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The need to work from home in higher education during the first phase of COVID-19: Employee productivity, autonomy, work relationships, job satisfaction and well-being

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Abstract. The purpose of this paper is to examine the experiences of university teaching staff in Poland in a forced work-from-home situation and its impact on autonomy, productivity, labour relationships, work-life balance, and job satisfaction. A conceptual model based on the literature review was built and empirically verified using structural modelling. A pandemic-enforced shift to remote work negatively affected job satisfaction, increased productivity and reduced autonomy perceived by the university teaching staff. This study differs from the previous ones in that the requirement for mandatory remote work during the crisis has a different impact on employees' perceptions of autonomy, satisfaction, productivity, work-life balance, and relationships compared to when

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the transition to remote work was a voluntary choice. Plenty of lessons remain to be learned from the initial response to the COVID-19 crisis and experience acquired under the disruptive circumstances of the pandemic. Universities should pay closer attention to the needs of employees and current digitalization trends and implement specific strategies to foster work-life balance so that research and teaching staff can develop academic activities and provide expected results even in an unfavourable environment while maintaining teaching quality. In the long run, these actions can lead to the creation of agile universities.

Keywords: work from home, university, employee productivity, job satisfaction, wellbeing, productivity, autonomy, employee-manager relationship, employee-employee relationship, remote work at universities.

JEL Classification: O32, M3, I2

1. INTRODUCTION

Digital technology is changing the way we live, work, and relate to each other. In the working context, it has been shown to allow for multi-dimensional fragmentation of work at the administrative (increasingly complex employment relationships, both direct and subcontracted), time (the use of part-time and shift work) and spatial (smaller and more isolated units of work) levels positive, pointing out, for example, the problem and consequences of the overlapping of home and work lives (Bellmann and Hübler, 2020).

The COVID-19 pandemic has changed the nature of work in several industries, and higher education is no exception. The pandemic outbreak in 2020 forced a quick transition to online work and education. It seemed to be an opportunity to improve the work-life balance of academic staff as well as a means to increase its productivity and job satisfaction. The systematic review on working from home among academics (Franco et al., 2021) has found that digitisation, change management and achieving a work-life balance can be particularly challenging for academic staff and that the resulting imbalance can be a problem at the individual, interpersonal and organisational levels.

Higher education is currently facing opportunities springing from the challenges that the pandemic has accelerated, opportunities that call for a paradigm shift in the way universities work and teach. The university of the future should not only employ innovative ways of instruction and prepare students for future careers but also closely accompany the changing profile of both students and employees while promoting their wellbeing (KPMG Global, 2020; O'Brien and Guiney, 2018; UNESCO IESALC, 2021). Thus, higher education institutions should pay closer attention to employees' needs and current digitalisation tendencies and implement specific strategies for fostering a work-life balance so that faculty members could develop expected academic activities in the long run while maintaining the quality of teaching.

The aim of this research is therefore to fill the gap in the positive and negative aspects of compulsory remote work resulting from COVID-19, and to explore the possibilities of transforming this effect into job satisfaction and new ways of teaching and engaging students. The study aims to examine the experiences of university faculty staff in Poland in the forced work-from-home situation, and its impact on autonomy, productivity, relationship with employees and supervisors, work-life balance and job satisfaction. The study differs from previous ones in that it addresses a compulsory work requirement which may have a different impact on employees compared to when it was an option. Taking into account the specificity of remote work at the university, there are no publications that would deal with this issue in the context of research and teaching staff. The available publications focus primarily on aspects of the educational process,

including work instruments (e.g., virtual laboratories: Bača, Hauliš, and Šuba, 2011; Frerich et al., 2016; Keshavamurthy and Varughese, 2014), as well as methods of assessing the knowledge acquired by students in this way (Jacques, Ouahabi, and Lequeu, 2020). Studies relating to the physical and mental well-being of university staff are decidedly marginal, which justifies the need for further research in this area. Between 2021 and 2023, there has been an increase in the number of publications that focus on the changes in work organization that resulted from the COVID-19 pandemic. Unfortunately, in the scope of the present work, the authors were able to identify only 7 new publications that analyzed this issue in the context of universities. These publications focus on examining the level of satisfaction with remote working (Collombelli, et al., 2022), identifying ways to cope with the challenges of forced work from home (Munobwa et al., 2022), and studying the correlation between the age of university employees and their resilience to the changes (Scheibe et al., 2022).

The paper is organized as follows: first, we establish a theoretical background for the study by presenting and discussing the determinants of transition to remote work during the first phase of COVID-19 and the subjects of autonomy, work relationships, work-life balance, job satisfaction and productivity that will serve for developing the study hypotheses. Next, we present the conceptual model and refer to all study hypotheses (Section 3). In Section 4, we introduce the proposed methodology (study context, sample, and measures). Results are presented in Section 5, followed by the discussion, study implications and limitations in Section 6. The paper ends with conclusions in Section 7.

2. LITERATURE REVIEW

2.1. Specificity of the work at the university on the edge of the pandemic

Tradition assigns the university a culture-forming role and sets the task of searching for the truth and building independent knowledge. There is now an urgent debate on how they can continue to meet society's needs for education, research and innovation. The challenges facing higher education and researchers continue to evolve both nationally and globally (Aprilinda et al., 2020). Universities are increasingly subject to consumer pressure, typical of a highly marketized environment, in which students more and more often exhibit customer like behavior (Woodall et al., 2014). In the context of an unstable external environment, there are implications for the sustainability of universities as well as academics facing demands for greater responsibility, cost-effectiveness, efficiency and quality (Tytherleigh et al., 2005). In recent decades, the pressure of work in the academic world has also resulted in many new stressors related to technological progress and the erosion of standard employment relations (Gewinner, 2019). To some extent these stressors are typical also for students causing their technostress (Kulikowski et al., 2022). The indicated work conditions of the academic environment entail the need to rethink the balance between work and nonwork life.

In today's academic environment, it is necessary to adapt to external requirements and deteriorating working conditions, while responding to nonprofessional demands. On the one hand, academic work provides flexibility and autonomy, which technically should facilitate achieving a balance between work and family life, but on the other hand, its open nature (Wortman, Biernat, and Lang, 1991) and growing, often contradictory expectations, pressures and demands challenge scientists (Acker and Armenti, 2004; Menzies and Newson 2008; Ylijoki, 2013). High levels of engagement, long working hours and ever-increasing academic demands have eroded time and energy for personal life and leisure (Lewis, 2003), creating the problem of fluid work life boundaries, especially when working from home. During their career, academic teachers tend to face difficulties in achieving a work life balance due to the flexibility of schedules. Most researchers do not manage to have work life balance that suits their needs and those of their families (Ylijoki, 2013). Such circumstances can be particularly difficult for women, forcing them to communicate the value

of their work and find a balance between academic career and family. Academics are increasingly under pressure between academic work and family responsibilities (Gewinner, 2019).

In sum, the pressure of scientific work in the academic environment is constantly increasing (Punia and Kamboj, 2013) and the increasing stressors in the academic environment limit the operational capacity of universities (Perry et al., 1997). The high level of perceived stress related to professional pressure has an impact on job satisfaction of academics as well as their family life (Khairunneezam et al., 2017). In such circumstances, universities and academic staff have been forced to go through COVID19 and transition to a new normal.

2.2. Conditions for the transition to remote work during the first phase of COVID19 (CTRW)

Remote work entails challenges related to the development of new skills of which the key ones are operational skills (computer hardware and software operating skills), formal skills (Internet and navigation skills), information skills (searching, selecting, processing, evaluating and dissemination of information) and strategic skills (the ability to use information and equipment to achieve specific goals) (Bartsch et al., 2021; Parham and Rauf, 2020). But the volume and intensity of tasks performed with the use (Parham and Rauf, 2020; Raza et al., 2015) of information and communication technologies (ICT) may increase employees' psychological effects such as stress, emotional anxiety and dissatisfaction (Drašler et al., 2021; Bencsik and Juhasz, 2023), which, in the pandemic circumstances, would be further intensified by fear and uncertainty (Casacchia et al. 2021; Parham and Rauf, 2020).

Research on remote work often indicates its relationship with employee's sense of physical, psychological, professional, and social isolation. Physical isolation refers to the physical separation of teleworkers from coworkers (Lal and Dwivedi, 2009; Wang, Albert, and Sun, 2020). Only "frontline workers" do not experience this effect (Mishchuk et al., 2023). Physically isolated employees tend to feel frustrated and distrustful, less respected, and less appreciated by the organization (Wang et al., 2020). This results in psychological isolation, regarded as a sense of disconnection from others, the lack of desired social network connections, and the unfulfilled need for support, understanding, and other emotional aspects of interpersonal relation (Diekema 1992; Golden, Veiga, and Dino, 2008). Remote employees may experience a sense of professional isolation due to their limited knowledge about organizational happenings and reduced interaction with colleagues. This can lead to feelings of exclusion within the work environment (Bauters et al., 2021; DiabBahman and AlEnzi, 2020; Staniec, 2021). Furthermore, inadequate communication can contribute to social isolation and feelings of loneliness (Williamson, Colley, and HannaOsborne, 2020), and the limited feedback received from the office can create uncertainty about whether they are fulfilling their responsibilities effectively (Watson and Lightfoot, 2003).

The COVID19 pandemic, especially in its first phase, forced a shift to working from home and in a very short time. Academic teachers have been sent home and obliged to connect students online and create effective teaching. The workflow in the new environment defined by COVID was often fragmented, lacking a way to start and end the workday, collaborate, and communicate with colleagues, and maintain social and emotional connection. The challenge were the technical, cognitive, and ergonomic issues of remote working (Coker, 2021). Constructing effective remote work and using technology to develop effective work procedures were two key factors in remote workforce management (Tanpipat et al., 2021). The indicated working conditions defined the involvement of employees and significantly influenced the stress and tension associated with working from home (Mardianah and Hidayat, 2020). For most academic teachers, online education significantly changed the everyday work routines. In that case, remote work was not, as in previous studies (Lal and Dwivedi, 2009; Nyaanga, 2012a; Wong, 2020) a choice, but a necessity. While remote work was initially viewed as a solution to the pandemic situation, it has also been associated with potential negative consequences.

Against the background of the presented considerations, it was decided to examine whether the models from previous studies (Cekuls, Malmane, and Bluzmanis, 2017; Gajendran and Harrison, 2007; Nyaanga, 2012) are still true in the forced work from home situation and the unique, disruptive circumstances during the first phase of COVID19. For this purpose, the following hypotheses were formulated:

Conditions for the remote work in higher education transition during the first phase of COVID19 are positively related to: productivity (H2), autonomy (H3), perceived work life balance (H4) and negatively related to: job satisfaction (H1), quality of employee manager relationship (H5) as well as quality of the employee employee relationship (H6).

2.3. Autonomy (A)

Autonomy reflects the degree to which work offers freedom, independence, and latitude to make work-related decisions (Allen, Golden, and Shockley, 2015). In remote work, autonomy refers to the possibility of choosing the time to start and end daily activities (DiabBahman and AlEnzi, 2020). Autonomy has been associated with better time planning and more productive work organization (Morgan, 2004; Wrycza and Maślankowski, 2020) increasing employee satisfaction (Harpaz, 2002).

Teleworking makes it possible to create a pattern that best suits the employees' preferences, as they have more power over working conditions (DiabBahman and AlEnzi, 2020), and colleagues and supervisors have no direct control or contact (Nagel 2020). The lack of direct supervision and a greater scope of teleworking does not adversely affect the professional performance of teleworkers, but often improves it. Still, research of van der Meulen (2017) suggests that trying to monitor too closely can backfire, and most of the benefits of teleworking come not so much from being out of the office as from greater employee autonomy. However, it should be remembered that in the academic environment, the autonomy of employees may also have negative consequences. The workload of academics requires not only time spent in the institution, but also home to prepare for the next day. Teaching and research workers need to spend extra hours every day to be effective and productive in their profession, so that they can reach a higher level and face a challenging atmosphere (Punia and Kamboj, 2013). In turn, Gajendran and Harrison (2007), in their research on remote work and freedom and independence in work planning and decision-making, found that remote work was directly positively related to perceived autonomy (teleworkers report greater perceived autonomy than non teleworkers) and that it is an important predictor of satisfaction of work and employee productivity (Nagel, 2020). Subsequent studies also show that the greater the intensity of teleworking, the greater the perceived autonomy (Gajendran and Harrison, 2007). Teleworkers with greater autonomy report greater job satisfaction compared to those with less autonomy. Therefore, it seems that teleworking solutions may be beneficial, and the degree of benefits may be affected by the scope of autonomy in the teleworker's work (Allen et al., 2015). This allows the formulation of the following hypotheses:

Perceived autonomy of the remote work at universities during the first phase of COVID19 is positively related to job satisfaction (H7) and productivity (H8).

2.4. Work relationships: employee manager (REM) and employee employee (REE)

Interpersonal relationships are essential to life satisfaction, and work is no exception (Parham and Rauf 2020; Raza et al., 2015). When built with people in mind, work environments and work relationships foster employee manager and employee employee support, information sharing and open communication and collaboration that allow companies to successfully pursue their vision and goals. Positive, performance (Raza et al., 2015; Samwel, 2018), and retention (Basford and Offermann, 2012). Employees who are happy and satisfied at work are more engaged and committed to the organizations they work for.

A positive relationship with supervisors and coworkers is a type of resources (Bakker and Demerouti, 2007) that creates conditions for providing effective support, delivering constructive feedback, developing

autonomy, and building trust. In their research on employee manager relationships, job satisfaction and service quality, Yee, Guo and Yeung (2015) found that perceived service quality was directly related to the quality of work relationships between supervisors and employees, suggesting the importance of positive and satisfactory working relationships. In a higher education context, studies of Lustig et al. (2020) and Staniec (2021) have shown that university staff adapted existing communication infrastructures to extend staff networks. Such extended networks offer a number of advantages related to sharing experiences in teaching methodologies and challenges and solutions to remote teaching situations. Remote work at universities, although coercive, has resulted in increased empathy and encouraged academics to initiate activities aimed to reduce physical distance from colleagues. Consequently, participants felt a stronger sense of community, team cohesion, and wellbeing (Kotera et al., 2020; Lustig et al., 2020; Parham and Rauf, 2020; Staniec, 2021). Therefore, the following hypotheses have been formulated:

The quality of the manager employee relationship of the remote work in higher education during the first phase of COVID19 is positively associated to job satisfaction (H11) and productivity (H12).

The quality of the employee employee relationship of the remote work in higher education during the first phase of COVID19 is positively associated to job satisfaction (H13) and productivity (H14).

2.5. Work life balance (WLB)

Perhaps one of the most salient social effects of the COVID19 pandemic was an increased awareness of the importance of work life balance (Vyas and Butakhieo, 2020). Work life balance is regarded as a subjective state in which an individual perceives their energy, time, commitment, and other resources to be well distributed between professional responsibilities and other aspects of life (Kirchmeyer, 2000). As a subjective construct, work life balance is relative and dynamic so that it can mean different things to different people and can change over the course of life.

The technological revolution brought solutions that make remote work and flexible schedules possible and at companies' disposal. Bellman and Hübler (2020) maintain that while working from home has its advantages, the route might not necessarily be straightforward. Their analysis, based on extensive panel data, has found that the relationship between working from home, work life balance and job satisfaction is rather "heterogeneous". The authors believed that explicitly stated standards and norms would clarify expectations, provide a better understanding of what an employee was expected to do and decrease unwanted overtime work and so they took into account the contractual arrangement of remote work. Whether an employee worked from home on a basis of formal agreements, or not, was found to improve job satisfaction. On the other hand, the relationship between an explicit contract and work life balance was not significant albeit an expected positive direction was found. In regard to remote work, Susilo (2020) found that employees working from home enjoyed the work more and were more motivated and more satisfied which could lead to enhanced job performance. Still, Felstead and Henseke's (2017) study based on two large datasets of official labour market data provided evidence that working from home did require working beyond work hours to deal with the workload and more effort than working in an office based work setting. Data analysis suggested a positive association between remote work, organizational commitment, job satisfaction and work-related wellbeing.

In order to better understand antecedents and consequences of work life balance, Haar and Brougham (2020) conducted a study in which they used two separate samples of professionals from a range of professions. In both samples, they found empirical evidence on the relationship between work life balance, job attitudes and job behaviours. The best model fit found in the first group of employees suggested that work demands and job autonomy were related to work life balance, which was then associated to job satisfaction. Results from the second examined group revealed that work life balance predicted job satisfaction and affective commitment. Studies conducted in the education field corroborate these findings. Research conducted specifically in the higher education sector has revealed that poor work life balance can

affect productivity, creativity and organizational commitment and increase the likelihood of developing mental health issues, suffering from fatigue and burnout, and experiencing lower job and life satisfaction (Aarnikoivu et al., 2019; Kinman, 2014; Znidaršič and Marič, 2021). For example, Sari and Seniati's (2020) study on lecturers from five universities found a positive significant effect of work life balance on job satisfaction and work life balance on organizational commitment. Moreover, job satisfaction was found to be partially mediating the relationship between work life balance and organizational commitment.

Today's work life balance refined by the experience of the COVID19 pandemic recognizes the challenges of finding harmony in a fast paced society. Employees need organizations that encourage and create conditions for a healthy work life balance and provide support in training and developing stress management and time management strategies so that they could spend time with their families and develop hobbies and personal interests while being efficient at work.

On the basis of the above, the following hypotheses have been formulated:

Improved work life balance of the remote work at universities during the first phase of COVID19 is positively related to job satisfaction (H9) and productivity (H10).

2.6. Job Satisfaction (JS)

In literature, remote work has often been in some way associated to an increase in job satisfaction (Watson and Lightfoot, 2003; Gajendran and Harrison, 2007a; Grant et al., 2019; Nagel, 2020; Wang, Albert and Sun, 2020). For example, the findings of Golden and Veiga (2005) suggest a curvilinear relationship between the extent of teleworking and job satisfaction, with satisfaction appearing to stabilize at higher levels of teleworking (around 15.1 hours per week) and then slightly decline.

This way, satisfaction with remote work may be the result of achieving a satisfactory work life balance (DiabBahman and AlEnzi, 2020; Wang et al., 2020). When working from home, it is easier to maintain closer contact with cohabitating family members (Watson and Lightfoot, 2003) and to better fulfil nonwork obligations, which subsequently reduces the likelihood of conflict between work and family domains and increases job satisfaction (Baruch, 2000; Fønner and Roloff, 2010; Grant et al., 2019). These findings suggest that teleworkers, thanks to separation from the workplace, have a greater ability to adapt professional activities to their own situation and can more easily meet both professional and family requirements (Golden and Veiga, 2005).

Another factor potentially contributing to the perception of satisfaction is flexibility, in particular the one related to working hours (Staniec et al., 2022; Watson and Lightfoot, 2003). Home is undoubtedly a more comfortable working environment than the office (Watson and Lightfoot, 2003). Employees may enjoy a sense of freedom and see it as a significant contribution to job satisfaction, (DiabBahman and AlEnzi, 2020). This refers to academic teaching staff as well (Drašler et al., 2021; Staniec et al., 2022).

Evidence also suggests that teleworking can lead to lower labour costs by saving time and effort with commuting to work, which can also be an important factor in the perception of job satisfaction (DiabBahman and AlEnzi 2020). Telework has also been associated to jobrelated stress reduction thank to informal communication and avoiding potential conflicts with colleagues (Staniec et al., 2022; Wrycza and Maślankowski, 2020), matters of great importance in the first phase of COVID19.

It can be concluded that teleworking has a positive effect on job satisfaction mainly because it promotes individuals' ability to meet their own needs and expectations. Research shows that a factor related to satisfaction of higher education staff is having significant professional autonomy, which increases the attractiveness of this profession (Sharma and Jyoti, 2009). At the same time, it should be noted that in the specific case of academic teaching staff, job satisfaction may come from face-to-face teaching activities and daily interactions with students. Compulsory isolation induced by the pandemic may therefore have had a different effect on the perception of this specific occupational group (Golden and Veiga, 2005). This brings the previously formulated hypotheses:

Conditions for the transition to remote work in higher education during the first phase of COVID19 are negatively related to job satisfaction (H1). Perceived autonomy of the remote work in higher education during the first phase of COVID19 is positively related to job satisfaction (H7). Improved work life balance to remote work in higher education during the first phase of COVID19 is positively related to job satisfaction (H9). The quality of the manager employee relationship of the remote work in higher education during the first phase of COVID19 is positively associated to job satisfaction (H11). The quality of the employee employee relationship of the remote work in higher education during the first phase of COVID19 is positively associated to job satisfaction (H13).

2.7. Productivity (P)

Work productivity refers to the skills, competencies and selfmanagement needed to ensure that the teleworker sets clear goals and tasks to achieve the expected level of job performance. Remote work practices, e.g., when implementing new technologies, create a new work environment and are associated with an increase in employee productivity (Grant et al., 2019).

Working from home can be beneficial for both employees and organizations due to increased productivity and greater employee involvement (Nyaanga, 2012a). This is because remote work is performed in a work environment conducive to concentration. Less disruption is due to fewer distractions, such as leaving the desk for a cigarette or chatting with a coworker (Watson and Lightfoot, 2003), but during the pandemic, this was completely different as everyone was locked up at home and in the same working conditions (Afrianty, Artatanaya, and Burgess, 2022; Chung et al., 2020; Parham and Rauf, 2020).

More effective time organization related to the lack of the need to work within fixed hours and the lack of commuting contributes to an increase in the productivity of an employee who has the ability to adjust working hours (DiabBahman and AlEnzi, 2020) or to extend working hours arbitrarily (Wang et al., 2020).

In light of the results of an experimental study (Bloom et al., 2015) employees working remotely showed a 22% increase in productivity. This improvement was mainly due to the increase in the number of minutes that home workers worked during their shift, thanks to reduced breaks, time off and sick leave. The surveyed employees also attributed the extension of working time to greater comfort associated with being at home (e.g., ease of making tea, coffee, lunch or using the toilet) and the conditions of relative silence at home. This is confirmed by research (van der Meulen, 2017) showing that remote work can be very productive, but only when there is less disruption at home than in the office. In contrast, in cases where work is collaborative, working from home may not bring you any performance benefits.

An argument supporting the hypothesis about the positive impact of remote work on productivity is employees' mental wellbeing and motivation. Remote work is conducive to promoting a family friendly culture in the company. Promoting such a culture allows employees to better cope with the so-called work family conflict and lead to increased motivation and job satisfaction, which in turn may result in increased productivity (Allen et al. 2015; OECD 2016).

The possibility of working from home in case of illness can also be treated as a way of preventing office presenteeism (DiabBahman and AlEnzi, 2020). At the same time, being able to work from home, employee productivity is likely to increase, resulting in less absenteeism and fewer sick days (DiabBahman and AlEnzi, 2020; Harpaz, 2002; Watson and Lightfoot, 2003).

Improvement in productivity is therefore a predicted benefit associated with teleworking, and metaanalytical studies (Gajendran and Harrison, 2007) suggest that the use of teleworking is positively related to both superior and objectively measured performance (Gajendran, Harrison, and DelaneyKlinger, 2014). Dutcher (2012) in his experimental studies showed that working from home increased productivity when performing creative tasks. He also found a negative correlation between remote work and routine tasks. Working at a university has a creative aspect, but telework as the only option rather than a choice may

have a negative impact on productivity. In addition, academic teachers were forced to prepare different didactic materials and forms of knowledge verification during that period. Research (Parham and Rauf, 2020) conducted at universities suggests that the impact of compulsory remote work on productivity during a pandemic may be perceived differently by academics. Some scientists are satisfied with their productivity and prefer to continue working at home, while others indicate that the need to learn to work under the new conditions and prepare more new teaching materials resulted in lower productivity, especially in the first weeks of the pandemic. Some academics argue that fully online education is demotivating and reduces their productivity, so a blended / hybrid approach would be more efficient and advisable in the future. The authors refer to the previously formulated hypotheses:

Conditions for the transition to remote work in higher education during the first phase of COVID19 are positively related to productivity (H2). Perceived autonomy in higher education is positively related to productivity (H8). Improved work life balance of the remote work in higher education is positively related to productivity (H10). Employee manager quality of relationship of the remote work in higher education is positively related to productivity (H12). Employee employee quality of relationship of the remote work in higher education is positively related of productivity (H14).

3. RESEARCH MODEL AND HYPOTHESES PRESENTATION

As a result of the literature review and the hypotheses, a conceptual model was built. Such model is a specific form of cognition, fulfilling on the one hand theoretical functions by providing a particular image of reality, and on the other hand - practical functions, being a tool in conducting empirical research. The presented model (Figure 1) is closely related to the presented theory.

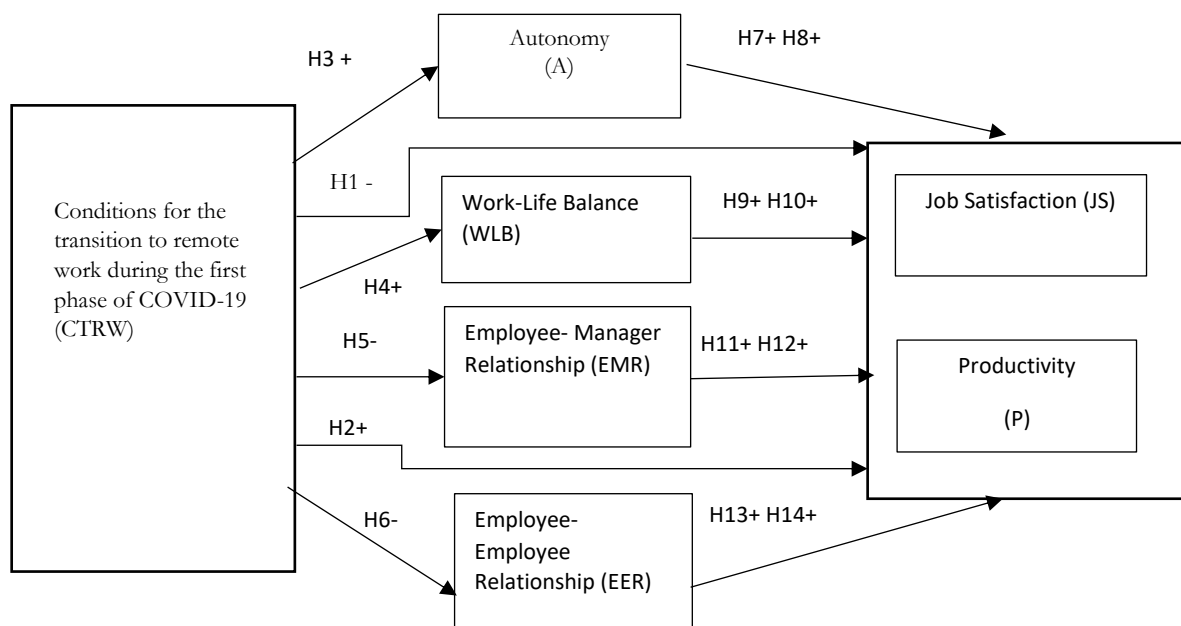


Figure 1. Conceptual model developed from research (Gajendran and Harrison, 2007; Nyaanga, 2012)

The proposed conceptual model will be used in empirical research to verify the following hypotheses derived from the literature review.

H1: Conditions for the transition to remote work in higher education during the first phase of COVID-19 are negatively related to job satisfaction

- H2: *Conditions for the transition to remote work in higher education during the first phase of COVID-19 are positively related to productivity*
- H3: *Conditions for the transition to remote work in higher education during the first phase of COVID-19 are positively related to autonomy*
- H4: *Conditions for the transition to remote work in higher education during the first phase of COVID-19 are positively related to perceived work-life balance*
- H5: *Conditions for the transition to remote work in higher education during the first phase of COVID-19 are negatively related to the quality of the relationship with manager*
- H6: *Conditions for the transition to remote work in higher education during the first phase of COVID-19 are negatively related to the quality of the relationships with co-workers*
- H7: *Perceived autonomy of the remote work at universities during the first phase of COVID-19 is positively related to job satisfaction*
- H8: *Perceived autonomy of the remote work at universities during the first phase of COVID-19 is positively related to job satisfaction*
- H9: *Improved work-life balance of the remote work at universities during the first phase of COVID-19 is positively related to job satisfaction*
- H10: *Improved work-life balance of the remote work at universities during the first phase of COVID-19 is positively related to productivity*
- H11: *Employee- manager quality of relationship of the remote work in higher education is positively related to job satisfaction*
- H12: *Employee- manager quality of relationship of the remote work in higher education is positively related to productivity*
- H13: *Employee-employee quality of relationship of the remote work in higher education is positively related to job satisfaction*
- H14: *Employee-employee quality of relationship of the remote work in higher education is positively related of productivity*

4. METHODOLOGY

4.1. Study context and sample

The study focused on employees of higher education institutions in Poland. The population of the study was university teaching staff employed at universities in Poland. The study was treated as a full survey. Access to the survey unit was in two stages. In the first stage, the e-mail addresses of the universities were taken from the database of the study and e-mails were sent asking them to distribute the prepared questionnaire to the employed staff. The e-mails were sent 3 times as a reminder (from one university there was even an e-mail asking to stop because all the university employees had already been informed). Unfortunately, there were some colleges from which not even a single return was received. Attempts to make individual contact with employees of this university also failed. Consequently, the obtained sample is not representative. The survey was voluntary, therefore only those who gave their consent and were willing to fill in the questionnaire sent to them took part. According to the Central Statistical Office (GUS) data, as of 31.12.2020, 93 088 academic teachers were employed in Poland. 732 people took part in the survey, so the return rate was only 0.79%. It is incomprehensible why university employees, who know how important each survey respondent is, would not want to support such initiatives with their opinion. Data were collected in May and June 2020.

CAWI (Computer Assisted Web Interview) technique was used in this research. A big advantage of the CAWI survey is the time and pace of completing the questionnaire in the natural environment of respondents. The questionnaire was pretested in wording and composition by an expert group and used in a pilot study conducted on a group of 20 university employees. It allowed for further verification of possible ambiguities and the elimination of repetitions. After this validation process, the questionnaire was used in

the research. In total, it consisted of 15 parts and took about 30 minutes to complete. In the present study 8 of these parts were used (Staniec, 2021; Staniec et al., 2022).

The survey was voluntary and anonymous. Respondents could withdraw at any time. The respondents who provided the consent participated in the study. The personal data were not linked to the requested characteristics. All data was fully anonymized at the time of data collection. The non-interventional research studies with human participation (the case of the present survey) does not need the approval of the Ethics Committee in work regulations of the Lodz University of Technology. The study was performed in accordance with the principles of the Declaration of Helsinki.

4.2. Measures

Due to the demand and the pandemic situation, the construct of conditions for the transition to remote work during the first phase of COVID-19 (CTRW) is related to psychological aspects such as stress, emotional distress, and constant fear for the health and safety of loved ones (Bonacini, Gallo, and Scicchitano, 2021; Drašler et al., 2021; Fosslie and West Duffy, 2020; Parham and Rauf, 2020; Wang et al., 2020). The determinants entirely omit the aspect of the skills and competencies possessed and the conditions for remote working. It consists of 5 items (Annex 1).

In the questionnaire, the relationship with the manager (EMR) scale was taken from leadership theory (Abun et al., 2018; Nyaanga, 2012b; Raziq and Maulabakhsh, 2015; Wayne, Shore, and Liden, 1997). The proposed scale measures the quality of the relationship between the manager and their subordinates, which is essential at work. In its final form, after the pilot study, it consisted of 7 items (Annex 1).

The scale for examining employee-employee relationships (EER) (Annex 1) was constructed based on a team collaboration theory (Abun et al., 2018; Nyaanga, 2012b; Seers, 1989) and heavily trimmed in an exploratory pilot study. It measures an individual's perception of his or her relationship with co-workers as a whole (Seers, 1989, p. 119).

The scale on job satisfaction (JS) was restricted to the intention of using remote work in the future (Annex 1) and was constructed based on literature items (Cekuls et al., 2017; Marques et al., 2020; Nyaanga, 2012; Venkatesh et al., 2003) and refined in expert surveys.

The work-life balance (WLB) scale consists of 4 questions (Annex 1) and is a combination of the scales used in studies by Baker, Avery and Crawford (2007) and Nyaanga (2012) limited in expert and pilot studies due to no discernible differences in perceptions of the wording presented.

The autonomy scale (A) is intended to reflect the extent to which work performance during the pandemic provided freedom, independence in work planning and timing, and determination of work rules. The 4 items (Annex 1) are a combination of: work planning, decision making, independence, and control methods. These were taken from the studies of Gajendran and Harrison (2007) and Nyaanga (2012) and the questions used were from the Work Design Questionnaire (WDQ) presented by Morgeson and Humphreys (2006).

The productivity scale (P) used 4 items (Annex 1) taken from (Baker, Avery, and Crawford, 2007). The scale was actually about perceptions of productivity, but it is commonly used in remote work research.

For each measure, respondents represented their opinions using a 7-point Likert scale through responses ranging from 1 (strongly disagree) to 7 (strongly agree).

5. RESULTS

The sample consisted of 58.2% women and 47.5% of respondents were aged 41-50 years. The vast majority (94.8%) of the respondents were employed in universities on a full-time basis, 14.5% held managerial positions, and 31.4% had teaching experience of 21 to 30 years.

To address the potential concerns of common method variance, we undertook several procedural remedies, such as protecting respondent anonymity, reducing item ambiguity, randomly ordering the sequence of scale items, and reverse-coding certain items.

In the first step, the information collected from the selected parts of the questionnaire was subjected to factor analysis according to the procedures recommended in the literature (Podsakoff et al., 2003). For these items, the KMO was $.862 > .7$ - so the KMO index score allowed the analysis to be accepted. Bartlett's test with $\chi^2 = 19818.99$ ($p < .00001$) indicates that the factor model is appropriate for the variables in analysis. The explained variance is 71.36% and its explanation is fairly evenly distributed among the identified factors. In a further step, seven latent variables, i.e., as many factors as suggested by eigenvalues greater than 1 at a given factor solution, were extracted using the Kaiser criterion. Then the Varimax Rotation Method was employed, and the resulting factor loadings are shown in Annex 1. All factor loadings obtained are greater than $.59$. According to the theoretical conditions, seven measurement scales were obtained concerning: manager-employee relationship (MER), employee-employee relationship (EER), satisfaction with remote work (JS), productivity (P), autonomy (A), work-life balance (WLB), and determinants of remote work (CTRW). Measures of reliability: Cronbach's $\alpha > .7$, AVE $> .5$, and CR $> .7$ are all greater than the assumed cut-off values (Fornell and Larcker 1981) and shown in Table 1.

Table 1
Reliability indices for measurement scales, their descriptive statistics, and correlational relationships

Construct	Cronbach's α	CR	AVE	Mean	Std. deviation	Coefficient of variation (CV)
MER	.902	.875	.546	3.035	1.579	52.03%
EER	.823	.828	.617	4.453	1.587	35.64%
JS	.917	.911	.618	5.193	1.426	27.46%
CTRW	.870	.885	.610	3.220	1.511	46.93%
WLB	.953	.953	.836	3.918	2.025	51.68%
A	.875	.875	.640	4.000	1.546	38.65%
P	.926	.926	.651	4.746	1.511	31.84%

Source: Authors' results.

The descriptive statistics presented (Table 1) indicate that respondents perceived relationships with managers the worst and here the highest coefficient of variation was found. The greatest variation among respondents was the perception of work-life balance. Satisfaction with the intention to use remote work in the future was rated best, the least variation in perception was noted for this characteristic, and respondents were a fairly homogeneous group in terms of this characteristic.

Table 2
Discriminant validity

	MER	EER	JS	CTRW	WLB	A	P
MER	.739a						
EER	.368**	.785a					
JS	.205**	.381**	.786a				
CTRW	.059	-0.087*	-.237**	0.781 a			
WLB	.068	-.080*	-.093*	0.659**	0.914 a		
A	.177**	.207**	.574**	-0.103*	-.08*	0.8 a	
P	.010	-0.058	-.203**	.702**	.77**	-0.072	0.807 a

Source: Authors' results. Note a the square root of AVE, ** Correlation is significant at the 0.01 level (2-tailed),

* Correlation is significant at the 0.05 level (2-tailed).

Structural equation modelling was used to verify the conceptual model and the hypotheses. Here, it is important to check whether each construct is sufficiently different from other constructs. This can be done by conducting a discriminant validity analysis according to the Fornell and Larcker's criterion (1981), that is, checking whether the proportion of variance between each construct and its measures is higher than the proportion of variance between the construct and other latent variables. To test this, the square root values of the AVE of each construct (measurement scale) were compared to the correlations between the constructs. As shown in Table 2, all square root AVEs are greater than the correlations of the constructs, confirming adequate discriminant validity.

The formulated conceptual model was empirically verified using AMOS 18 software. The following acceptable fit statistics results were obtained ($\chi^2=913.599$, $df=413$, $p=.000$ $\chi^2/df=2.212<5$, $CFI=.909>.9$, $GFI=.934>.9$, $AGFI=.901>.9$ and $RMSEA=.078<.08$, Standardized RMR=.077<0.8). The estimation results are shown in Table 3.

Table 3

Results of model estimation

		B	S.E.	t	p	β	Sign	Result
JS	<-- CTRW	-.163	.035	-4.687	***	-.224	-	H1 supported
P	<-- CTRW	.397	.059	6.758	***	.351	+	H2 supported
A	<-- CTRW	-.120	.047	-2.560	.010	-.104	-	H3 not supported (the sign is not in the proposed direction)
WLB	<-- CTRW	.912	.062	14.750	***	.660	+	H4 supported
RME	<-- CTRW	.081	.057	1.424	.155	.056		H5 not supported
REE	<-- CTRW	-.113	.052	-2.159	.031	-.091	-	H6 supported
JS	<-- A	.330	.026	12.694	***	.519	+	H7 supported
P	<-- A	.007	.034	.215	.830	.007		H8 not supported
JS	<-- WLB	.040	.023	1.715	.086	.076		H9 not supported
P	<-- WLB	.446	.041	10.863	***	.545	+	H10 supported
JS	<-- MER	.029	.016	1.797	.072	.057		H11 not supported
P	<-- MER	-.046	.026	-1.720	.085	-.058		H12 not supported
JS	<-- EER	.152	.021	7.104	***	.258	+	H13 supported
P	<-- EER	.030	.033	.917	.359	.033		H14 not supported

Source: Authors' results. Note: *** mean $p<0.0001$

Findings suggest that MER are not mediators of job satisfaction or performance (P). In addition, work-life balance (WLB) is not a mediator of job satisfaction (JS), and the relationship between employees (EER) is not a mediator of performance (P). Relationships between employees (EER) is a partial mediator of the effect of the determinants of taking remote work (CTRW) on job satisfaction (JS). The total strength of this effect is -.248. Work-life balance (WLB) is a partial mediator of the effect of the determinants of taking remote work (CTRW) on productivity (P). Thus, the total strength of the effect of the determinants of taking remote work (CTRW) on productivity (P) is .7107. From the model, autonomy (A) is a partial mediator of the determinants of taking remote work (CTRW) on job satisfaction (JS). The total strength of this influence is -.278 - so it decreases job satisfaction (see Table 3)

6. DISCUSSION, IMPLICATIONS AND STUDY LIMITATIONS

6.1. Discussion

The aim of this study was to examine the experiences of academic teaching staff in Poland in the forced work-from-home situation, and its impact on autonomy, productivity, relationship with employees and supervisors, work-life balance and job satisfaction. It was proposed that the perceptions and evaluations of faculty staff might have been different than in circumstances in which working from home was an option and not a formal direction.

The transition to remote work of academic teaching staff forced by the pandemic situation had a negative impact on perceived job satisfaction. This appears to be related to the need for acquiring and mastering new skills and competences and the need of quick preparation of teaching activities and might also be explained by the specificity of the work of academic staff, for whom, as mentioned before, the source of satisfaction may lie in direct interaction with students and the possibility of observing their progress (Sharma and Jyoti, 2009). Our results do not support previous studies which found a direct positive link between remote work itself and increased job satisfaction (Grant et al., 2019; Nagel, 2020; Wang et al., 2020; Watson and Lightfoot, 2003).

Results of our study also suggest that remote work, performed in work environment propitious to concentration, increases productivity in objective measurements (Gajendran et al., 2014; van der Meulen, 2017; Watson and Lightfoot, 2003), as well as productivity as perceived by the employee himself (Baker et al., 2007), and are in line with a vast body of research (Bloom et al., 2015; Dutcher, 2012) which has showed that working from home has a positive impact on productivity in performing creative tasks. The work of academic teaching staff has a large creative dimension, e.g., in preparing teaching materials. Therefore, findings of Nyaanga's (2012) study, which showed that the determinants of remote work had a curvilinear (inverted U-shaped) relationship with perceived work-life balance have not been corroborated. In our case, due to the specific instruction of remote work, the relation has shown to be linear. Moreover, in the study of Nyaanga (2012) remote work had a negative relationship with the quality of the employee's relationships with superiors while in ours this relationship is not statistically significant. We believe this might be mainly due to the fact the transition was forced. The remote work management lacked diagnosis of the situation, change management and communication in terms of preparing employees for the new condition and requirements.

Our results are also not in line with those previous studies that found that remote work was directly and positively related to perceived autonomy (Gajendran and Harrison, 2007; Morgan, 2004; Nyaanga, 2012). In our research, the relationship between remote work and employee autonomy was statistically significant, but with a negative sign. This means that the conditions of transition to remote work in a sudden and forced situation limited the perception of teaching staff's autonomy. This was due to the circumstances of a pandemic situation in which the order to switch to remote work was made top-down at the ministerial level, and local authorities transferred the responsibility for implementing it to individual higher education units. At that stage, no diagnosis of the situation that could become the basis for carrying out the change process in a flexible manner was carried out. Employees were forced to adapt to new conditions on their own. In the early stages of pandemic, the top-down order was implemented in line with the theory of resistance (Chandler, 2010) to change as a reduction of the autonomy of academic staff.

At the same time, our research did not confirm the mediating role of autonomy in achieving higher productivity, shaping time planning skills and more effective work organization. Our results do indicate however a perception of work overload by the teaching staff (Collins, Hislop, and Cartwright, 2016), mainly due to the conditions for taking up remote work which would increase the sense of pressure, and emotional and physical fatigue (Fosslien and West Duffy, 2020; Nyaanga, 2012). These experiences were intensified in

the initial phase of the pandemic by concerns about the health and safety of the loved ones (Parham and Rauf, 2020).

Forced transition to remote work profoundly affected the balance between professional and family lives of higher education staff (Baker et al., 2007; Nyaanga, 2012). While social relations are generally acknowledged as relevant to one's well-being, the pandemic has shown that the intensity of relations within the same household can have adverse consequences too. Out of daily routine, placed in a limited space, witnessing repetitive activities and behaviours of the family members, some people would experience a growing frustration that had no chance to fade away as there was nowhere to go. Therefore, the perception of balance in that specific period of time could have been regarded differently due to the imposed social isolation. On the other hand, remote work did bring positive individual, organizational and social benefits due to the possibility of social distancing that outweighed the costs. Our results do not confirm those obtained by Sari and Seniati (2020) that there is a significant positive impact of work-life balance of lecturers on their job satisfaction and several other studies that show a positive relationship between work from home and job satisfaction and life satisfaction (Haar et al., 2014; Haar and Brougham, 2020). This might be explained by the need to devote a large amount of time to changing the way lecturers work. It is worth noting that in the study of Sari and Seniati (2020) job satisfaction had a mediating role in the relationship between the lecturers' work-life balance and their organizational commitment. This aspect is also visible in the results of our research, in which the balance in personal and professional life intensifies (supports) the impact of the conditions of starting remote work on the productivity of academic teaching staff (Wrycza and Maślankowski, 2020).

The results of our research suggest that the relationship between employees, superiors and autonomy does not affect the perception of productivity, which is in part in line with the ambiguity of the results presented in the literature (Parham and Rauf, 2020). This might have to do with working conditions (or their lack) at home (Afrianty et al., 2022; Chung et al., 2020; Parham and Rauf, 2020). Similarly, Addis et al., (2021) concluded that remote work is particularly difficult in the context of COVID-19. The authors pointed out that the sudden shift from in-person to online working mode during the pandemic resulted in work intensification, online presenteeism, job insecurity and poor adaptation to new ways of working from home. In the context of the psychosocial effects of remote work forced by the outbreak of the pandemic, the described stress factors can deplete important social and personal resources, thus negatively affecting the level of employee involvement.

Finally, our research shows that in higher education compulsory remote work in a crisis situation had a different impact on employees' perceptions about autonomy, satisfaction, productivity, work-life balance, and relations between employees or superiors when compared to previous studies on voluntary remote work. These observations are partly consistent with the results of De Klerk et al. (2021), who studied the psychosocial results of working exclusively from home in the COVID-19 era in the context of employee involvement and experience. These authors confirmed that working from home for a long time brought paradoxically positive effects (employees could work effectively with greater involvement and experience of employees), but in the long term it is necessary to develop a healthy balance between physical presence in the office and working from home, with appropriate organizational and managerial support. Also Molino et al. (2020) found that despite the benefits for both organizations and employees, remote work during the COVID-19 emergency has negative consequences such as technostress. These authors confirmed positive associations between workload, techno-stressors, work-family conflict and behavioral stress.

The presented results could (and should) be used in the near future in managing change in higher education and preparing for future unpredictable situations. Successful implementation of our results may contribute to creating agile universities of the future.

6.2. Theoretical implications

To the best of our knowledge, this is the first study based on objective data investigating a complex set of relationships between the conditions of working from home, autonomy, perceived work-life balance and quality of working relationships (with supervisors and co-workers) and job satisfaction and productivity conducted on faculty members in the specific context of forced social isolation during the COVID-19 pandemic. The research proposes a theoretical framework based on literature and a model to examine previously established relationships between the study variables. The analysis of the data has corroborated some of the tested hypotheses while rejecting others. All these results enrich the existing evidence and contribute to research in the area of higher education.

The study is based on the in-depth understanding of the potential of experiences in the COVID-19 pandemic era, more specifically, on the impact of working from home on work-related outcomes as perceived by employees. The obtained results also enable the verification of the already established and repeatedly empirically verified general observations regarding the positive and negative aspects of remote work but observed in specific circumstances of the forced transition to a remote mode in the time of the COVID-19 pandemic. There are not many situations in which such a study could be replicated given the specificity of the context it was based on. Hence, it represents a unique occasion to empirically test the proposed model.

6.3. Practical implications

While crises often bring about adverse effects and challenges, they can also create opportunities for innovation, resilience, and personal or societal transformation. The pandemic outbreak has been, in fact, an opportunity for transformational shifts in the higher education institutions in that it has accelerated the digitisation of processes and activities and opened door to digital revolution at universities. The implementation of mandatory remote work in universities during the pandemic has undoubtedly had a significant impact on the work model in higher education institutions in the post-COVID era. As competence in using digital tools and platforms for communication, collaboration, and information management has become essential, the pandemic has equipped academic teaching staff with new working tools. It is believed that these acquired digital skills and competences can now translate into their willingness to undertake, this time on a voluntary basis, at least part of the teaching in an online or hybrid manner, especially if duly supported by higher education policies. Distance learning will not disappear but will rather allow for even a greater use of technological opportunities in the education process. Effective preparation for distance learning, as seen during the war in Ukraine, enabled Ukrainian universities and schools to commence teaching within just seven days of the conflict's onset. This approach allowed individuals, including refugees, to participate in the educational process regardless of their location. Looking ahead, organizations, including higher education institutions, must prioritize careful planning and organization of work, as well as the provision of services through information systems, to address future challenges posed by environmental crises such as floods, droughts, and fires. Moreover, the new generation of students is actively seeking flexibility in various aspects of life, including education and work. The findings of the present research focus specifically on the effects of remote work on higher education teaching staff, as teachers are those who plan, organize, and implement the teaching process on daily basis and can play a vital role as change agents in adapting to the new demands for flexibility in education. Still, universities should effectively accompany this desire for flexibility ensuring they provide suitable structures, organizational policies, and means (robust online learning platforms, adequate support for course development, training opportunities) for the teaching staff be able to meet the evolving needs and preferences of students in today's dynamic world. This might materialize, for instance, in form of accelerated adoption of online course offerings as a permanent element of education, providing both academics and students with the flexibility to organize their work and study in the future.

6.4. Limitations and future research

Like any research study, this study has its limitations. It is important to note that this study is cross-sectional, meaning it captures a snapshot in time and cannot establish causation. The sample used is not representative to allow for generalization of the results to a broader population. Finally, the conclusions drawn from this work are specific to universities in Poland and the unique circumstances of the initial phase of the pandemic, which was an unprecedented and unpredictable situation.

Further research should focus on examining the long-term performance of non-ad hoc work, particularly after academics have acquired the necessary skills and managers have implemented change management strategies. It would be valuable to conduct additional surveys during a post-pandemic period to capture the evolving work environment. Considering the socio-economic status of university employees and institutional resources would provide a more comprehensive understanding of the work conditions and their impact. Additionally, it would be interesting to analyze gender differences in the adoption of digital technologies and solutions, with a focus on absorption levels. It is also important to expand research to include the entire population to confirm the factors that influence remote work in a voluntary context and to assess the development of skills and choices.

5. CONCLUSION

The unexpected necessity to work remotely was a challenge to all stakeholders of the higher education system, including administration, managing staff, teaching staff and students. With this study we aimed to examine the impact of that forced (even if by objective circumstances) transition on relevant aspects of academic teaching staff's work. Our research confirms the results of several previous studies that have suggested that, to some extent, remote work can have both positive and negative consequences on employees. Our results provide valuable findings on the effects of compulsory remote work on autonomy, productivity, relations with superiors and co-workers, work-life balance, and job satisfaction and can be approached as an opportunity to learn from the pandemic experiences and develop and improve remote work processes supported by the universities, and, therefore, contribute to creating quality, more agile, and more people-oriented higher education institutions.

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Annex 1

Items used in the study, corresponding loadings and descriptive statistics

Construct/item	Loading	Mean	Std. deviation
Conditions for the transition to remote work during the first phase of COVID-19 (CTRW)			
I am learning an agile approach to completing my tasks (reversed)	.642	3.71	2.134
I have a sense of being left alone in dealing with a new situation.	.824	3.86	2.029
I am accompanied by stress resulting from the new situation.	.665	3.33	1.888
I am accompanied by stress resulting from unfamiliarity with the tools.	.88	3.15	1.963
I have a constant feeling of uncertainty - will I make it on time?	.863	3.01	1.992
Relationship with immediate manager (MER)			
My direct manager has assisted me in planning my remote work	.956	2.98	2.061
My direct manager has assisted me in organizing my remote work.	.955	2.92	2.037
My direct manager controls my remote work.	.635	3.45	2.091
My direct manager obtains information about my remote work problems and needs.	.749	3.00	2.021
My direct manager evaluates my remote work.	.659	3.38	1.947
My direct manager informs me about the evaluation of my remote work.	.659	2.46	1.650
My direct manager motivates me to work remotely.	.727	3.06	2.075
Relationship with colleagues (EER)			
My co-workers support me to work remotely	.849	4.40	1.974
My co-workers are more flexible than in traditional settings.	.712	4.04	1.792
My co-workers are willing to share knowledge.	.789	4.92	1.767
Job Satisfaction (JS)			
I intend to use remote work in the future as a complement to my traditional form of work	.879	5.58	1.538
I expect that the remote work experience will be useful in my professional life.	.945	5.80	1.502
Using remote work tools in the future will help me perform my job duties faster.	.925	4.96	1.695
Using remote work tools in the future will increase my productivity at work.	.652	4.74	1.778
Using remote work tools in the future will increase the quality of my work.	.666	4.88	1.705
Work-Life Balance (WLB)			
Remote work comes at the expense of my home responsibilities.	.893	4.19	2.119
Remote work schedule often interferes with my family life.	.913	3.86	2.125
Remote work comes at the expense of giving up my passion/hobby.	.92	3.70	2.176
Remote work makes it difficult for me to carve out time to relax.	.93	3.92	2.234
Autonomy (A)			
Remote work has increased my independence in planning and completing tasks.	.871	3.92	1.800
Remote work has increased my independence in making decisions.	.906	3.70	1.817
Remote work gives me a chance to be independent and free in what I do.	.758	4.05	1.814
By working remotely, I have control over the schedule of my tasks.	.639	4.33	1.823
Productivity (P)			
Remote work absorbs me more because it takes me much longer to do the same things.	.758	4.75	2.042
My remote working conditions allow me to complete tasks on time.	.559	5.21	1.744
Remote work requires more multitasking.	.574	4.29	2.074
Reporting on the completion of remote work takes me too much time.	.758	4.75	2.042

Source: Authors' results.