Adjusting to epidemic-induced telework: empirical insights from teleworkers in France

Kevin Carillo , Gaëlle Cachat-Rosset , Josianne Marsan , Tania Saba & Alain Klarsfeld

Published online: 19 Oct 2020.

Submit your article to this journal

Article views: 429

View related articles

View Crossmark data

THE OPERATIONAL RESEARCH SOCIETY

Taylor & Francis
Taylor & Francis Group

Check for updates

EMPIRICAL RESEARCH

Adjusting to epidemic-induced telework: empirical insights from teleworkers in France

Kevin Carillo [a], Gaëlle Cachat-Rosset [b], Josianne Marsan [c], Tania Saba [b] and Alain Klarsfeld [d]

aInformation Management, Toulouse Business School, Toulouse, France; bÉcole De Relations Industrielles, Université De Montréal, Montreal, Canada; cFaculté des Sciences de l'Administration Université Laval, Québec, Canada; dHuman Resources Management & Business Law Toulouse Business School, Toulouse, France

ABSTRACT
The covid-19 pandemic crisis presents unprecedented challenges and has profound implications for the way people live and work. Information and communication technologies have been playing a crucial role in ensuring business continuity as lockdown measures have suddenly forced employees from across the globe to telework, often leaving them unprepared and ill-equipped. This paper develops an epidemic-induced telework adjustment model derived from the theory of Work Adjustment and the Interactional Model of Individual Adjustment. It is tested on a sample of 1574 teleworkers in France. The results demonstrate the superiority of the influence of crisis-specific variables that are professional isolation, telework environment, work increase and stress. Implications for research are discussed while concrete and actionable recommendations for organisations are provided.

1. Introduction

The covid-19 pandemic crisis presents unprecedented health, social and economic challenges, and has profound implications for the way people live and work across the globe. In this period of turmoil, Information and Communication Technologies (ICTs) have been playing a crucial role in sustaining social connection within families and communities, but also in ensuring business continuity for organisations (United Nations, 2020; World Health Organization, 2020). By the first week of April 2020, about 4 billion people, half the world's population, were under some sort of lockdown (Sandford, 2020). In order to reduce workers' exposure to covid-19 in the workplace and limit physical interactions, governments have often imposed or at least strongly encouraged organisations to request employees to work remotely (i.e. telework) (OECD, 2020a). Organisations and employees were unevenly prepared to face the telework surge. In 2019, about 5% of employed people in the European Union usually worked from home. This share has remained constant at around 5% throughout the last decade while the proportion of people working from home on an irregular basis has been rising from 6% in 2009 to 9% in 2019 (Eurostat, 2020).

From the employees' end, the implementation of lockdown measures by governments coincided with an immediate and unexpected shift to teleworking, often leaving them unprepared and ill-equipped while having to deal with complex family/home situations. This sudden work environment change has

constrained individuals to engage into what Dawis et al. (2000) call *adjustment* to a new work situation and practices, as developed in the Theory of Work Adjustment. Before the covid-19 pandemic crisis, organisations' ability to maintain business activities and ensure business continuity has strongly depended upon how effectively employees were able to adjust to the transition from traditional to increasingly virtual work modes (Raghuram et al., 2001). Adjustment to new work contexts involves adaptation to new environmental demands (Nicholson, 1984) stemming from changes in the structure of work and in the nature of interpersonal relationships (Nelson, 1990). As of June 2020, despite signs of improvement of the situation and the gradual relaxation of coronavirus lockdown measures in a number of countries, teleworking remains a reality for a vast majority of employees as governments have encouraged organisations to maintain remote work as much as possible and for an undetermined period. It seems certain that the covid-19 events have permanently transformed the way we work, modified the employer/employee relationships, and strengthened the critical role played by ICTs in work practices.

This research adopts an individual adjustment perspective by drawing from the Theory of Work Adjustment (Dawis & Lofquist, 1984) as well as from the Interactional Model of Individual Adjustment (Nelson, 1990). It attempts to answer the following research question: *What are the most prevalent factors that influence employee telework adjustment during*

a global epidemic crisis? In this pandemic context, identifying and understanding what makes employees better "adjust" will help support the development of efficient, effective and humane telework practices, during the covid-19 crisis and the post-lockdown period, but also for potential future epidemic crises. In particular, epidemics due to zoonotic pathogens have become more frequent since the mid-1970s due to a range of factors (Wilcox & Gubler, 2005). This research aims at providing concrete and actionable recommendations for organisations while trying to prepare them for facing future crises necessitating the lockdown of the work population. Finally, we indirectly contribute to a global reflection on the nature of work as well as on the notion of organisational boundaries.

2. Literature review and theoretical developments

There is no clear consensus on the definition of teleworking across academic fields. Most definitions (e.g., Baruch, 2000; Frolick et al., 1993; Pérez et al., 2002) define telework in terms of two main dimensions: the distance from the conventional workplace, and the use of ICTs to work. Other authors have then clarified the contours of the telework concept by adding notions such as the flexible organisation of employees' working hours, most often with a view to reconciling work and personal life (Suh & Lee, 2017), or the variable proportion of working time spent teleworking (e.g., Golden & Gajendran, 2019). The International Labour Organisation (Messenger, 2017) synthesised current telework practices by defined telework as "the use of ICTs – such as smartphones, tablets, laptops and desktop computers – for the purposes of work outside the employer's premises". However, two standpoints seem to differ in terms of the role played by ICTs in the telework definition. In the first one, the criterion defining telework is primarily focused on the "outside of the conventional workplace" (e.g., Baruch, 2000; Bélanger & Allport, 2008; Frolick et al., 1993; Pérez et al., 2002). In this case, the use of ICTs is seen as a means of keeping in touch, communicating with others, and accessing one's professional activities, allowing distance from the workplace. Research efforts along this line of inquiry have recurrently used the terms *remote work* or *telecommuting*. In the second approach, ICTs are not only a means of communication but also and more importantly, one of work reconfiguration. This perspective rather refers to the notions of *telework* or *virtual work* that imply the restructuring of the way of working while work is being done remotely and often collaboratively using ICTs (Baker, 2006). Telework is thus seen as a strategic leverage to attain competitive advantage (Offstein et al., 2010).

2.1. Telework research in information systems

Since the late nineties and for about a decade, telework raised increasing research attention from an array of disciplinary perspectives including management, psychology, transportation, and Information Systems (IS), while the practitioners' and researchers' attention has gradually decreased over the last ten years (Raghuram et al., 2010).

In the nineties, ICTs have gradually transformed the traditional notion of homeworking into the one of "teleworking" by allowing a range of new possibilities for restructuring organisations and performing work (Bélanger, 1999). Some IS research studies focused on classifying and differentiating the many ICT-enabled work forms such as telecommuting, teleworking, virtual work or virtual teams (Lindström et al., 1997; Raghuram et al., 2010). Early IS research efforts concentrated on investigating the benefits of teleworking. The main advantages include increases in productivity and job satisfaction, lower turnover rates, saving of office space, increased flexibility and improved employee morale (e.g., Bélanger, 1999; Bélanger et al., 2001; Igbaria, 1998). Another teleworking research stream has emphasised the critical role played by computer-mediated communication as it can negatively impact employee satisfaction, productivity and performance (e.g., Bélanger & Allport, 2008; Fritz et al., 1998; Raghuram et al., 2010). More recent IS works related teleworking to the notion of stress. For instance, Tarafdar et al. (2019) developed a conceptual framework of technostress experienced by individuals in their workplace based on a systematic literature review on technostress in the telework and virtual work contexts. Technostress (or strain due to the use of ICT) is a concept that has often been studied in the context of virtual work (e.g., Srivastava et al., 2015; Suh & Lee, 2017). Finally, there has been a gradual shift of IS scholar's attention from telecommuting during working hours to a less predictable, enduring, and lasting form of after-hours work engagement through technology-enabled connectivity (Chen & Karahanna, 2018). The covid-19 context has suddenly revived the necessity to study the telework/virtual work phenomenon, especially in the extreme case of epidemic and non-epidemic crisis contexts.

2.2. Conventional versus epidemic-induced telework

Compared to telework carried out in a conventional context, telework induced by an epidemic has inherent specificities. In the covid-19 context, the flexibility of location and working time that telework is supposed to offer is no longer allowed. Home confinement is imposed, teleworking becomes a mandatory full-time practice, and teleworkers often have to deal with

exacerbated professional and personal time balance issues. Crisis-induced telework has also work environment particularities in terms of the way it is implemented and in the crisis context surrounding teleworkers. Table 1 summarises the main characteristics that define "conventional" teleworking and conceptually distinguishes the specificities of epidemic-induced teleworking.

First, in contexts of natural or health disasters, telework is considered as an efficient way to ensure business continuity, by facilitating the redistribution of activities within suddenly dispersed teams (Mello et al., 2011). It responds to a business continuity imperative for organisations that can no longer operate normally (Mello et al., 2011), whereas telework is traditionally presented rather as a benefit or even a privilege offered by employers to their employees (Wheatley, 2012), with the usual goal of a better work-life balance (Donnelly & Proctor-Thomson, 2015). Regarding crisis-induced teleworking, employees are forced to respond to their employer's demand, so the voluntary nature of telework is no longer fulfilled. Savage (2002) has highlighted the need to find a balance in times of crisis between the needs of the organisation to maintain an appropriate level of staffing to avoid disruptions on the one hand, and the personal concerns of employees, on the other hand. In addition, the implementation of telework occurs in a sudden and unprepared way. When a pandemic hits, the anticipation of the telework environment, the design of telework operating conditions and tools, or the organisational support for

telework implementation are not necessarily pre-existing in organisations (Donnelly & Proctor-Thomson, 2015).

Teleworking induced by a global crisis operates in a generally degraded context (disorganised work, variable access to global and ICT infrastructures, lockdown, stress …). However, epidemic-induced telework differs from the other crisis contexts for which telework has previously been studied, such as following an earthquake (Donnelly & Proctor-Thomson, 2015) or an attack (Savage, 2002). An epidemic crisis does not imply significant disruptions or damages to major infrastructures or access to ICTs, which may represent a major barrier to telework in other crisis contexts. However, an epidemic crisis context such as covid-19 can lead to a feeling of insecurity in terms of health and safety for teleworkers or their relatives, as well as a feeling of professional uncertainty due to the associated economic crisis (Belzunegui-Eraso & Erro-Garcés, 2020). The general stress induced by living through such a context may alter telework effectiveness.

In summary, epidemic-induced telework inherits some of the characteristics from conventional telework, but it appears to have particular aspects making it a unique context with specific conceptual boundaries. More particularly, the sudden, mandatory, and unprepared nature of epidemic-induced telework alters the Person-Environment (e.g., Employee-Work /Home environment) relationship thus triggering adjustment behaviours to adapt to the new work situation (Dawis, 2000).

Table 1. Conventional versus epidemic-induced telework.

Characteristics	Conventional Telework	Epidemic-induced Telework
Telework characteristics		
Workplace		
Suh and Lee (2017), Bélanger and Allport (2008), Pérez et al. (2002), Baruch (2000), Frolick et al. (1993)	Workplace Flexibility: at home and/or at a location other than the conventional workplace.	Mandatory at home (lockdown)
ICT Use		
Bélanger and Allport (2008), Pérez et al. (2002), Baruch (2000), Frolick et al. (1993) Offstein et al. (2010), Baker et al. (2006)	ICT as a means of connection/contact/ communication with professional interlocutors and the organisation	ICT as a means of connection/contact/ communication with professional interlocutors and the organisation
	A strategic approach to using ICT to restructure the way of working	ICT as a necessity to ensure business continuity
Working hours organisation		Flexible with possible constraints of a co-teleworker at the same time and place and/or dependants at home
Suh and Lee (2017)	Flexibility of working hours	
Share of working time		
Golden and Gajendran (2019), Weinert et al. (2015), Mayo et al. (2009), Berube Kowalski and Swanson (2005)	All or part of the working hours	Full-time
Telework Environment		
Implementation		
Beauregard et al. (2019), Baruch (2000), Feldman and Gainey (1997)	Voluntary employee practice	Mandatory with no employee agreement
Beauregard et al. (2019), Alreemy et al. (2016), Nilles (1998)	Preparation of physical tele environment, technology access and ICT tools	Sudden without preparation time and potential lack of teleworking tools
Beauregard et al. (2019), Alreemy et al. (2016), Nilles (1998)	Preparation of telework processes, ways of working and management rules	Sudden without preparation time for teleworkers, managers, and organisations
Work Context		
Donnelly and Proctor-Thomson (2015)	Stable infrastructures and ICT access	Stable infrastructures and ICT access
Belzunegui-Eraso and Erro-Garcés (2020)	Stable health and economic context	Health concern and occupational uncertainty

2.3. Adjustment to telework

The individual adjustment phenomenon has attracted a moderate degree of attention from IS scholars. Acknowledging the lack of IS knowledge about individuals' adjustment to new workplace ITs, the Interactional Model of Individual Adjustment to Information-Driven Innovations was developed in the early nineties (Nelson, 1990). The framework operationalises individual adjustment as a range of individual-level outcomes (job satisfaction, distress/strain, internal work motivation, job involvement, organisational commitment, intention to remain with the organisation, performance/productivity) following the introduction of a new IT in the workplace. The focus of the model was on identifying situational variables (organisational, work group, and job factors) and personal variables (individual characteristics) that affect individual adjustment. More than 15 years later, Gallivan and Shen (2005) stressed the fact that the adjustment phenomenon had not received the IS attention it deserved while the Theory of Work Adjustment (TWA) developed by Lofquist and Dawis (1978) and widely used in Psychology and Management, had been largely neglected in the IS literature. The scholars also indicated the general lack of attention of IS researchers to Nelson's (1990) suggestion that contextual and individual-level factors shape individual adjustment to information technologies.

Our review of the IS literature around the "adjustment" concept revealed that neither TWA nor Nelson's "individual adjustment" have been attracting a lot of research attention. In IS, the notion of adjustment has been mostly used to study the users of a target IT/IS. For example, Venkatesh (2000) theorises adjustment as a determinant of perceived ease of use of a target system. He defines "adjustments" as the user's "beliefs that are shaped based on direct experience with the target system" (p. 345), while focusing on usability and enjoyment beliefs. A more recent example is the study of Sergeeva et al. (2017) on adjustment to cues of IT use. They define such adjustment as an action taken by the user to change his/her usage behaviours to give off different cues to onlookers (i.e., actors for whom the use is visible, but who are not directly involved in the IT themselves). Some studies in IS have investigated adjustment in the general work context. For example, King and Sethi (1998) studied the adjustment of IS employees to their new work environments, a phenomenon they called "role adjustment", defined as the nature of the role orientation that is inculcated in newcomers combined with how they cope with role ambiguity and conflict.

In the Management literature, especially in the Human Resources Management field, the concept of work adjustment has a long tradition (e.g., Aryee & Stone, 1996; Cooper-Thomas et al., 2011; Davies et al., 2019; Dawis & Lofquist, 1978; Shimoni et al., 2005).

With the rise of IT in the workplace, virtual work adjustment has been conceptualised and even operationalised by Raghuram et al. (2001) to study how effectively individuals are able to adapt to new environmental demands in the context of transitioning from traditional to virtual work modes. They measured this concept by assessing critical indicators of employee adjustment to new work contexts: satisfaction with virtual work, job performance as a consequence of virtual work, productivity, commitment to virtual work, and ability to balance work and non-work demands. They view adjustment to virtual work as an overall state of adaptation that most accurately assesses the level of adaptation to environmental demands. Raghuram et al. (2001) studied employees of a large telecommunications network provider who were savvy with the use of electronic media, who benefited from considerable technical support from their employer and who volunteered to participate in the virtual work programme of the provider. They call for studying virtual work adjustment with data from multiple organisations, for different technical support, with individuals who vary in their ability to use information technologies, and in mandatory virtual work settings where new influencing factors could be more relevant for telework adjustment.

The potential occurrence of epidemic and non-epidemic related crises in the far and near future engendering drastic changes in the Employee-Environment relationships combined with the important role played by ICTs in redefining such relationships, highlight the need for drawing more IS research attention on the IT-enabled adjustment phenomenon. This IS research substream has gradually lost momentum despite its importance in helping organisations and societies cope in times of crisis and turmoil. The new covid 19-induced context highlights the relevance of studying telework in the context of an epidemic, rather than in conventional, non-crisis contexts.

2.4. Theoretical framework of crisis-induced telework adjustment

This research adopts a work adjustment perspective to investigate how workers have responded to the crisis-induced work environment change triggered by the covid-19 events and that has constrained them to telework. In line with the theory of Work Adjustment (TWA), the lockdown and subsequent telework surge appears as a drastic work environment change that has affected the Employee-Environment relationship, causing individuals to have to adjust to the complex situation. The conceptual model that is introduced below has conceptual roots in the TWA (Dawis & Lofquist, 1984) while it also draws from the adjustment to IT stream of IS literature, more specifically the Interactional Model of Individual Adjustment

(Nelson, 1990). The model responds to Nelson's (1990) call for "*turning our attention to the situational variables (organizational, work group, and job factors) and personal variables (individual characteristics) that affect individual attitudes and subsequent adjustment*" (p. 80). It hypothesises the relationship between several categories of factors: individual, job, organisational, to individual adjustment. It also distinguishes between crisis specific and non-crisis specific factors. More specifically, this research focuses on a particular type of work adjustment which pertains to telework adjustment (Raghuram et al., 2001) in the very specific crisis-related context induced by the covid-19 pandemic. This research investigates work adjustment to the entire work environment, including among other elements the range of diverse IT tools used in the telework context (and not on specific target IT/IS).

In line with Raghuram et al. (2001), we define *epidemic-induced telework adjustment* as the *employees' level of adaptation to environmental demands of a new telework context triggered by a global epidemic crisis.* Figure 1 presents the theoretical framework that was developed based on Nelson's (1990) categories of factors of individual adjustment. In each category, we consider crisis specific factors, i.e. factors that are impacted or engendered by the crisis context (such as stress, crisis-related organisational support, or professional isolation), and non-crisis specific factors that are not impacted or engendered by the crisis context. For example, the model included constructs such as job autonomy, work interdependence or IT complexity. Considering the extreme nature of epidemic contexts, we hypothesised that the influence of crisis-specific factors shall be greater than the one of non-crisis specific variables.

3. Model and hypotheses

The conceptual model that was tested, was derived from the Crisis-induced Telework Adjustment framework introduced in this paper whose theoretical foundations lay in TWA (Dawis & Lofquist, 1984) and the Interactional Model of Individual Adjustment (Nelson, 1990). Among the variables that are included in the model, certain are *crisis specific*, that is to say that the crisis context "engenders" them or else modifies the relationship to telework adjustment. They are personal stress (individual factor); telework environment, professional isolation and work increase (job factors); and finally organisational support (organisational factor). The other variables of the model are *non-crisis-specific* in that they do not emerge from the crisis context. This includes IT complexity (individual factor); job autonomy and work interdependence (job factors). We also added control variables: age, gender, educational level, telework experience, management position, team size, organisational size and sector. Table 2 presents the constructs and their definitions, as well as the hypotheses and their rationales.

4. Methodology

The overarching goal of this research project was to get a thorough grasp of the way a work population adjusts to a telework surge triggered by an epidemic crisis. The covid-19 pandemic appeared as a particularly appropriate context due to the sudden nature of its spread as well as to the profound health, social and economic challenges it engendered. It was
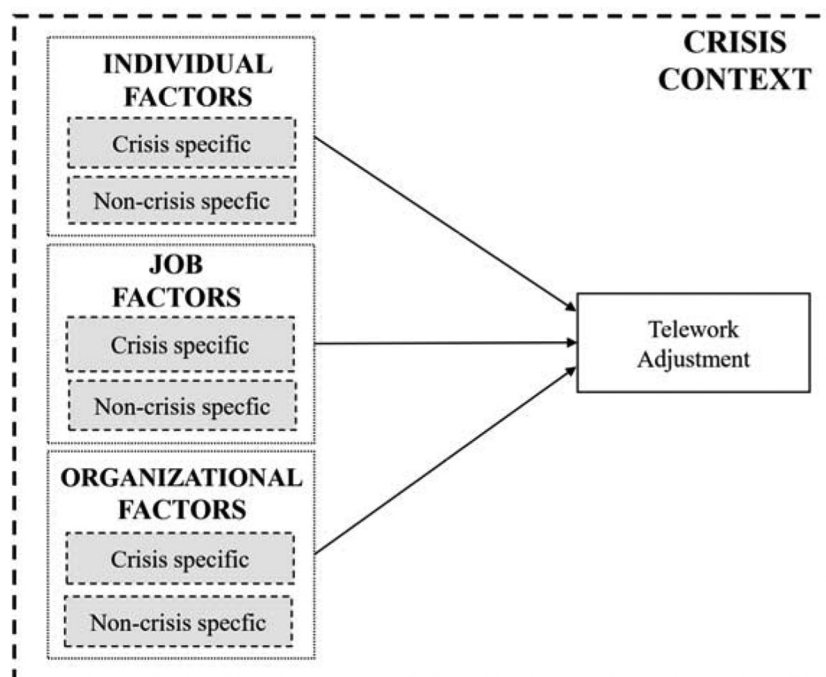

Figure 1. Crisis-induced telework adjustment – theoretical framework.

Table 2. Constructs and hypotheses.

Construct	Definition	Hypothesised Relationship	Rationale for the hypothesis
NON -CRISIS SPECIFIC FACTORS			
Individual			
IT complexity	The degree to which an individual believes that using telework ICTs is free of physical and mental effort (adapted from Moore & Benbasat, 1991, p. 197)	H_1 (+)	In a context free of epidemic crisis, it was shown that low-productivity workers perceived a higher telework ITC complexity than the high-productivity teleworkers (Neufeld & Fang, 2005). Remote work self-efficacy affects remote work performance, productivity, satisfaction, and commitment (Staples et al., 1999). Computer self-efficacy has a positive influence on specific computer performance (Marakas et al., 1998).
Job			
Work Autonomy	The extent to which a job allows the freedom, independence, and discretion to schedule work, make decisions, and select the methods used to perform tasks. (Adapted from Hackman and Oldham, 1975, cited by Morgeson et al., 2005, p. 399)	H_2 (+)	Telework was shown as essentially practiced by professions characterised by a considerable amount of job autonomy (Aguilera et al., 2016). However, implementing telework practices also resulted in greater job autonomy for the employees. Therefore, employees forced to adopt telework would develop greater perceived autonomy, which is a key feature of work adjustment (Gajendran & Harrison, 2007). Specifically, autonomy has been found to influence positively the teleworkers work-family balance and satisfaction (Allen et al., 2015; Golden et al., 2006).
Work Interdependence	The degree to which there exists instrumental relations between team members who must share materials, information, or expertise in order to achieve the desired performance. (Adapted from Cummings, 1978; Susman, 1976, as cited in Van der Vegt et al., 2001, p. 52)	H_3 (-)	In a context free of epidemic crisis, it was shown that the more the teleworker perceives that he/she has to rely constantly on his/her virtual colleagues (work interdependence) to achieve his/her own work, the less the adaptation to telework (Raghuram et al., 2001).
NON -CRISIS SPECIFIC FACTORS			
Individual			
Stress	The degree to which an employee finds his/her life unpredictable, uncontrollable, and overloading. (adapted from Cohen et al., 1983)	H_4 (-)	Stress has a negative an impact on different work outcomes such as fatigue, job satisfaction, task performance, or turnover intentions (DeTienne et al., 2012; Stamper & Johlke, 2003). Stress in the context of telework affects general attitudes related to work (Konradt et al., 2003).
Job			
Telework Environment	The degree to which an employee has favourable conditions to telework from home. This includes: the potential from being distracted, to be bothered by noise, the presence of good physical conditions, and the provision of adequate telework ICTs tools (adapted from Newman, 1977; Staples et al., 1999)	H_5 (+)	Employee perceptions of their work environment influence their performance (Newman, 1977; Kacmar et al., 2009). A good physical working environment positively influences employee performance. Distractions, noise, and interruptions will all likely hurt performance, as will inadequate physical conditions (e.g., inadequate furniture and space) (Gist & Mitchell, 1992). Positive physical working conditions are associated with higher levels of employee remote work self-efficacy (Staples et al., 1999).
Work Increase	The perception of change in employee work effort after the beginning of crisis-induced telework (adapted from Brockner et al., 1992; Cording et al., 2014)	H_6 (-)	Work volume or productivity has been identified as one of the motives for teleworking, due to the avoidance of office interruptions and/or the saving of commuting time. Productivity motives involve the desire to telework to increase efficiency and work performance (Allen et al., 2015), and so contribute to a better work adjustment.
Professional Isolation	The encompassing beliefs about the sufficiency of both professional and social contacts (adapted from Cooper and Kurland, 2002 as cited in Golden et al., 2008, p. 1413)	H_7 (-)	In a context free of epidemic crisis, it was shown that the extent to which an individual perceives that he/she is central to, visible in and involved with the organisational community (organisational connectedness), the more this individual adjusts to telework (Raghuram et al., 2001).
Organisational			
Organisational Support	The perceived facilitation provided by the organisation to make employees' adaptation to telework ICTs easier (adapted from Kim & Kankanhalli, 2009, p. 573)	H_8 (+)	Organisational Support has been identified as one of the success factors when implementing telework in order for employees to well adapt to this practice (Allen et al., 2015; Beauregard et al., 2019; Kowalski & Swanson, 2005).

thus important to get a "snapshot picture" of the telework adjustment situation following the mandatory need for employees to work from home. This justifies the choice for implementing a survey methodology.

Moreover, the situation of each country has been specific and unique in terms of the way the pandemic wave spread but also in terms of the response provided by the governments, organisations, and populations.

4.1. Epidemic-induced telework in the French context

After entering France in January 2020, the novel coronavirus covid-19 has been spreading fast, making France one of the most impacted countries with about 30,000 deaths as of June 2020 (Statista, 2020). By the end of March 2020, a quarter of French employees were more or less forced to telework, following the lockdown introduced by the government on Monday 16 March (France Ministry of Labour, 2020). The obligation to telework was announced by the President on March 16 leaving one day for more than 8 million employees to switch suddenly to teleworking full-time from their homes. Initially announced for 14 renewable days, the lockdown and the associated obligation to telework was finally extended until May 11, 8 weeks after its introduction. Despite the end of the lockdown and the gradual lifting of the bans on going out, gathering and travelling, the French Prime Minister insisted on April 28 that employers shall maintain telework "*wherever possible and at least within 3 weeks*" after the end of lockdown. As of September 2020, telework has remained a reality for a majority of employees despite the crisis being brought under some sort of control. Large firms including SNCF (the French national railway company), Safran, Orange, Capgemini or Veolia announced the continuation of teleworking until at least September 2020. According to a study by the National Institute of Statistics (Hallépée & Mauroux, 2019), only about 1.8 million French people were teleworking at least one day a week in 2019, i.e. about 3% of the working population. They were evenly distributed between men and women, similarly between the private and public sectors, but much more prevalent among skilled employees, with managers representing 61% of pre-crisis teleworkers (Hallépée & Mauroux, 2019).

4.2. Sample

We decided to focus on a single country that was severely affected by the pandemic, France, and whose government opted for imposing lockdown to its population as a means to slow down and counter the spread of the pandemic. This guaranteed the appropriateness of the chosen field as an instance of epidemic crisis-triggered telework situation. Our study answers the aforementioned calls for research by means of an online survey targeting all teleworkers in France, regardless of their industry, organisation, position, level of technical support, and level of IT ability. The measures that were selected were all measurement scales that had been robustly validated and used in the literature (see Table 4).

Telework environment was derived from the notion of perceived work environment (Newman, 1977) and telework environment (Staples et al., 1999). We opted for only retaining the dimensions of workspace and equipment from the perceived work environment construct, as we wanted to focus on the direct physical conditions of teleworkers. Other dimensions including supervisory style, employee work motivation, task characteristics, or co-worker relations were then excluded, as they were judged irrelevant. In order to capture additional aspects that particularly pertain to the crisis-induced telework environment, we decided to include other facets that are the possibility to get distracted when working as well as the one to be bothered by noise as introduced by Staples et al. (1999) when studying the influence of telework physical conditions on telework self-efficacy. By doing so, we thus conceptualised telework environment as a construct made of four aspects (the presence of favourable physical conditions, the extent which employee have adequate ICT tools, the possibility to get distracted when working, and the possibility to be bothered by noise). The construct was then operationalised as a formative construct since the aggregation of the items describe and define the construct (Petter et al., 2007). Finally, we also decided to add an open question in the end of the survey, asking respondents to express with words how they felt about the telework situation. The motivation behind such choice was to collect qualitative data that would enrich our quantitative results.

An online survey was designed and pretested with 20 individuals comprising IS and HR academics, PhD and master's students. The final survey was launched on April 1 2020 (exactly 2 weeks after the lockdown began) and lasted until May 10th, the day before its lifting. The choice for such time gap guaranteed that employees had had sufficient minimal experience with working from home prior to fully engaging with the telework requirements of their job. Indeed, informal interviews conducted at the very beginning of lockdown with individuals working for companies from different organisational types, sectors and industries, revealed that before adjusting to the covid-19 telework situation, it took some time for individuals to cope with their respective personal and family situations. At the same time, closing data collection on May 10th ensured that telework was compulsory for all during the time that the data was collected. Non-imposed telework might change respondents' perceptions regarding telework. In order to target a vast range of organisations, several data collection strategies were implemented. An invitation to participate was sent to all the alumni as well as to all the partner organisations of a large business school in France. Professors and employees of the school were also encouraged to post survey invitations in their respective personal and

Table 3. Sample demographics.

Dimension	Subgroup	Distribution
Gender	*Male*	610
	Female	955
Age	*18–25*	159
	26-35	409
	36–45	372
	46-55	461
	55+	173
Education	*Pre-university*	135
	University –	189
	Undergraduate degree – Bachelor's degree	1250
	University – Graduate – Master's degree and more	
Daily time spent with dependent individual(s) impinging on working time	*No dependent person*	796
	Less than 1 hour	177
	From 1 to 2 hours	234
	From 2 to 3 hours	158
	From 3 to 4 hours	81
	More than 4 hours	128
Other individual teleworking in housing	*Yes*	890
	No	684
Job Tenure	*Less than 2 years*	514
	Between 3 and 5 years	305
	Between 6 and 10 years	253
	More than ten years	502
Sector	*Public*	268
	Private	1306
Organisation size	*– 10 people*	116
	10 to 50 people	143
	50 to 200	207
	200 to 500	297
	+ 500 people	811
Total		*1574*

professional networks. Several human resource management associations were also contacted. In total, 1774 duly completed responses were collected. After having performed several checks on the dataset (including the detection of incomplete responses, short completion time, comparing early and late respondents …), the final dataset consisted of 1574 valid responses. Table 3 present important demographics that characterise our sample including age, gender, educational level, job tenure as well as sector, organisation size, daily time spent with dependent individual(s), or the presence of other individuals teleworking in the household.

4.3. Analysis

We ensured the quality of our results and the inferences made by paying close attention to the different validity types (Venkatesh et al., 2016). Convergent validity was established by satisfying the following criteria (MacKenzie et al., 2011): (1) composite reliability and Cronbach's alpha scores higher than.70 (see Table 4); (2) each item loading being significantly higher on its respective construct (see Appendix) and none of the items loading on their respective construct below the cut-off value of .502 (Hulland, 1999). This led to the deletion of three Professional Isolation items that did not satisfy the loading threshold constraints. Furthermore, telework environment was treated as

a formative construct since the aggregation of the items defined the latent variable. The item weights were substantial and significant (see Table 4) while the item VIF scores were all satisfactory (all below 2).

Discriminant validity was established with the Fornell-Larcker test (see Table 5), which ensured that for each construct, the square root of its AVE exceeded all correlations between that factor and any other construct (Fornell & Larcker, 1981; MacKenzie et al., 2011). To test our conceptual model, we opted for conducting a hierarchical regression comprised of four blocks of variables, with the first block including the non-crisis specific individual characteristic, IT complexity, along with the control variables: age, gender, education, and telework experience. The second model included a block comprised of non-crisis specific job-related variables: management position, work autonomy, work interdependence, and team size. In Model 3, we added a block consisting of the two non-crisis organisational-level variables that are organisational size and sector (control variables). Finally, Model 4 consisted of adding the covid-19 specific variables: stress, telework environment, work increase, crisis-related organisational support, and professional isolation (Miles & Shevlin, 2001). Telework duration was added as a control variable. Prior to running the statistical analyses, the high number of variables raised the issue of carefully examining the presence of multi-collinearity among the variables. We calculated the tolerance levels and the VIF scores of each of our constructs. The VIF scores were not greater than 2.5, with the majority being in the range of 1 (with a maximum score of 1.51). Furthermore, the tolerance levels were all consistently greater than .10 (with a minimum score of 0.66), suggesting that multi-collinearity was not an issue in our study.

Finally, we analysed the qualitative data that was collected (through the open question in the survey questionnaire) with the purpose of getting deeper insights into the main quantitative results. The findings of this qualitative research component are embedded into the discussion section where quotes are provided to illustrate the main points being discussed.

5. Results

The results are summarised in Tables 6 and 7. Model 1 (which included the non-crisis specific individual characteristic, IT complexity, along with the individual-level control variables) explained about 11% of the variance of adjustment with all independent variables being significantly related to adjustment (gender being the least strong and significant path). Model 2 explained in total 14% of the variance of the dependent variable (a modest increase of 3% compared to Model 1) with work interdependence and team size having significant negative relationships with

Table 4. Constructs, measures, reliability, and loadings.

Construct	Id	Item	Mean	Std	Loading
EPIDEMIC CRISIS SPECIFIC FACTORS					
Individual					
Stress	STRESS1	In the last week, how often have you ... Felt that you were unable to control the important things in your life?	2.51	1.09	0.80***
Cohen et al. (1994)	STRESS2	... Felt confident about your ability to handle your personal problems?	2.03	0.87	0.77***
α = 0.82	STRESS3	... Felt that things were going your way?	2.23	0.81	0.87***
CR = 0.88	STRESS4	... Felt difficulties were piling up so high that you could not overcome them?	1.92	0.96	0.78***
AVE = 0.65					
Job					
Telework adjustment	ADJUST1	All in all, I am satisfied with virtual work.	4.00	0.96	0.81***
Raghuram et al. (2001)	ADJUST2	Virtual work allows me to perform my job better than I ever could when I worked in the office.	3.02	1.15	0.87***
α = 0.86	ADJUST3	After the crisis, if I were given the choice to continue teleworking or to return to my usual workplace, I would prefer to continue teleworking.	3.00	1.28	0.81***
CR = 0.90	ADJUST4	Since I started working virtually, I have been able to balance my job and personal life.	3.40	1.25	0.67***
AVE = 0.64	ADJUST5	Since I started working virtually, my productivity has increased.	3.11	1.08	0.81***
Telework environment (formative)	WCOND1	It is easy to get distracted working at home	3.20	1.18	Weight = 0.52*** VIF = 1.28
Adapted from Staples et al. (1999)	WCOND2	I am bothered by the noise in my work at home.	3.77	1.19	Weight = 0.30*** VIF = 1.31
	WCOND3	I have good conditions to work from home.	3.70	1.20	Weight = 0.43*** VIF = 1.23
	WCOND4	I have satisfactory access to professional IT tools from home (professional software, messaging, shared files, video conference ...).	4.28	0.93	Weight = 0.21*** VIF = 1.19
Work increase	WINCR	Since I have been teleworking, I feel I have been working: (5 options)	3.31	0.98	
Telework duration	TELWD	Due to the situation of the covid-19 virus, how many weeks have you been teleworking?	3.79	2.20	
Professional isolation	ISOL1	I feel left out on activities and meetings that could enhance my career.	2.22	1.14	dropped
Golden et al. (2008)	ISOL2	I miss out on opportunities to be mentored.	2.24	1.14	dropped
α = 0.83	ISOL3	I feel out of the loop.	1.92	1.04	dropped
CR = 0.89	ISOL4	I miss face-to-face contact with co-workers.	3.85	1.13	0.85***
AVE = 0.66	ISOL5	I feel isolated.	2.45	1.21	0.76***
	ISOL6	I miss the emotional support of co-workers.	2.77	1.23	0.80***
	ISOL7	I miss informal interaction with others.	3.77	1.16	0.85***
Organisational					
Organisational support	ORGSUP1	The company provides me guidance on how to change to the new way of working with the teleworking tools.	3.51	1.24	0.80***
Kim and Kankanhalli (2009)	ORGSUP2	The management provides the necessary help and resources to enable me to change to the new way of working with the teleworking tools.	3.56	1.18	0.93***
α = 0.89	ORGSUP3	I am given the necessary support and assistance to change to the new way of working with the teleworking tools by the company.	3.52	1.17	0.94***
CR = 0.92					
AVE = 0.65					
NON-CRISIS SPECIFIC FACTORS					
Individual					
Age (control)	AGE	How old are you? *Please enter a whole number*	41.1	11.4	
Gender (control)	GENDER	What is your gender?	0.62	0.52	
Education (control)	EDUC	What is your level of education? (3 options)	2.71	0.62	
Telework experience (control)	TELEXP1	I had worked in telework for my employer before the current situation of the covid-19 virus. (5 options)	2.55	1.41	

(Continued)

Table 4. (Continued).

Construct	Id	Item	Mean	Std	Loading
IT Complexity	ITCOMP1	Learning to use information and communication technologies is easy for me	4.35	0.78	0.87***
Moore and Benbasat (1991)	ITCOMP2	Information and communication technologies are easy to use.	4.29	0.78	0.92***
	ITCOMP3	It is easy to get results that I desire from information and communication technologies.	4.16	0.83	0.90***
α = 0.88					
CR = 0.93					
AVE = 0.81					
Job					
Management position (control)	MANAG1	Are you currently a manager? (2 options)	0.52	0.50	
Team size (control)	TEAMS	What is the size of your work team? (4 options)	2.06	1.05	
Work autonomy	AUTON1	I have significant autonomy in determining how I do my job.	4.40	0.80	0.88***
Morgeson et al. (2005)	AUTON2	I can decide on my own how to go about doing my work	4.33	0.85	0.91***
	AUTON3	I have considerable opportunity for independence and freedom in how I do my job.	4.16	0.94	0.90***
α = 0.88					
CR = 0.93					
AVE = 0.81					
Work interdependence	WINDEP1	I have to obtain information and advice from my colleagues in order to complete my work.	3.59	1.09	0.75***
Van der Vegt et al. (2001)	WINDEP2	I depend on my colleagues for the completion of my work.	2.75	1.27	0.69***
	WINDEP3	I have a one-person job; I rarely have to check or work with others.	4.01	1.12	0.72***
α = 0.78	WINDEP4	I have to work closely with my colleagues to do my work properly.	3.71	1.11	0.83***
CR = 0.85	WINDEP5	In order to complete their work, my colleagues have to obtain information and advice from me.	3.47	1.17	0.64***
AVE = 0.53					
Organisational					
Organisational size (control)	ORGSIZE	What is the size of your company? (5 options)	3.98	1.29	
Sector (control)	SECT	You work in: The public sector/The private sector	0.83	0.38	

adjustment, and job autonomy having a moderate positive impact. Whether employees had a management position or not was not found to have any impact on adjustment, at that stage. Model 3 included all non-crisis specific variables (individual, job, and organisational-level variables). None of the organisational control variables had any significant relationship with adjustment. Finally, Model 4 contained all crisis specific and non-crisis specific factors. It explained an additional 31% of the variance of adjustment, making a final coefficient of determination of about 45%. Professional isolation and stress were found to have a strong and significant negative impact on adjustment, while telework environment had a strong positive one. The effect of telework duration was moderate while organisational support was not found to have any effect. Surprisingly and contrary to the hypothesised sign of the relationship, work increase was found to have a positive relationship with adjustment, suggesting that employees who perceived higher work increases in their daily job, adjusted better to the mandatory telework situation. Holding a management position was found to be moderately negatively related to adjustment, but significant. This result suggests that non-managers tended to adjust better to the telework situation.

6. Discussion

The results of this study demonstrate the superior explanatory power of the crisis specific variables over the non-crisis specific ones, in explaining the phenomenon of employee telework adjustment (the crisis specific factors were found to account for about 31% of the variance compared to about 14% for the non-crisis specific factors in Models 1, 2 and 3). The lack of contacts and informal relationships with colleagues, as well as feedback from the manager and the organisation at large, is one of the major obstacles to telework adjustment. (Feldman & Gainey, 1997; Golden et al., 2008). In the comment section of the survey, a participant indicated: *"What I miss are face-to-face contacts, working lunch, training sessions, coaching and skills assessment"*. Our research concur with such results as a strong negative and significant impact on employee adjustment was found. We suggest that the covid-19 context has exacerbated such negative relationship making professional isolation the most influential factor affecting telework adjustment.

The need for appropriate telework conditions so that employees could effectively work from home was found to be the second most important factor influencing employee adjustment. This includes "physical" conditions (having an adapted workplace at home, necessary IT tools …) as well as "mental" ones, i.e., to be able to concentrate without disruption (not being distracted, not being bothered by noise …).

Table 5. Fornell–Larcker criterion for discriminant validity.

Construct	1	2	3	4	5	6		
(1) IT Complexity	**.898**							
(1) Autonomy	.158	**.898**						
(1) Interdependence	.043	−.103	**.730**					
(1) Stress	−.187	−.197	.142	**.804**				
(1) Telework Env.	.197	.136	−.102	−.404	**.615**			
(1) Work Increase	.043	.044	.093	.000	.261	**1**		
(1) Isolation	−.060	−.090	.173	.305	−.311	.121	**.814**	
(1) Org. Support	.181	.106	.157	−.121	.211	.047	−.006	**.895**

Table 6. Hierarchical regression results.

	NON-CRISIS SPECIFIC			CRISIS-SPECIFIC
Constructs	MODEL 1	MODEL 2	MODEL 3	MODEL 4
Age	0.093***	0.094***	0.098***	−0.050
Gender	0.054*	0.038	0.039	0.032
Educational Level	-0.126***	-0.109***	-0.110***	−0,068***
IT Complexity	0.237***	0.228***	0.227***	0.085***
Telework Experience	0.205***	0.195***	0.193***	0.151***
Management position		−0.031	−0.031	−0.054**
Team Size		−0.081***	−0.081***	-0.067***
Autonomy		0.055*	0.055*	0.023
Work Interdependence		-0.119***	-0.119***	−0.052**
Org. Size			0.000	−0.007
Sector			0.016	0.000
Stress				−0.137***
Telework Environment				0.231***
Work Increase				0.183***
Telework Duration				0.045*
Professional Isolation				-0.331***
Organisational Support				-0.009
R2	0.107	0.136	0.136	0.446
Adjusted R2	0.104	0.131	0.130	0.440
ΔR2		0.029	0.000	0.310
F	37.51***	13.078***	0.209	145.361***

*p = 0.1 ** p = 0.05 *** p = 0,01

This result, in line with the literature (Beauregard

Table 7. Final results.

Independent Variable	Hypothesised Relationship	Conclusion
NON-CRISIS SPECIFIC		
IT Complexity	H1 (+)	Supported
Autonomy	H2 (+)	Partially Supported
Work Interdependence	H3 (-)	Supported
EPIDEMIC CRISIS SPECIFIC		
Stress	H4 (-)	Supported
Telework Environment	H5 (+)	Supported
Work Increase	H6 (-)	*Opposite Relationship*
Professional Isolation	H7 (-)	Supported
Organisational Support	H8 (+)	Not Supported

et al., 2019; Konradt et al., 2003; Staples et al., 1999), is somehow not surprising as the sudden and mandatory nature of lockdown often left employees who probably had not teleworked before, ill-equipped while the personal and work spheres collided (with children and other dependents staying home). In the comment section of the survey, a participant mentioned, *"my husband and I are in a telework situation with managerial responsibilities and our telework situation is greatly disturbed by the care of our two children under 3 years old at home. We therefore find it extremely difficult to reconcile the constraints linked to our professional life and those linked to children's expectations (meals, diapers to be changed, activities to be launched, etc.). This situation is exhausting, especially as the logistics of the house (meals, cleaning, storage, laundry) increases even more with the children at home continuously. All of this has the effect of significantly increasing our mental load, of forcing us to accept that we cannot remain focused on a task or a meeting due to the incessant demands of our children."* This quote also illustrates the greater difficulty of managers in dealing with the telework situation.

Remarkably, our results also demonstrated that the perception of an increased workload leads to greater satisfaction, productivity, and work quality (aspects captured by the adjustment construct). The fact that work increase is related to a better adjustment may seem surprising at first glance. It is however consistent with one of the original intentions for implementing telework in organisations, that is to offer more flexibility and reduce work-home commuting time and stress (Donnelly & Proctor-Thomson, 2015; Nilles, 1975). Following this logic, the time and effort being saved can be used to generate greater productivity and satisfaction, and thus overall adjustment. In the comment section of the survey, a participant said, *"Teleworking with a minimum of 2 hours less commuting per day between home and office is very pleasant. This takes away a lot of stress and wasted time.".* A rival explanation might be that an increased workload was interpreted as a signal that the company's business was not hampered by the epidemic crisis, thus leading to better adjustment all things else held constant. Finally, it is also possible that an increased workload was interpreted by the respondents as a measure of self-efficacy (I can achieve more for the same amount of effort) rather than as a fixed "given" imposed by the organisation.

Stress was found to be among the most influential crisis specific factors with a strong negative impact on adjustment. The health and occupational uncertainty that pertains to the epidemic crisis context is suspected to have been an important source of personal stress as well as the collision of the personal and work lives.

Whatever the sources of stress, this reveals the important negative influence of individuals' stress on the ability to adapt to a disruptive work context. It thus highlights the crucial importance to detect, control and manage employees stress when implementing new ways of working (Mann & Holdsworth, 2003; Norman et al., 1995), and more especially in times of crisis. *"We are in the middle of crisis management"*, said one participant in the comments section. Another said, *"This crisis with confinement does not give the right feeling of balance that we could have achieved, because of a lot of anxiety for our loved ones and our lives […] during this exceptional period."* A third one brought an interesting perspective that *"[y]ou can have a level of productivity that is normally higher in teleworking than in a usual office situation, but the context of covid can interfere because of personal concerns (parents at risk, symptoms that can cause concern). […]We find ourselves facing the unknown, the invisible but also facing the media that hammer us with the figures of death. And these doubts […] have an impact on productivity."*

Telework duration was found to be positively related to adjustment but to some lesser extent. This tends to indicate the evolutionary nature of the crisis-induced telework phenomenon, suggesting that employees tended to better and better adjust as time passed since the beginning of the crisis. This also calls for more research investigating the epidemic-induced telework phenomenon using longitudinal research designs as the adjustment mechanisms may change over time as a crisis unfolds. Considering the strong ability of teleworkers to adjust to crisis contexts and the increasing improvement of this adjustment over time, our findings provide encouraging results for the deployment of teleworking as a "true" way of working.

Surprisingly, despite the hypothesised rationale stating that crisis-related organisational support would counterbalance the feeling of professional isolation (Golden & Raghuram, 2010; Kim & Kankanhalli, 2009; Mann & Holdsworth, 2003), the support provided by organisations to help employees better deal with the work environment change was not found to have any impact on adjustment. This might suggest that organisations should differentiate the support provided to their employees during a crisis, considering that variables such as age, educational level, IT proficiency, management and work interdependence were found to be significantly related to adjustment. Additionally, support just focusing on how to better use telework tools (such as software and communication technologies) is probably necessary but employers cannot ignore other important aspects of working conditions (in particular, space, noise and work-family conflict).

Regarding the non-crisis specific factors, individual characteristics (including the control variables) were found to have the most significant impact, accounting for 11% of the variance of employee adjustment (Model 1). IT complexity, a notion close to IT self-efficacy (Compeau & Higgins, 1995) was found to be the most important predictor. One participant mentioned, *"I basically work only on a computer, so the tasks in telework are the same [as before the confinement]. […] We do the same thing, but from a distance."* This highlights the importance of employees' proficiency to use but also learn to use ICTs, to better prepare them to potential disruptive crises imposing lockdown measures. Confirming this statement, previous telework experience was found to be the second most important factor. This result clearly encourages organisations to ensure that all employees get familiar with telework practices in "normal times" as this would significantly prepare them to the sudden and mandatory adjustment to crisis-induced telework, while helping organisations ensure their business continuity. Gender was not found to be related to adjustment while age provided mixed results, suggesting the need for further research efforts. However, educational level was found to have a positive and significant influence on adjustment, suggesting that individuals with a higher educational level coped better with the telework situation.

In addition, non-crisis specific job characteristics had a moderate impact on employee adjustment, explaining about 3% of the variance. Team size is negatively linked to telework adjustment, which reveals that larger teams may limit the opportunities for coordination effort and intergroup communication (Van Dyne et al., 2007). Work interdependence was found to negatively influence telework adjustment, in line with previous research which found that the high levels of interdependence with other teleworkers' tasks leads to lower telework efficiency (Golden & Gajendran, 2019; Golden & Raghuram, 2010; Raghuram et al., 2001). Despite our assumption that managers may have bigger difficulties to adjust along with the one that greater job autonomy would result into easier adjustment (Donnelly & Proctor-Thomson, 2015; Lautsch et al., 2009; Pérez et al., 2002; Van Dyne et al., 2007), our results were somehow mixed, suggesting the need for a more thorough investigation. Finally, none of the non-crisis specific organisational factors (that is to say sector and organisational size) was found to be linked to employee adjustment. The absence of statistical evidence raises interesting insights regarding the limited difference between small and large organisations as well as between organisations from the public and private sectors. Nonetheless, such results remain preliminary and call for future research efforts.

6.1. Contributions to research

Our study provides significant contributions to the telework research stream. First, it conceptualises the notion of epidemic-induced telework and distinguishes it from more conventional telework practices across various dimensions. Very little research has so far investigated the particular case of telework deployment in crisis-related contexts (Belzunegui-Eraso & Erro-Garcés, 2020; Donnelly & Proctor-Thomson, 2015; Mello et al., 2011), and none in the context of an epidemic crisis (with no damage to physical or technological infrastructures). We confirmed the importance of key mechanisms in the success of telework practices that have previously been highlighted in the telework literature. This includes the presence of a favourable telework environment, a high level of IT proficiency, as well as the negative impacts of the feeling of professional isolation and high work interdependence. We also identified new factors influencing work adjustment such as overall stress or team size. Finally, the absence of statistical evidence regarding the influence of organisational-level variables such as company size, sector, or crisis-related telework support provided during the crisis, raises some interesting opportunities for future research and practice.

This study is an important opportunity to learn from the widespread use of telework due to the covid-19 crisis, a context with very unique specificities and which is seldom observable thus difficult to study. This research also revives the need and unanswered call for studying the adjustment phenomenon in IS research (Nelson, 1990). Indeed, the adjustment of individuals to changing work environments or practices remains a particularly relevant issue whether in crisis-related contexts or not, ICTs often playing a crucial role. The covid-19 events have sensitised both the academic and professional spheres about the ephemeral nature of our societies, calling every one of us to be better prepared when future epidemic-induced crises will suddenly hit. This research also contributes to the crisis management stream of IS research while highlighting the important role played by general stress when investigating crisis-related phenomena. In IS, the stress stream of research has focused on negative cognitions, such as information overload and interruptions engendered by the use of ICTs, a phenomenon usually called technostress (Tarafdar et al., 2019). Since teleworking involves changes in individuals' work routines and organisational processes through the use of ICTs, it would be interesting to study the interplay between technostress and general stress in crisis-related contexts. We encourage scholars to investigate further the effect on telework adaptation of both technostress, job-related stress, and personal stress simultaneously, to better understand the role played by each type of stress.

6.2. Limitations

This research has obvious limitations. By focusing on a single country, the applicability of the results to other countries and contexts should be considered with caution. We here highlight a number of contextual dimensions that can help identify the extent to which the results can be extended to other countries and contexts.

First, national telework exposure may play a role in explaining the covid-19 telework adjustment phenomenon, especially considering that this research demonstrates its positive impact, at the individual level, on telework adjustment. In 2019, about 5% of employed people in the European Union usually worked from home (Eurostat, 2020). This share represented about 7% for France, countries such as Netherlands and Finland had more than 14% of their work population regularly teleworking, while Bulgaria, Romania, Greece or Hungary had less than 3% (Eurostat, 2020). In the United States, 3.6% of the American employee workforce were currently working-at-home half-time or more in 2018, while 43% of employees used to work remotely with some frequency (Messenger, 2019). We can reasonably assume that our results somehow apply to countries with similar telework exposure profiles.

Second, national culture may also be an important contextual factor. For instance, cultural dimensions such as power distance and uncertainty avoidance (Hofstede, 2011) shall certainly have some influence on the validity of the results. Indeed, this research has shown the importance of notions such as organisational support and management position (which relate to some sort of power relations) while stress was found among the most influential factors. We can reasonably assume that a country with a high tolerance for uncertainty and ambiguity shall face and handle the stress induced by a pandemic crisis, differently. France has a rather high score of 68 on the power distance national index and a very high one of 86 on uncertainty avoidance[1] (Hofstede Insights, 2020). Consequently, the impact of organisational support and management position may be lessened (or even non-significant) in countries with a low power distance score. In a similar vein, pandemic-induced stress shall play a less predominant role in countries in which uncertainty avoidance is lower than France. The impact of national culture on crisis-induced telework adjustment is a worthwhile area of enquiry.

Third, France was among the first countries to be hit by covid-19 (including China, Spain and Italy for instance) with a number of cases quickly rising exponentially (reaching its peak in April 2020) while the country was rather unprepared in terms of hospital infrastructure and sanitary measure implementation, but also in terms of ensuring business continuity. The

lockdown measures happened very suddenly leaving organisations and employees particularly ill-prepared. Other countries were hit differently by the covid-19 pandemic. For instance, countries like the United States were hit later by the pandemic wave which could have given more time to organisations and employees to be somehow "better" prepared. Further research efforts shall investigate this issue. In other cases, depending on the spread and evolution of the virus, governments have decided to implement more targeted actions by identifying containment zones ranging from neighbourhoods, cities, to entire regions and states. In such situations, the telework requirements can differ from one organisation to another, but also in organisations having employees both within and outside the containment areas. This research was conducted when France was in a state of full lockdown following the initial spread of the covid-19 virus. More research is needed to better assess the impact of managing the pandemic through "shifting" containment zones, on telework practices.

In addition, the generalisability of our conclusions to other types of crisis has again to be taken with prudence since crises tend to all have their uniqueness and specificities with distinct health, social and economic implications. Moreover, crises such as epidemics differ from other types of crises, as organisations' physical and technological infrastructures are left untouched. The issue of ensuring business continuity through teleworking in the context of a natural disaster or war is only remotely related to the phenomenon investigated in this research. Furthermore, our conclusions suggest the evolutive nature of the notion of work adjustment. The survey design allowed gaining some cross-sectional and extensive understanding of the factors affecting how a work population can best adjust to a sudden telework shift during an epidemic crisis. Longitudinal research designs would help in providing complementary insights about how employee adjustment unfolds through time.

6.3. Contributions to practice and conclusion

From this research, we can derive a number of implications for practitioners for the immediate and post covid-19 contexts, but also but in the case of future epidemic crises. 85% of the HR directors questioned in a large-scale survey collaboratively carried out in June 2020 by the ANDRH (the main HR association in France, with more than 5000 corporate members) and the Boston Consulting Group (BCG) consider that the long-term development of teleworking practices shall be a top priority in their respective company (ANDRH & Boston Consulting Group, 2020). Keeping such claim in mind, we provide actionable insights to help organisations better deal with the current covid-19 telework scenario but also prepare for future epidemic-induced crises. Detailed recommendations are provided in Table 8.

This research opens up important considerations and avenues. Considering the high risk of future epidemics, practitioners shall dedicate efforts in developing business continuity plans that cover the special case of epidemic crises. For this purpose, they could design business continuity plans that cover the cases of epidemic and non-epidemic-related crises, and specifically consider the specificities and constraints of telework practices during such crises. Telework should be placed at the core of organisations' business continuity plans while careful consideration shall be dedicated to the management and mitigation of the negative effect of the key crisis-related specific factors on telework adjustment and performance. This research aims at being a stepping-stone towards the identification of such factors.

Overall, considering the predominant role that teleworking is about to play in the life and functioning of organisations, practitioners will need to reconsider the notion of organisational boundaries as well as the nature of work. The survey earlier mentioned reports that one fourth of the surveyed HR directors have taken advantage of the crisis to develop new ways of working (agile, lean . . .), while a vast majority of them (above 75%) are already working on sustaining such new practices (ANDRH & Boston Consulting Group, 2020). In order to reduce work interdependence and promote employees' autonomy, the definitions and repartition of tasks among employees but also between employees and managers, has to be challenged, necessitating a large-scale reflection on the scope of work, tasks, and responsibilities. The empowerment of telework practices also calls for a reconsideration of the notion of organisational boundaries while organisations need to reflect on the redefinition of their physical and virtual boundaries.

We sincerely hope this paper will help organisations better deal with the current situation and prepare them for dealing with potential future crises. As a number of political leaders such as the French Minister for the Economy (OECD, 2020b), practitioners and scholars said "*There will be a before and after covid-19*". Beyond the social, health and economic consequences of this major crisis, the boundaries of organisations as well as the nature of work are about to change. By providing a better understanding of how employees shall adjust to a major epidemic crisis, we hope this research will contribute to this debate.

Table 8. Recommendations for practice.

Recommendation		Immediate and crisis context	Preparing for a future epidemic crisis
NON-CRISIS SPECFIC	*Improving the IT proficiency of employees*	Identify employees with low IT proficiency and provide them daily/frequent IT training and help develop IT skills necessary to telework. Create IT support teams. *Example: associate each employee to an IT staff to provide daily assistance/ coaching. Pair each employee with low IT proficiency to one with high proficiency level (mentoring).*	Enhance virtual, collaborative and IT tools proficiency of all employees in normal context to smooth the transition in case of sudden telework. Design easy-to-handle documentation for all telework tools, without considering they are intuitive on their own. Create or extend IT communities of practice.
	Developing the telework skills of employees	Provide resources to make sure that employees are aware of the telework tools at their disposal and of how to use them. Provide guidance for day-to-day ways of working, of communicating, of self-organising and of collaborating with the teleworking team. Get the support from telework tools providers to provide training and direct assistance for employees. Otherwise, get external support from companies specialised in telework training or hire expert instructors.	Provide telework training to all employees and share best practices. Make telework a "normal" work practice performed by all volunteer employees in normal context on a regular basis. Make a telework experience a mandatory step for all when feasible.
EPIDEMIC CRISIS SPECIFIC	*Countering the feeling of professional isolation*	Use ICTs that help mitigate the feeling of professional isolation. *Examples: favour collaborative tools and practices relying on image and voice (e.g., visio-conference tools) rather than text-based (professional social network, chat-based technologies) or voice-only based ones.* Implement specific telework-enabled processes that help maintain employee interactions. *Example: daily meetings, regular social events though collaborative tools*	Implement ICTs that help enrich telework experience. *Example: investing in virtual reality devices, hologram technologies* Restructure jobs and tasks so that employees are always associated with a direct work team (avoid having employees being isolated in the company's organisational chart).
	Improving the telework conditions for employees	Ensure that employees have appropriate Telework Environment and IT equipment at home and identify those who not have. Fund the purchase or provide ergonomic equipment and satisfactory Internet access. Compensate for the costs of working from home. Identify employees whose home is not appropriate for telework in order to consider alternative work locations	Define a telework policy and rules regarding work at home equipment, professional IT tools access and costs compensation. Provide telework facilities close to employees' homes, in particular for employees with homes inadequate for telework. Identify strategic locations (where clusters of employees are present) and rent dedicated telework facilities.
	Managing employee stress	Involve HR professionals to help employees to deal with stress as well as to identify the sources of stress (health concern, family situation, work overload, worries about potential job loss …). Provide professional psychological support to employees who require help to live through the context. Be flexible on the organisation of everyone's working time.	Implement stress management training that include the specific case of epidemic and non-epidemic-related crises. Develop a stress management policy actionable in case of crisis context, including psychological support and management tools. Reconsider personal/professional boundaries and redefine the notion of working time.
	Adapting organisational support to employees	Adopt a holistic view of organisational support Differentiate internal support provided according to employee characteristics: management position, team size, autonomy, interdependence, IT proficiency, telework experience, educational level. Make managers aware of sudden telework difficulties for employees and ask them to provide direct support, with the help of internal or external professionals. Adapt internal crisis communication to the level of telework adjustment of employees.	Develop personalised support strategies actionable in case of crisis-induced telework, including help towards work-family conciliation. Reconsider the notions of organisational boundaries by adding virtual boundaries to physical ones, through the empowerment of telework practices. Adapt management practices to lessen micro-management and control, in favour of more objectives and results oriented management.
	Monitoring employees' adjustment to telework	Assess the level of adjustment of each employee and adapt organisational actions, management and internal communications to the adjustment level. Implement processes that help managers and the IT department monitor the degree of telework adjustment of employees. Ensure that such monitoring is not perceived as disguised cyber surveillance, which would increase personal stress and thus reduce adjustment.	Include the monitoring of employee adjustment in the business continuity plan. Regularly survey teleworkers in normal times to identify best practices and levers that enhance telework adjustment.

Note

1. Hostede Insights, https://www.hofstede-insights.com/

Disclosure statement

No potential conflict of interest was reported by the authors.

ORCID

Kevin Carillo 🔟 http://orcid.org/0000-0002-9714-1621
Gaëlle Cachat-Rosset 🔟 http://orcid.org/0000-0001-7050-1677
Josianne Marsan 🔟 http://orcid.org/0000-0002-3991-0269
Tania Saba 🔟 http://orcid.org/0000-0001-6861-8323
Alain Klarsfeld 🔟 http://orcid.org/0000-0002-4117-2904

References

Aguilera, A., Lethiais, V., Rallet, A., & Proulhac, L. (2016). *Home-based telework in France: Characteristics, barriers and perspectives* (pp. 1–10). Elsevier.

Allen, T. D., Golden, T. D., & Shocklye, K. M. (2015). How effective is telecommuting? Assessing the status of our scientific findings. *Psychological Science in the Public Interest*, *16*(2), 40–68. https://doi.org/10.1177/1529100615593273

Alreemy, Z., Chang, V., Walters, R., & Wills, G. (2016). Critical success factors (CSFs) for information technology governance (ITG). *International Journal of Information Management*, *36*(6), 907–916. https://doi.org/10.1016/j.ijinfomgt.2016.05.017

ANDRH, & Boston Consulting Group. (2020, June). *COVID: Le futur du travail vu par les DRH*. https://www.andrh.fr/actualites/1093/le-teletravail-post-covid-vu-par-les-drh-resultats-enquete-andrh-bcg

Aryee, S., & Stone, R. J. (1996). Work experiences, work adjustment and psychological well-being of expatriate employees in Hong Kong. *The International Journal of Human Resource Management*, *7*(1), 150–164. https://doi.org/10.1080/09585199600000122

Baker, P., Moon, N. W., & Ward, A. C. (2006). Virtual exclusion and telework: Barriers and opportunities of technocentric workplace accommodation policy. Work, 27(4), 421–430

Baruch, Y. (2000). Teleworking: Benefits and pitfalls as perceived by professionals and managers. *New Technology, Work and Employment*, *15*(1), 34–49. https://doi.org/10.1111/1468-005X.00063

Beauregard, T. A., Basile, K. A., & Canónico, E. (2019). Telework: Outcomes and facilitators for employees. In R. N. Landers (Ed.), *The Cambridge handbook of technology and employee behaviours* (pp. 511–543). Cambridge University Press.

Bélanger, F. (1999). Workers' propensity to telecommute: An empirical study. *Information and Management*, *35*(3), 139–153. https://doi.org/10.1016/S0378-7206(98)00091-3

Bélanger, F., & Allport, C. D. (2008). Collaborative technologies in knowledge telework: An exploratory study. *Information Systems Journal*, *18*(1), 101–121. https://doi.org/10.1111/j.1365-2575.2007.00252.x

Bélanger, F., Collins, R. W., & Cheney, P. H. (2001). Technology requirements and work group communication for telecommuters. *Information Systems Research*, *12*(2), 155–176. https://doi.org/10.1287/isre.12.2.155.9695

Belzunegui-Eraso, A., & Erro-Garcés, A. (2020). Teleworking in the context of the covid-19 crisis. *Sustainability*, *12*(9), 3662. https://doi.org/10.3390/su12093662

Berube Kowalski, K., & Swanson, J. A. (2005). Critical success factors in developing teleworking programs. *Benchmarking: An International Journal*, *12*(3), 236–249. https://doi.org/10.1108/14635770510600357

Brockner, J., Grover, S., Reed, T. F., & Dewitt, R. L. (1992). Layoffs, job insecurity, and survivors' work effort: Evidence of an inverted-U relationship. *Academy of Management journal*, *35*(2), 413–425. http://dx.doi.org/10.5465/256380

Chen, A., & Karahanna, E. (2018). Life interrupted: The effects of technology-mediated work interruptions on work and nonwork outcomes. *MIS Quarterly*, *42*(4), 1023–1042. DOI:10.25300/MISQ/2018/13631

Cohen, S., Kamarck, T., & Mermelstein, R.. (1983). A global measure of perceived stress *Journal of health and social behavior, 385-396.* http://dx.doi.org/10.2307/2136404

Cohen, S., Kamarck, T., & Mermelstein, R. (1994). Perceived stress scale. Measuring stress: a guide for health and social scientists. Oxford University Press, USA. doi:10.1097/PHM.0b013e318230fb68

Compeau, D. R., & Higgins, C. A. (1995). Computer self-efficacy: Development of a measure and initial test. *MIS Quarterly*, *19*(2), 189. https://doi.org/10.2307/249688

Cooper-Thomas, H., Anderson, N., & Cash, M. (2011). Investigating organizational socialization: A fresh look at newcomer adjustment strategies. *Personnel Review*, *41*(1), 41–55. https://doi.org/10.1108/00483481211189938

Cording, M., Harrison, J. S., Hoskisson, R. E., & Jonsen, K. (2014). Walking the talk: A multistakeholder exploration of organizational authenticity, employee productivity, and post-merger performance. *Academy of Management Perspectives*, *28*(1), 38–56. https://doi.org/10.5465/amp.2013.0002

Cummings, T. G. (1978). Self-regulating work groups: A socio-technical synthesis. *Academy of management Review*, 3(3), 625-634. http://dx.doi.org/10.5465/amr.1978.4305900

Davies, S. E., Stoermer, S., & Froese, F. J. (2019). When the going gets tough: The influence of expatriate resilience and perceived organizational inclusion climate on work adjustment and turnover intentions. *International Journal of Human Resource Management*, *30*(8), 1393–1417. https://doi.org/10.1080/09585192.2018.1528558

Dawis, R. V., England, G., & Lofquist, L. (2000). Work adjustment theory. *Encyclopedia of Psychology*, *8*, 268–269. http://dx.doi.org/10.1037/10523-114

Dawis, R. V., & Lofquist, L. H. (1978). A note on the dynamics of work adjustment. *Journal of Vocational Behaviours*, *12*(1), 76–79. https://doi.org/10.1016/0001-8791(78)90008-8

Dawis, R. V., & Lofquist, L. H. (1984). *A psychological theory of work adjustment: An individual-differences model and its applications*. University of Minnesota press.

DeTienne, K. B., Agle, B. R., Phillips, J. C., & Ingerson, M. C. (2012). The impact of moral stress compared to other stressors on employee fatigue, job satisfaction, and turnover: An empirical investigation. *Journal of Business Ethics*, *110*(3), 377–391. https://doi.org/10.1007/s10551-011-1197-y

Donnelly, N., & Proctor-Thomson, S. B. (2015). Disrupted work: Home-based teleworking (HbTW) in the aftermath of a natural disaster. *New Technology, Work and Employment*, *30*(1), 47–61. https://doi.org/10.1111/ntwe.12040

Eurostat. (2020). *How usual is it to work from home? Products Eurostat News*. https://ec.europa.eu/eurostat/web/products-eurostat-news/-/DDN-20200206-1

Feldman, D. C., & Gainey, T. W. (1997). Patterns of telecommuting and their consequences: Framing the research agenda. *Human Resource Management Review*, *7*(4), 369–388. http://dx.doi.org/10.1016/S1053–4822(97)90025–5

Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of Marketing Research*, *18*(1), 39–50. https://doi.org/10.1177/002224378101800104

France Ministry of Labour. (2020). *Conséquences de la crise sur le déroulement des formations des chômeurs. Direction de l'Animation de la Recherche, des Études et des Statistiques.* https://dares.travail-emploi.gouv.fr/IMG/pdf/dares_suivi_enquete_formations_mai2020.pdf

Fritz, M. B. W., Narasimhan, S., & Rhee, H. S. (1998). Communication and coordination in the virtual office. *Journal of Management Information Systems*, *14*(4), 7–28. https://doi.org/10.1080/07421222.1998.11518184

Frolick, M. N., Wilkes, R. B., & Urwiler, R. (1993). Telecommuting as a workplace alternative: An identification of significant factors in American firms' determination of work-at-home policies. *Journal of Strategic Information Systems*, *2*(3), 206–222. https://doi.org/10.1016/0963-8687(93)90028-9

Gajendran, R. S., & Harrison, D. A. (2007). The good, the bad, and the unknown about telecommuting: Meta-analysis of psychological mediators and individual consequences. *Journal of Applied Psychology*, *92*(6), 1524–1541. https://doi.org/10.1037/0021-9010.92.6.1524

Gallivan, M., & Shen, Y. (2005). Examining user technology interaction: Toward a sociotechnical theory for understanding user adjustment to mobile technologies. *AMCIS 2005 Proceedings*. Omaha, Nebraska, USA. 216. http://aisel.aisnet.org/amcis2005/216

Gist, M. E., & Mitchell, T. R. (1992). Self-Efficacy: A theoretical analysis of its determinants and malleability. *Academy of Management Review*, *17*(2), 183–211. https://doi.org/10.5465/amr.1992.4279530

Golden, T. D., & Gajendran, R. S. (2019). Unpacking the role of a telecommuter's job in their performance: Examining job complexity, problem solving, interdependence, and social support. *Journal of Business and Psychology*, *34*(1), 55–69. https://doi.org/10.1007/s10869-018-9530-4

Golden, T. D., & Raghuram, S. (2010). Teleworker knowledge sharing and the role of altered relational and technological interactions. *Journal of Organizational Behaviours*, *31*(8), 1061–1085. https://doi.org/10.1002/job.652

Golden, T. D., Veiga, J. F., & Dino, R. N. (2008). The impact of professional isolation on teleworker job performance and turnover intentions: Does time spent teleworking, interacting face-to-face, or having access to communication-enhancing technology matter? *Journal of Applied Psychology*, *93*(6), 1412–1421. https://doi.org/10.1037/a0012722

Golden, T. D., Veiga, J. F., & Simsek, Z. (2006). Telecommuting's differential impact on work–family conflict: Is there no place like home? *Journal of Applied Psychology*, *91*(6), 1340–1350. https://doi.org/10.1037/0021-9010.91.6.1340

Hackman, J. R., & Oldham, G. R. (1975). Development of the job diagnostic survey *Journal of Applied psychology*, *60*(2), 159. http://dx.doi.org/10.1037/h0076546

Hallépée, S., & Mauroux, A. (2019). Quels sont les salariés concernés par le télétravail? *Direction de l'Animation de la Recherche, des Études et des Statistiques*, *51*, 1–11. https://dares.travail-emploi.gouv.fr/IMG/pdf/dares_analyses_salaries_teletravail.pdf

Hofsede Insights (2010). Country comparison. https://www.hofstede-insights.com/country-comparison/france/

Hofstede, G. (2011). Dimensionalizing cultures: The Hofstede model in context. *Online Readings in Psychology and Culture*, *2*(1), 1–26. https://doi.org/10.9707/2307-0919.1014

Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: A review of four recent studies. *Strategic Management Journal*, *20*(2), 195–204. https://doi.org/10.1002/(SICI)1097%2D0266(199902)20:2<195::AID%2DSMJ13%3E3.0.CO;2%2D7

Igbaria, M. (1998). Special section: Managing virtual workplaces and teleworking with information technology. *Journal of Management Information Systems*, *14*(4), 5–8. https://doi.org/10.1080/07421222.1998.11518183

Kacmar, K. M., Collins, B. J., Harris, K. J., & Judge, T. A. (2009). Core self-evaluations and job performance: The role of the perceived work environment. *Journal of Applied Psychology*, *94*(6), 1572–1580. https://doi.org/10.1037/a0017498

Kim, H. W., & Kankanhalli, A. (2009). Investigating user resistance to information systems implementation: A status quo bias perspective. *MIS Quarterly*, *33*(3), 567–582. https://doi.org/10.2307/20650309

King, R. C., & Sethi, V. (1998). The impact of socialization on the role adjustment of information systems professionals. *Journal of management information systems*, *14*(4), 195–217. doi: http://dx.doi.org/10.1080/07421222.1998.11518191

Konradt, H., Hertel, G., & Schmook, R. (2003). Quality of management by objectives, task-related stressors, and non-task-related stressors as predictors of stress and job satisfaction among teleworkers. *European Journal of Work and Organizational Psychology*, *12*(1), 61–79. https://doi.org/10.1080/13594320344000020

Kowalski, K. B., & Swanson, J. A. (2005). Critical success factors in developing teleworking programs. *Benchmarking: An International Journal*, *12*(3), 236–249. https://doi.org/10.1108/14635770510600357

Lautsch, B. A., Kossek, E. E., & Eaton, S. C. (2009). Supervisory approaches and paradoxes in managing telecommuting implementation. *Human Relations*, *62*(6), 795–827. https://doi.org/10.1177/0018726709104543

Lindström, J., Moberg, A., & Rapp, B. (1997). On the classification of telework. *European Journal of Information Systems*, *6*(4), 243–255. https://doi.org/10.1057/palgrave.ejis.3000275

MacKenzie, S. B., Podsakoff, P. M., & Podsakoff, N. P. (2011). Construct measurement and validation procedures in MIS and behavioural research: Integrating new and existing techniques. *MIS Quarterly*, *35*(2), 1–5. https://doi.org/10.2307/23044045

Marakas, G. M., Yi, M. Y., & Johnson, R. D. (1998). The multilevel and multifaceted character of computer self-efficacy: Toward clarification of the construct and an integrative framework for research. *Information systems*

research, 9(2), 126-163. http://dx.doi.org/10.1287/isre.9.2.126

Mann, S., & Holdsworth, L. (2003). The psychological impact of teleworking: Stress, emotions and health. *New Technology, Work and Employment*, 18(3), 196–211. https://doi.org/10.1111/1468-005X.00121

Mayo, M., Pastor, J. C., Gomez-Mejia, L., & Cruz, C. (2009). Why some firms adopt telecommuting while others do not: A contingency perspective. *Human Resource Management*, 48(6), 917–939. https://doi.org/10.1002/hrm.20322

Mello, A. A., de Assis Goncalves, F., & Lima, F. (2011). Lessons learned from September 11th: Telework as an organizational resource to the business continuity planning (BCP). *Journal of Japan Telework Society*, 9(1), 46–51.

Messenger, J. C. (2017). Working anytime, anywhere: The evolution of telework and its effects on the world of work. *IUSLabor*, 3, 72. https://www.eurofound.europa.eu/publications/report/2017/working-anytime-anywhere-the-effects-on-the-world-of-work

Messenger, J. C. (2019). *Telework in the 21st century: An evolutionary perspective*. Edward Elgar Publishing.

Miles, J., & Shevlin, M. (2001). *Applying regression and correlation: A guide for students and researchers*. Sage Publications.

Moore, G. C., & Benbasat, I. (1991). Development of an instrument to measure the perceptions of adopting an information technology innovation. *Information Systems Research*, 2(3), 192–222. https://doi.org/10.1287/isre.2.3.192

Morgeson, F. P., Delaney-Klinger, K., & Hemingway, M. A. (2005). The importance of job autonomy, cognitive ability, and job-related skill for predicting role breadth and job performance. *Journal of Applied Psychology*, 90(2), 399. http://dx.doi.org/10.1037/0021–9010.90.2.399

Nelson, D. L. (1990). Individual adjustment to information-driven technologies: A critical review. *MIS Quarterly*, 14(1), 79. https://doi.org/10.2307/249311

Neufeld, D. J., & Fang, Y. (2005). Individual, social and situational determinants of telecommuter productivity. *Information & Management*, 42(7), 1037–1049. https://doi.org/10.1016/j.im.2004.12.001

Newman, J. E. (1977). Development of a measure of perceived work environment (PWE). *Academy of Management Journal*, 20(4), 520–534. http://dx.doi.org/10.5465/255354

Nicholson, N. (1984). A theory of work role transitions. *Administrative Science Quarterly*, 29(2), 172–191. https://doi.org/10.2307/2393172

Nilles, J. M. (1975). Telecommunications and organizational decentralization. *IEEE Transactions on Communications*, 23(10), 1142–1147. https://doi.org/10.1109/TCOM.1975.1092687

Nilles, J. M. (1998). *Managing telework: Strategies for managing the virtual workforce* (Vol. 6). Wiley.

Norman, P., Collins, Y., Conner, M., Martin, R., & Rance, J. (1995). Attributions, cognitions, and coping styles: Teleworkers reactions to work-related problems. *Journal of Applied Social Psychology*, 25(2), 117–128. https://doi.org/10.1111/j.1559-1816.1995.tb01587.x

OECD. (2020a). *Supporting people and companies to deal with the COVID-19 virus: Options for an immediate employment and social-policy response*. Organisation for Economic Co-Operation and Development. https://www.oecd.org/coronavirus/policy-responses/supporting-people-and-companies-to-deal-with-the-covid-19-virus-options-for-an-immediate-employment-and-social-policy-response-d33dffe6/

OECD. (2020b). *A systemic resilience approach to dealing with Covid-19 and future shocks*. Organisation for Economic Co-Operation and Development. http://www.oecd.org/coronavirus/policy-responses/a-systemic-resilience-approach-to-dealing-with-covid-19-and-future-shocks-36a5bdfb/

Offstein, E. H., Morwick, J. M., & Koskinen, L. (2010). Making telework work: Leading people and leveraging technology for competitive advantage. *Strategic HR Review*, 9(2), 32–37. https://doi.org/10.1108/14754391011022244

Pérez, M. P., Sanchez, A. M., & De Luis Carnicer, M. P. (2002). Benefits and barriers of telework: Perception differences of human resources managers according to company's operations strategy. *Technovation*, 22(12), 775–783. https://doi.org/10.1016/S0166-4972(01)00069-4

Petter, S., Straub, D. W., & Rai, A. (2007). Specifying formative constructs in information systems research. *MIS Quarterly*, 31(4), 623–656. https://doi.org/10.2307/25148814

Raghuram, S., Garud, R., Wiesenfeld, B., & Gupta, V. (2001). Factors contributing to virtual work adjustment. *Journal of Management*, 27(3), 383–405. http://dx.doi.org/10.1177/014920630102700309

Raghuram, S., Tuertscher, P., & Garud, R. (2010). Mapping the field of virtual work: A cocitation analysis. *Information Systems Research*, 21(4), 983–999. https://doi.org/10.1287/isre.1080.0227

Raghuram, S., Wiesenfeld, B., & Garud, R. (2003). Technology enabled work: The role of self-efficacy in determining telecommuter adjustment and structuring behaviours. *Journal of Vocational Behaviours*, 63(2), 180–198. https://doi.org/10.1016/S0001-8791(03)00040-X

Sandford, A. (2020). Confinement, Coronavirus: Half of humanity now on lockdown as 90 countries call for confinement. Euronews. https://www.euronews.com/2020/04/02/coronavirus-in-europe-spain-s-death-toll-hits-10-000-after-record-950-new-deaths-in-24-hou

Savage, M. (2002). Business continuity planning. *Work Study*, 51(5), 254–261. https://doi.org/10.1108/00438020210437277

Sergeeva, A., Huysman, M., Soekijad, M., & van den Hooff, B. (2017). Through the eyes of others: How onlookers shape the use of technology at work. *MIS Quarterly*, 41(4), 1153–1178. https://doi.org/10.25300/MISQ/2017/41.4.07

Shimoni, T., Ronen, S., & Roziner, I. (2005). Predicting expatriate adjustment: Israel as a host country. *International Journal of Cross-Cultural Management*, 5(3), 293–312. https://doi.org/10.1177/1470595805060812

Srivastava, S. C., Chandra, S., & Shirish, A. (2015). Technostress creators and job outcomes: Theorising the moderating influence of personality traits. *Information Systems Journal*, 25(4), 355–401. https://doi.org/10.1111/isj.12067

Stamper, C. L., & Johlke, M. C. (2003). The impact of perceived organizational support on the relationship between boundary spanner role stress and work outcomes. *Journal of Management*, 29(4), 569–588. https://doi.org/10.1016/S0149-2063(03)00025-4

Staples, D. S., Hulland, J. S., & Higgins, C. A. (1999). A self-efficacy theory explanation for the management of remote workers in virtual organizations. *Organization Science*, 10(6), 758–776. https://doi.org/10.1287/orsc.10.6.758

Statista. (2020). *Coronavirus (COVID-19) in France - statistics & facts*. https://www.statista.com/topics/6126/coronavirus-covid-19-in-france/

Suh, A., & Lee, J. (2017). Understanding teleworkers' technostress and its influence on job satisfaction. *Internet Research*, *27*(1), 140–159. https://doi.org/10.1108/IntR-06-2015-0181

Susman, G. I. (1976). Autonomy at work: A sociotechnical analysis of participative management. Praeger Publishers

Tarafdar, M., Cooper, C. L., & Stich, J. F. (2019). The technostress trifecta-techno eustress, techno distress and design: Theoretical directions and an agenda for research. *Information Systems Journal*, *29*(1), 6–42. https://doi.org/10.1111/isj.12169

United Nations (2020). *COVID-19 makes universal digital access and cooperation essential: UN Tech Agency*. UN NEWS. https://news.un.org/en/story/2020/05/1063272

Van der Vegt, G. S., Emans, B. J., & Van De Vliert, E. (2001). Patterns of interdependence in work teams: A two-level investigation of the relations with job and team satisfaction. *Personnel Psychology*, *54*(1), 51–69. https://doi.org/10.1111/j.1744-6570.2001.tb00085.x

Van Dyne, L., Kossek, E., & Lobel, S. (2007). Less need to be there: Cross-level effects of work practices that support work-life flexibility and enhance group processes and group-level OCB. *Human Relations*, *60*(8), 1123–1154. https://doi.org/10.1177/0018726707081657

Venkatesh, V. (2000). Determinants of perceived ease of use: Integrating control, intrinsic motivation, and emotion into the technology acceptance model. *Information System2s Research*, *11*(4), 342–365. https://doi.org/10.1287/isre.11.4.342.11872

Venkatesh, V., Brown, S. A., & Sullivan, Y. W. (2016). Guidelines for conducting mixed-methods research: An extension and illustration. *Journal of Association for Information Systems*, *17*(7), 435–495. https://doi.org/10.17705/1jais.00433

Weinert, C., Maier, C., & Laumer, S. (2015, 4-6 mars). Why are teleworkers stressed? An Empirical analysis of the causes of telework-enabled stress. In F. Teuteberg (resp.), *12th international conference on wirtschaftsinformatik*, Université de Bamberg, Allemagne. http://www.wi2015.uni-osnabrueck.de/Files/WI2015-D-14-00335.pdf

Wheatley, D. (2012). Good to be home? Time-use and satisfaction levels among home-based teleworkers. *New Technology, Work and Employment*, *27*(3), 224–241. https://doi.org/10.1111/j.1468-005X.2012.00289.x

Wilcox, B. A., & Gubler, D. J. (2005). Disease ecology and the global emergence of zoonotic pathogens. *Environmental Health and Preventive Medicine*, *10*(5), 263–272. https://doi.org/10.1007/BF02897701

World Health Organization. (2020). *Unleashing information technology to defeat COVID-19*. https://www.who.int/news-room/detail/20-04-2020-itu-who-joint-statement-unleashing-information-technology-to-defeat-covid-19

Appendix

Table A1. Item cross-loadings.

Item/Construct	Adjustment	IT Complex	Management	Team Size	Autonomy	Interdep.	Org. Size	Sector	Stress	Telework Environment	Work Increase	Telework Duration	Isolation	Org. Support
ITCOMP1	.15	**.87**	.03	.05	.11	.07	.00	.18	.16	.09	.02	.11	.04	.13
ITCOMP2	.19	**.92**	.02	.02	.14	.04	.02	.18	.15	.16	.03	.10	.04	.16
ITCOMP3	.23	**.90**	.04	.00	.17	.02	.02	.17	.19	.18	.06	.11	.08	.18
MANAG1	.03	.03	**1**	.07	.13	.19	.10	.02	.01	.04	.12	.01	.02	.03
TEAMS	.05	.02	.07	**1**	.07	.11	.27	.02	.05	.02	.08	.01	.03	.11
AUTON1	.11	.16	.13	.06	**.88**	.09	.10	.02	.19	.12	.05	.02	.07	.09
AUTON2	.14	.13	.15	.07	**.91**	.10	.11	.02	.16	.13	.02	.02	.10	.08
AUTON3	.14	.14	.09	.07	**.90**	.09	.12	.00	.18	.10	.05	.02	.07	.11
WINDEP1	.38	.01	.03	.04	.07	**.75**	.10	.07	.12	.13	.00	.04	.15	.11
WINDEP2	.33	.03	.10	.04	.04	**.69**	.08	.05	.11	.08	.01	.02	.12	.10
WINDEP3	.33	.04	.17	.12	.15	**.72**	.17	.06	.08	.06	.09	.09	.12	.11
WINDEP4	.22	.06	.16	.12	.08	**.83**	.14	.09	.13	.07	.12	.09	.15	.15
WINDEP5	.06	.06	.34	.08	.00	**.64**	.09	.10	.09	.04	.15	.09	.07	.08
ORGSIZE	.03	.00	.10	.27	.12	.16	**1**	.06	.01	.02	.08	.03	.05	.14
SECT	.13	.19	.02	.02	.01	.09	.06	**1**	.03	.06	.04	.16	.05	.14
STRESS1	.28	.14	.04	.06	.10	.13	.00	.04	**.80**	.29	.03	.03	.23	.08
STRESS2	.24	.12	.03	.04	.19	.06	.02	.00	**.77**	.32	.01	.02	.21	.08
STRESS3	.35	.18	.01	.02	.18	.12	.01	.00	**.87**	.38	.03	.01	.28	.13
STRESS4	.24	.16	.04	.04	.17	.15	.01	.06	**.78**	**.30**	.02	.03	.24	.09
WCOND1	.38	.02	.09	.04	.05	.08	.05	.00	.28	**.78**	.35	.00	.29	.09
WCOND2	.33	.09	.04	.02	.02	.08	.02	.03	.34	**.69**	.17	.02	.18	.10
WCOND3	.33	.14	.01	.01	.13	.11	.11	.02	.27	**.69**	.05	.03	.22	.11
WCOND4	.22	.34	.02	.02	.19	.01	.05	.17	.19	**.46**	.12	.08	.11	.32
WINCR	.31	.04	.12	.08	.04	.09	.08	.04	.00	.28	**1**	.03	.12	.05
TELWD	.06	.12	.01	.01	.02	.08	.03	.16	.03	.03	.03	**1**	.06	.12
ISOL4	.43	.01	.02	.04	.02	.18	.05	.07	.16	.21	.08	.08	**.85**	.08
ISOL5	.42	.11	.04	.02	.12	.07	.03	.00	.36	.36	.16	.04	**.76**	.11
ISOL6	.35	.09	.06	.02	.11	.14	.01	.03	.29	.23	.04	.01	**.80**	.01
ISOL7	.40	.01	.00	.03	.04	.17	.06	.06	.19	.24	.10	.07	**.85**	.01
ORGSUP1	.03	.10	.05	.14	.05	.17	.21	.09	.04	.13	.02	.08	.03	**.80**
ORGSUP2	.10	.19	.02	.09	.10	.13	.11	.14	.12	.20	.05	.12	.01	**.93**
ORGSUP3	.10	.17	.02	.10	.11	.15	.11	.13	.13	.18	.04	.11	.02	**.94**
ADJUST1	**.81**	.28	.02	.05	.22	.01	.00	.09	.36	.08	.25	.02	.41	.28
ADJUST2	**.87**	.16	.03	.06	.10	.06	.05	.14	.21	.09	.21	.05	.39	.16
ADJUST3	**.81**	.11	.04	.03	.07	.09	.00	.19	.20	.08	.16	.09	.52	.11
ADJUST4	**.67**	.13	.05	.04	.12	.06	.00	.16	.44	.06	.10	.03	.30	.13
ADJUST5	**.81**	.19	.01	.01	.08	.05	.05	.04	.23	.04	.17	.05	.34	.19