of the construct reflected the possibility of telework to perform job-related tasks, train, or communicate with co-workers in locations other than the organisation's headquarters while others indicated the need to be present at the office to perform job-related tasks, train, or communicate with co-workers on the employer's premises. As the scientific literature defines telework location (Kurland/Bailey 1999) as one of the factors of telework intensity and our factor analysis did not reflect periodicity (Perez Perez et al. 2003; Gajendran/Harrison 2007; Nakrošienė/Butkevičienė 2016) or job tasks and communication (DeSanctis 1984), the two other significant factors, telework intensity was considered a single factor in this study. This consideration was founded on the construct validity analysis as Cronbach's alpha for the telework intensity construct was .920 (see below). Notably, the exploratory factor analysis excluded two items from the initial 16-item scale; hence, further analysis was conducted on 14 items of the perceived telework intensity scale.

Personal skills for telework resulted in one factor that explained the 8-item scale. The 24 items of the *organisational commitment* construct resulted in three factors, as in Allen and Meyer's (1990) initial study. Organisational commitment was distributed across three subscales: *affective*, *continuance*, and *normative commitment*, each containing three items.

Cronbach's alpha coefficients were used to examine the internal consistency of the survey scales after factor analysis. Cronbach's alpha helps researchers evaluate whether all scale items adequately represent the study sample and allows the number of required scale items to be specified. In this study, Cronbach's alpha ranged from .855 to .948. Because these scores exceeded .70, they indicated the adequate reliability of the scales used and the high reliability of the entire study questionnaire (see Table 2).

Table 2: Reliability analysis of study scales

Scale title	Cronbach's alpha coefficient	Number of scale items
Perceived intensity of telework scale	.920	14
Personal skills for telework scale	.946	8
Three-component organisational commitment scale:	.884	24
■ <i>Affective commitment sub-scale</i>	.910	6
■ <i>Continuance commitment sub-scale</i>	.850	6
■ <i>Normative commitment sub-scale</i>	.745	6

Data analysis

We used a variety of data analysis methods in this study. Cronbach’s alpha reliability analysis confirmed the internal consistency of study constructs and subscales and mediation analysis was used for hypothesis testing. For mediation analysis, personal skills for telework were considered the independent variable and the perceived intensity of telework was the mediator. The dependent variables were the affective, continuance, and normative dimensions of organisational commitment. Mediation analysis was performed using the bootstrap method with a 95 % confidence interval and 5,000 resamples (Preacher/Hayes 2008).

Research findings

Descriptive statistics

Table 3: Descriptive statistics

Variables (N=320)	Mean	Standard deviation	1	2	3	3a	3b	3c
1. Perceived intensity of telework	3.31	0.765						
2. Personal skills for telework	4.41	0.639	0.345**					
3. Organisational commitment	3.25	0.557	0.447**	0.286**				
3a. Affective commitment	3.28	0.763	0.530**	0.338**				
3b. Continuance commitment	3.16	0.643	0.260**	0.107*				
3c. Normative commitment	3.03	0.620	0.294**	0.149**				
Gender			.081	.006	.094	.160**	.052	.002
Age			.196**	.178**	.240**	.229**	.122*	.237**
Education			-.173**	-.119*	-.190**	-.162**	-.107*	-.202**
Household composition			.018	.012	.081	.061	.064	.076
Number of subordinates			-.217**	-.098*	-.237**	-.221**	-.152**	-.207**
Work experience in current organisation			.234**	.121**	.314**	.264**	.227**	.286**
Organisation size			-.247**	-.061	-.161**	-.118*	-.089	-.196**
Duration of telework in hours per week			.656**	.286**	.449**	.447**	.302**	.346**
Nature of telework			-.425**	-.193**	-.234**	-.341**	-.111*	-.095

* The correlation is significant at the 0.05 confidence level

** The correlation is significant at the 0.01 confidence level

The constructs used in this study were measured on 5-point scales. According to the data presented in Table 3, respondents perceived the intensity of telework as moderate ($M = 3.31$, $SD = 0.76$), disclosing that they moderately favour it when subjectively assessing the effort, workload, and time aspects of telework. Respondents assessed their personal skills for telework somewhat highly ($M = 4.41$, $SD = 0.64$). Last, respondents assessed their commitment to their current organisations as moderate ($M = 3.25$, $SD = 0.557$).

We also explored the influence of control variables on the main variables of the study. As Table 3 suggests, the perceived intensity of telework, personal skills for telework, and organisational commitment (in all dimensions) are positively correlated with respondents' age, work experience with their current organisations, and the duration of telework in hours ($p < 0.01$); hence, older, more experienced, and high-frequency employees tend to assess the measured phenomena higher. Negative correlations with all main variables of the study were observed with respondents' level of education and the number of subordinates they managed ($p < 0.05$).

Mediation analysis

The mediation analysis examined the effect of the perceived intensity of telework on personal skills for telework in each dimension of organisational commitment. Personal telework skills were considered the independent variable while the dependent variables were affective, continuance, and normative commitment and the perceived intensity of telework was the mediator. All of the variables selected for the mediation analysis were positively correlated, fulfilling the condition of mediation analysis (see Table 3).

In the first stage of mediation analysis, the linear regression effect of the independent variable on the mediator was tested. This revealed a statistically significant positive relationship ($b = 0.3901$, $p = .000$) between variables (see Table 4), confirming Hypothesis 1: personal skills for telework positively influence the perceived intensity of telework. However, the regression model ($R^2 = 0.1062$) did not satisfy the condition $R^2 \geq 0.20$; thus, personal skills for telework are poorly suited to predict the dependent variables (organisational commitment).

Table 4: The linear regression effect of personal skills for telework on the perceived intensity of telework

R^2	F	Constant		Coefficients		
		Value	t	p	t	stan β
Personal skills for telework -> Intensity of telework						
0.1062	37.825	1.5898	5.6193	0.000*	6.1467	0.3901

* The coefficient is significant at the 0.01 level.

In the second stage of mediation analysis, multiple linear regression effects were tested. We sought to identify whether the organisational commitment dimensions were explained by independent variables (i.e. the influence of personal skills for telework on affective, continuance, and normative commitment with the mediation of the perceived intensity of telework). Our findings indicated that personal skills for telework and the perceived intensity of telework predicted the outcome only in some cases (Table 5). The regression model (personal skills for telework + intensity of telework -> affective commitment) satisfied the condition $R^2 \geq 0.20$, as $R^2 = 0.2666$, and explained a significant amount of the variance ($p = .000$). The PITU coefficient was 0.2017 and statistically significant ($p = .002$); therefore, the independent variables were appropriate to predict the dependent variables. The PA coefficients of the two other regression models were not statistically significant. Hence, we can state that only one independent variable, the perceived intensity of telework, can explain the impact of personal skills on continuance and normative commitment.

Table 5. The linear regression effect of personal skills and the perceived intensity of telework on different organisational commitment dimensions

R^2	F	Constant		PA coefficients			PITU coefficients		
		Value	t	p	t	stan β	p	t	stan β
Personal skills for telework + Intensity of telework -> Affective commitment									
0.2666	57.6053	1.3214	5.5243	0.0002	3.7258	0.2017	0.000*	8.3026	0.3755
Personal skills for telework + Intensity of telework -> Continuance commitment									
0.1490	27.7446	1.8051	7.0698	0.1110	1.5980	0.0923	0.000*	6.3578	0.3069
Personal skills for telework + Intensity of telework -> Normative commitment									
0.2556	54.4135	1.4858	6.3447	0.4137	0.8185	0.0434	0.000*	9.5654	0.4235

* The coefficient is significant at the 0.01 level

In the third stage of the mediation analysis, the direct effect of the independent variable on the dependent variable was measured. The results (see Table 4) indicate a statistically significant positive relationship between personal skills for telework and affective commitment ($b = 0.3482$, $p = .000$), continuance commitment ($b = 0.2121$, $p = .000$), and normative commitment ($b = 0.2121$, $p = .000$), confirming Hypotheses 2a, 2b, and 2c. The independent variable, personal skills for telework, had the strongest effect on affective commitment ($R^2 = 0.327$), while its effects on continuance commitment ($R^2 = 0.040$) and normative commitment ($R^2 = 0.040$) were somewhat weaker (see Table 6).

Table 6. The linear regression effect of personal skills for telework on organisational commitment dimensions

R^2	F	Constant		Coefficients		
		Value	t	p	t	stan β
Personal skills for telework -> Affective commitment						
0.3272	38.1315	1.9183	7.6326	0.000*	6.1751	0.3482
Personal skills for telework -> Continuance commitment						
0.0405	13.4059	2.2930	8.8815	0.0003*	3.6614	0.2121
Personal skills for telework -> Normative commitment						
0.0407	13.4903	2.1591	8.5288	0.0003*	3.6729	0.2086

* The coefficient is significant at the 0.01 level

The final stage of the mediation analysis assessed the relationship between the independent and dependent variables. These results are presented in Table 7.

Table 7. Mediation test results

		Total effect	Direct effect	Indirect effect	Hypothesis
H5	Personal skills for telework -> Intensity of telework -> Affective commitment	0.3482 LLCI = 0.2373 ULCI = 0.4591	0.2017 LLCI = 0.0952 ULCI = 0.3082	0.1465 BootLLCI = 0.0878 BootULCI = 0.2147	Confirmed
H6	Personal skills for telework -> Intensity of telework -> Continuance commitment	0.2121 LLCI = 0.0981 ULCI = 0.3260	0.0923 LLCI = -0.0214 ULCI = 0.2060	0.1197 BootLLCI = 0.0601 BootULCI = 0.1956	Confirmed
H7	Personal skills for telework -> Intensity of telework -> Normative commitment	0.2086 LLCI = 0.0969 ULCI = 0.3203	0.0434 LLCI = -0.0609 ULCI = 0.1477	0.1652 BootLLCI = 0.0939 BootULCI = 0.2510	Confirmed

LLCI = lower-level confidence interval, ULCI = upper-level confidence interval

In conclusion, the mediation analysis supports the statement that the perceived intensity of telework mediates the relationship between personal skills for telework and affective, continuance, and normative dimensions of organisational commitment. The most substantial mediating effect was identified in the relationship between personal skills for telework and affective commitment ($B = 0.1465$, 95 % BCa CI = 0.0878 – 0.2147) with a total effect of 0.3482. Personal skills for telework had a somewhat weaker total effect on the two remaining commitment dimensions: 0.2121 on continuance commitment and 0.2086 on

normative commitment; we determined the indirect effect of the perceived intensity of telework regardless. An indirect effect was identified on continuance commitment ($B = 0.1197$, 95 % BCa CI = 0.0601 – 0.1956) and normative commitment ($B = 0.1652$, 95 % BCa CI = 0.0939 – 0.2510). The mediation analysis revealed no zero values at the 95 % lower-level confidence interval (LLCI) and upper-level confidence interval (ULCI); therefore, all tested hypotheses were confirmed. Affective commitment experienced the most substantial mediating effect.

Discussion

This study investigated the influence of personal skills for telework on organisational commitment, mediated by the perceived intensity of telework. The results suggest that a combination of personal skills, such as discipline in the workplace, independent work arrangement and task execution, cooperation in the telework environment, and the ability to solve technical issues, work independently, and set and meet personal goals are essential in telework and improve the perceived intensity of telework. These findings affirm that the perceived intensity of telework strongly depends on an employee's personal skills for telework. This study's results are consistent with various authors' findings on the principal skills required to perform telework, including Bailey and Kurland (2002) on the ability to work independently and the significance of individual work pace management; Nakrošienė et al. (2019) on the importance of planning and other self-regulation skills; Lapierre and Allen (2012), Beauregard et al. (2019), and Wang et al. (2021) on self-motivation and self-discipline in the workplace; and Raghuram et al. (2003) on work arrangement priorities and setting and meeting personal goals.

Furthermore, the analysis revealed that employees' telework skills significantly improve the perceived intensity of telework when teleworkers' efforts, workload, and working time or pace are aligned. This helps employees avoid burnout, which, according to recent studies, is one of the most acute issues in telework. These findings conform to Raghuram et al.'s (2003) insight that employees with the aforementioned skills experience lower stress levels and less intense work–life conflict.

Notably, unlike previous studies (Bailey/Kurland 2002; Hill/Erickson/Holmes/Ferris 2010; Golden et al. 2008; Hunton/Norman 2010; Golden 2006; Biron/van Veldhoven 2016; de Vries et al. 2019) that analysed the phenomenon of telework without distinguishing the subjective aspect of its intensity and relationship to overall organisational commitment, our study has identified that the perceived intensity of telework affects various organisational commitment dimensions. The results confirm our presumption of the influence of personal skills for telework on affective, continuance, and normative commitment. Our study also re-

vealed that this relationship varies in degrees that are mediated by the perceived intensity of telework. Personal skills for telework affect every organisational commitment dimension, directly and indirectly, mediated by the perceived intensity of telework. Furthermore, the analysis revealed that possessing multiple personal skills for telework substantially promoted emotional attachment to the organisation and increased job satisfaction. To a somewhat lower degree, personal skills for telework contribute to continuance commitment, which is often linked to an employee's fear of changing jobs.

Finally, personal skills for telework increase an employee's sense of duty and their responsibility to remain in an organisation. These findings are counter to Wang et al.'s (2020) findings, which show that telework is positively related to continuance commitment, negatively related to affective commitment, and has no relationship with normative commitment. We assume that this inconsistency arose from the different focuses of these studies: we focused on personal telework skills while Wang et al. (2020) focused on psychological isolation.

Meanwhile, it is worth noting that Kumpikaitė and Rupšienė (2008), in their review of international research, stated that organisational commitment also depends on individual factors such as gender, education, position held, seniority, and age. The latter factor has been highlighted by most of the existing research studies (Dunham et al. 1994; Suliman/Iles 2000; Walsh et al. 2002). Therefore, our study was not designed to further confirm the already widely studied role of demographical factors, leaving the issue open for further research.

Conclusion

The findings from this study have several significant theoretical and practical implications.

Theoretical implications

The contribution to theory involves a few facets. First, we expanded the measurement of telework intensity, suggesting that it be measured subjectively based on respondents' reflection on aspects such as effort, workload, and work time or pace, unlike previous studies that focused on measuring telework intensity in hours per week or days of the week.

Second, the results of this study help fill the gap in the scientific literature by expanding the research perception of telework as a homogenous phenomenon related to an overall organisational commitment by incorporating the aspect of employee's perception of the intensity of telework and assessing its impact on affective, continuance, and normative commitment. Our analysis of the literature showed that telework and its intensity, personal telework skills, and organisational commitment are closely related concepts. Our research findings indicate

that employees with more personal skills for telework perceived the intensity of telework more favourably, had stronger organisational commitment in all dimensions, and experienced the most substantial mediating effect on affective commitment.

The scientific literature on telework lacks studies dedicated to the relationship between these constructs. In addition, a comprehensive approach to uncovering the links between these components is lacking. Our study aimed to elaborate on the existing literature on telework by identifying the relationship between personal skills for telework and the perceived intensity of telework, as well as the direct impact of personal skills for telework on organisational commitment and the indirect effect of the perceived intensity of telework.

Practical implications

The results of this empirical study and the insights presented are viewed as particularly valuable for the human resource departments and senior managers of companies. They offer an opportunity to acquire an in-depth understanding of the importance and real benefits, as well as the practical implications, of telework as a flexible form of work organisation in dynamic environments and a solution to employee turnover and retention issues during the COVID-19 pandemic.

We recommend strengthening employees' sense of belonging and emphasising flexible work schedules, which foster fully committed employees and act as priority measures for achieving long-term organisational goals related to decreasing employee disloyalty and rapid turnover.

Organisations should also ensure that the telework intensity is favourable for employees and will not cause adverse effects, such as burnout, which would reduce employee commitment. Therefore, the factors of effort, workload, and working hours must be aligned for successful telework. Favourable telework intensity, together with aligned effort, workload, and working hours for telework, allows employees to achieve a higher quality of life and better work–life balance, which are particularly important for satisfying employees' needs. Organisations and public institutions offering telework should perform periodic surveys on the perceived intensity of telework to ensure that it is efficient and reasonable for employees.

Limitations and future research

Several limitations of our study should be highlighted. First, all of the measurements were made using self-reported data and represented the respondents' subjective perceptions. More extensive results might be generated from data derived from more objective measures of the relationships between dimensions that are

analysed in this study. Second, our study data is limited both geographically and culturally, as only members of the employed population of the Republic of Lithuania participated. Hence, the results from other Eastern European countries might reveal further compelling aspects of the studied issue.

In our study of the mediating effect of perceived telework intensity on employee commitment and work-life balance, demographic aspects were not addressed. Therefore, future studies could investigate the significance of demographic factors on the examined relationships. Furthermore, other influencing factors, such as personal and organisational goals, could be analysed as potential causes of the perceived intensity of telework. The construct used to measure perceived telework intensity could be further developed, as previous studies did not adopt subjective reflective telework intensity measurement constructs.

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