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The Effects of New Ways of Working on employee well-being at work: A multisector comparison in Switzerland

Renard Karine

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FACULTÉ DE DROIT, DES SCIENCES CRIMINELLES ET
D'ADMINISTRATION PUBLIQUE
INSTITUT DE HAUTES ÉTUDES EN ADMINISTRATION PUBLIQUE
(IDHEAP)

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A multisector comparison in Switzerland**

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de l'Université de Lausanne
pour l'obtention du grade de Docteur en administration publique

par Karine Renard

Directeur de thèse Professeur David Giaque, IDHEAP, Université de
Lausanne, Suisse

Membres du Jury

Prof. Dr Yves Emery, IDHEAP, Université de Lausanne, Suisse

Prof. Dr Emilie Vayre, Université de Lyon2, France

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Prof. Dr François Pichault	Expert externe
Prof. Dr Eric Davoine	Expert externe

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**The Effects of New Ways of Working on employee well-being at work: A
multisector comparison in Switzerland**

Lausanne, le 29 septembre 2023

Décanat de la Faculté de droit,
des sciences criminelles et
d'administration publique



Professeur Nils Soguel
Vice-doyen

**The Effects of New Ways of Working on employee well-being at work:
A multisector comparison in Switzerland**

Karine Renard

Social scientists of the most varying standpoints agree that human action can be rendered meaningful only by relating it to the contexts in which it takes place. The meaning and consequences of a behavior pattern will vary with the contexts in which it occurs. This is commonly recognized in the saying that there is a "time and a place for everything".

Gouldner 1955

Life is what happens while you are busy making other plans.

John Lennon

SUMMARY

There is currently a global focus on the well-being and health of employees in the workplace. In response to the sudden emergence of the COVID-19 pandemic in 2020, organisations have widely implemented mandatory teleworking.

In Switzerland, there are few studies on the determinants of well-being at work and on the new flexible working arrangements that are gradually being implemented in organisations. To understand the impact of workplace flexibility on employee well-being, two surveys were conducted at different times. The first quantitative survey collected data in a French-speaking public administration at cantonal level during the period of semi-closure in Switzerland in the spring of 2020. The study identified job resources for the well-being of civil servants. The results of a robust statistical analysis supported the importance of autonomy at work, support from colleagues and a supportive work-life balance environment as determinants of work engagement and work exhaustion in the context of compulsory telework. Through hierarchical regressions and structural equation modelling, the analyses confirmed the importance of mediation variables in the relationship between flexible work modalities and work-related well-being. Social support and a favourable work-life environment mediated the relationship between flexibility in terms of time and place and the capacity to reach one's colleagues and supervisors through ICTs, and workers well-being.

The second survey was conducted in the second half of the autumn-winter period in 2021-2022 and was distributed to several organisations in different sectors. The results show that employees in the private and hybrid sectors have a higher perceived availability of flexibility compared to employees in the public sector. Public sector employees reported lower levels of job satisfaction and work engagement and higher levels of work exhaustion than private sector employees. In summary, the different analyses of the two surveys show that flexibility of time and place, accessibility of colleagues and supervisors have a positive effect on the well-being of employees in different sectors. However, there are some differences between sectors. All NWW practices have a positive impact on the well-being of public sector employees, but they perceive the availability of these NWW to be lower than private and hybrid employees. Finally, the results of the two studies are interpreted in the light of current knowledge about New Ways of Working and the concept of hybrid work, the determinants of work-related well-being are highlighted and the limitations of the studies are outlined. Finally, avenues for future research are suggested.

FOREWORD

This document presents the work of a research project conducted over four years. Given that my dissertation is about well-being at work, I will begin with a few words about my well-being at work during this research project and some aspects of academic life that are often dismissed. This paper presents ideas, reflections, thoughts, but is missing important parts of my research process.

In this paper, I consider and define well-being at work with an integrative and multidimensional approach. I argue that when studying well-being in human resource management, one should consider the human being in all its dimensions. I will share some aspects of my research process that are part of dimensions other than the academic, intellectual process.

The COVID-19 pandemic stroke at the beginning of my PhD. It led to changes in some research aspects, but most of all it changed the way I worked on my thesis. I had months of compulsory teleworking. It led to isolation, and impact my physical health. Social events related to work were cancelled or held virtually. In 2021, I had the chance that a friend of mine, Eve, who was at the end of her PhD in archaeology, invited me to spend some time in a house in the mountains so that we could be together, support each other and write our thesis. I think it saved me and my research project.

At the end of 2021, I started looking into the possibility of going on an exchange to HEC-Montreal, in the "Pôle Santé", under the supervision of Professor Chênevert. My time in Montreal was a silver lining because the pandemic was over, social life was back to normal, I got to meet new people, be present in the office with colleagues, and had the time and space to focus on finishing my thesis. In May 2023, I defended my thesis and it was accepted. This final version is the result of taking into account all the comments made by the members of my jury and a consistent and important work of revisions, changes and additions.

What I'm trying to share with you here is the importance of my social relationships in the individual process of writing a thesis. It's also about the fact that, even though there are intellectual aspects to the process of reflection and the exchange of ideas, a thesis is also a major emotional, physical and psychological commitment.

I am proud of this process, of all that I have been able to achieve through this work.

I am also grateful to all the people who have accompanied me in this process, who are part of my personal and professional life. Without you I would not have been able to start, write and finish this.

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Je tiens tout d'abord à remercier mes deux co-directeurs, les Professeurs David Giauque et Yves Emery. Sans vous, je ne serais simplement pas là aujourd'hui : merci de m'avoir choisie pour cette thèse de doctorat. Vous êtes de ceux qui mettent en avant les expériences professionnelles hors du monde académique, et j'ose croire, au vu des recherches que nous menons et de nos sujets d'analyse, à l'avantage de cette perspective.

Vous m'avez tous les deux suivie, avec votre style et accompagnement propre à chacun, mais avec cette même philosophie que vous partagez : un cadre humain au travail. J'ai pu ainsi vivre les variables de climat de confiance et de relations humaines riches, qui prouvent être significatives tout au long de cette thèse, dans mon expérience même du doctorat. Vous avez également été subtils, dans vos positions de mentor : me laissant découvrir, explorer par moi-même, tout en me donnant le soutien nécessaire lorsque j'en avais besoin. Pour votre présence, votre écoute, et pour avoir fixé des objectifs réalistes à chaque pas et pour avoir partagé ces presque quatre années en période de crise, avec vous –hors et en confinement- merci du fond du cœur. Un remerciement tout spécial à David qui a particulièrement encouragé mon échange à Montréal, et m'a aidé dans mes demandes de Bourses et qui m'a fait confiance, à distance, durant la fin de cette thèse.

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J'en profite également pour remercier le Professeur Denis Chênevert, qui m'a accueilli au Pôle santé à HEC à l'automne 2022. Mon séjour en tant que visiting à HEC-Montréal a, je pense, révolutionné ma manière de penser, de voir, de vivre et de faire de la recherche. J'y ai côtoyé des collègues brillants, qui m'ont aidé à sortir de problèmes de recherche rapidement, là où seule cela m'aurait pris le mois entier. En plus d'échanges intellectuels et philosophiques riches, vous êtes devenu-es des amis chers, et j'espère vous revoir au plus vite. Dédicace pour : Anaïs Galy, Patrick Groulx, et Francis Maisonneuve. Je remercie également tout spécialement Julie Gauneau, qui a fait de ma dernière année de thèse un moment vraiment particulier grâce à ton soutien, nos discussions, et nos retrouvailles aux quatre coins du globe.

Parce que des études scientifiques le montrent et parce que c'est vrai, nous ne sommes pas des robots qui nous en allons travailler, le soutien de la sphère privée compte tout autant que le

soutien organisationnel au travail. Je remercie donc toutes mes amies, qui ont suivi de prêt mon processus de recherche, et qui m'ont donné leur soutien inconditionnel dans ce projet. Un remerciement particulier à Marine, qui a grandement participé à la relecture finale et à un travail sur le format de ce document ! Un autre énorme merci pour une relecture attentive, précieuse sur la langue anglaise à Elizabeth ! Je remercie spécialement Amélie, Caroline, Daphné, Cécile, Maudez, et Coralie pour votre présence dans ma vie et votre soutien durant tout ce processus de recherche.

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Et enfin, je remercie mes parents, ma mère pour m'avoir toujours soutenue dans les projets qui me tenaient à cœur, et qui ne m'a jamais donné de limites de ce qui était atteignable d'atteindre, et à mon père, qui m'a transmis sa passion, la discipline et le sens de l'engagement.

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A Dav,

Je te dédie cette thèse.

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Introduction

The digitalisation and flexibilisation that are increasingly affecting societies and organisations, together with the concern for individual well-being, are driving new efforts in the study of the changing nature of the working environment in the academic field. Building on the *Job-Demand and Resource Theory* (JD-R) and the *Socio-Economic Exchange Theory* (SET), this dissertation aims to contribute to the gaps in understanding the concept of New Ways of Working (NWW) practices and their impact on employees' well-being at work.

NWW refer to a set of flexible work practices, relatively to time, space, enabled by the *information and communications technological tools* (ICTs). The definition of 'NWW' used at the beginning of this dissertation was: “NWW gives employees the opportunity to choose when and where they work, using information and communication technologies (ICT) that make them available anywhere and at any time.” (Nijp et al., 2016; Van Steenbergen et al., 2017).

Their implementation appeared in a specific context of social, economic, technological and environmental changes, which caused a broader transformation of the world of work (de Leede, 2017). For example, the major shift from manufacturing economies to knowledge and service economies is having an enormous impact on the nature and context of work (Kemp, 2013; Langfred & Rockmann, 2016).

These 'new' work arrangements affect not only the structure of labour markets, but also the way in which work activities are performed and spatially organised (Aroles et al., 2019). These arrangements are also known as flexible working arrangements and work-life/family balance practices.

These flexible working arrangements can be implemented in different ways, depending on the organisational context. This research explores potential sectoral differences in perceptions of the accessibility of these practices and their impact on employee well-being in the public, hybrid and private sectors. Public organisations are those that provide public services in a State-related way in Switzerland (Ladner et al., 2019). Private organisations are profit-driven. ‘Hybrid organisations’ are a kind of grey area in-between. Following previous research on the subject,

the classification remains as follows: “Manufacturing and service organisations with a profit motive as private organisations, core government organisations as public organisations, and hybrid organisations with both private and public elements (such as semi-autonomous agencies and universities) as hybrid organisations.” (Blom et al., 2020, p.4).

Through questionnaires administered in these different organisational contexts, this research contributes to the investigation of similarities or differences. As the Swiss system is particular in terms of its legal system, political decentralisation and functioning, this research examines the third sector, namely the hybrid organisation, to try to understand, from a managerial point of view and in relation to NWW, how they operate in comparison to public and private organisations. In doing so, this dissertation contributes to the general and ongoing debate about whether public, hybrid and private organisations have similar or different characteristics, and whether these organisational characteristics influence the use of NWW or levels of work-related well-being.

In addition, the COVID-19 global pandemic at the beginning of 2020 brought about some big changes for all types of organisations, employers and employees. Suddenly, teleworking became compulsory, wherever possible, for private, public and non-profit organisations in Switzerland. Although the practice of teleworking has been studied by academics and practitioners since the 1970s, the intensification and acceleration of its implementation led researchers to question its conceptualisation and its impact on employee outcomes (Ajzen et al., 2015). In addition, technological developments such as mobile phones, the Internet and wireless connections has contributed greatly to changing the way in which professional activities were carried out. In particular, the use of ICTs has enabled the materialisation of a variety of different working modalities, which were increasingly diverging from the stereotypical '9 to 5' working day (Aroles et al., 2019). More specifically, the evolution of teleworking can be summarized in three main phases: the home office, the mobile office and the virtual office (Messenger & Gschwind, 2016). According to a report by the *McKinsey Global Institute*, the pandemic had triggered changes in the world of work and had abruptly accelerated the process of change. However, this sudden change has taken the workplace to unexpected places. One such trend is teleworking, which is now expected to be practised by 20-25% of workers in developed countries for three to five days a week - a proportion four to five times higher than before the pandemic (McKinsey & Company, 2023). In the academic

field, the concept of 'hybrid work' has emerged since 2022 to understand the new reality of how people live their work experience.

There are many consequences of the accelerated adoption of teleworking along with its extensive use of ICTs. Recent research shows that the consequences for employee well-being can be both positive and negative. On the one hand, working away from a fixed office can lead to a blurring of the boundaries between work and private life (Kossek, 2016), isolation from colleagues and superiors (Beauregard et al., 2019), reduced quality of communication and a diminished sense of belonging (Bailey & Kurland, 2002). On the other hand, these arrangements are also accompanied by greater autonomy for employees, a better work-life balance and less fatigue thanks to the absence of commuting (Lunde et al., 2022).

Finally, the literature on teleworking and digitalisation is not so recent, but studies on these flexible practices in different types of organisations are still in their infancy (Kotera & Correa Vione, 2020). Therefore, this research aims to fill this gap by investigating the presence and impact of these NWWs in private, public and hybrid organisations. Assuming that contextual and organisational factors support or prevent NWWs from having an impact on employee outcomes, and following Albrecht (2010), that argues for the inclusion of more organisational-level variables into the JD-R model, this thesis includes organisational-level variables. In order to analyse the differences and similarities between these different organisational contexts, this thesis will also focus on the specificities of public, private and hybrid organisations and how they influence the work contexts.

The general trend of change in the world of work has also affected the public sector. This has manifested itself, among other things, in the implementation of *New Public Management* (NPM). NPM places a strong emphasis on results and gives public managers more room for manoeuvre. As noted by Boukamel et al. (2021): “In fact, managerial and operational flexibility was one of the key ideas of the NPM movement, based on the reasoning that public managers are in a better position (compared to the political level) to know how to optimise their businesses. Consequently, the autonomy and room for manoeuvre granted to public sector managers may be positively related to the innovation-oriented behaviour of these managers.” (Boukamel et al., 2021, p.47).

According to some scholars, to Mergel et al. (2020), the public administration literature had neglected to analyse the changes induced by NPM. The aim of this study is therefore to fill such gaps in research that have not been covered by the existing literature to date. The academic investigation on antecedents of public servants' well-being is quite recent (Borst et al., 2019) and the application of the JD-R model in public settings display some specificities (Steijn & Giaque, 2021a). For example, empirical studies have highlighted job characteristics specific to the public and hybrid sectors that are likely to lead to potentially different effects on employee outcomes, such as bureaucracy or different motivations for working as a civil servant (Borst, 2018).

At the same time, stress, burnout and mental health problems are on the rise in organisations, raising the question of what the determinants of health and well-being at work are. As stated by Guest et al. (2017): "There is a strong ethical case for focusing on employee well-being" (Guest et al., 2017, p.22). The working environment was already facing numerous challenges before the COVID-19 outbreak. In Switzerland, 21% of the active population felt stressed at work in 2017 (Office fédéral de la statistique, 2019). More importantly, according to two Swiss insurance companies, PK Rück et Swica, absenteeism due to psychological distress has risen by 70% in Switzerland since 2012 (Radio television Suisse, 2020). Moreover, stress at work has been rising in Switzerland from 2016 to date (Travail Suisse, 2022). Issues such as burnout and work purpose are very well understood, and a large body of empirical research suggests an increase in work stress and burnout, describing the risks for individuals and the costs to organisations (Demerouti et al., 2001). The COVID-19 pandemic also had a significant impact on occupational health. For example, the *Swiss Corona Stress Study*, which analysed more than 10 000 participants, found that half of the people reported higher levels of stress and anxiety during the first lockdown in Switzerland. The study highlighted that one of the main causes identified was stress related to changes in job characteristics (Quervain et al., 2020). More recently, a survey conducted in 2022 found that the proportion of working people in Switzerland who feel emotionally exhausted had exceeded 30% for the first time since 2014 (Santé Psy, 2022).

Not only is low well-being at work bad enough in itself, but mental health issues and ill-health have a wide range of consequences, including turnover, interpersonal conflict and burnout (Danna & Griffin, 1999). For example, empirical evidence demonstrates that low well-being is associated with lower organisational commitment and performance (Peccei, 2004), and

increased job turnover intentions (Cantarelli et al., 2016; Spector, 1997). These consequences have significant costs for organisations. On the contrary, having employees with good mental health is part of a virtuous circle, as they tend to be more creative, flexible and altruistic (Biétry & Creusier, 2013).

This dissertation aims shed light and contribute to ongoing debates and issues facing organisations today. In this context, my research attempts to answer the following research question:

What are the effects of New Ways of Working (NWW) practices on employee well-being?

This research can be presented as an ongoing process. This synthesis attempts to share the development of thoughts, ideas, concepts and hypotheses during the period from late 2019 to early 2023. This period corresponds to different moments of restrictive measures due to the COVID-19 in Switzerland: two semi-lockdowns with compulsory telework at the national level, telework recommended by the Federal Council, and the post-pandemic period in Switzerland. This dissertation is therefore unique in that it analyses two different datasets, collected at different times, corresponding to different restrictive measures imposed on organisations in Switzerland due to COVID-19 (see Figure 1). Thus, this dissertation is anchored in a broader research project established by the *Swiss National Fund* (SNF) in 2019. The research started at the end of 2019 and aimed at answering the research question of how *New Ways of Working* (NWW) affect employees in public, private and non-profit organisations in Switzerland.

To describe flexible practices in the workplace such as teleworking as 'new' seems rather inappropriate after what has happened in the world since the COVID-19 outbreak in 2020. However, as this research began before the COVID-19 pandemic, the concept of 'NWW' will be used throughout this thesis. Finally, a reflection on this concept and the new terminologies for defining post-pandemic work environments is be presented. Nowadays, the general concept of 'hybrid work' seems to be more appropriate to define what happens in organisations after the COVID-19 pandemic in terms of the implementation of teleworking arrangements (Brunelle, 2013; Wontorczyk & Rożnowski, 2022). However, in order to develop a broader understanding of all the changes taking place in the work environment, and not just the

introduction of telework, I will conclude this dissertation with a reflection on the concept of ‘New Ways of Working’ and suggest avenues for further research in this area.

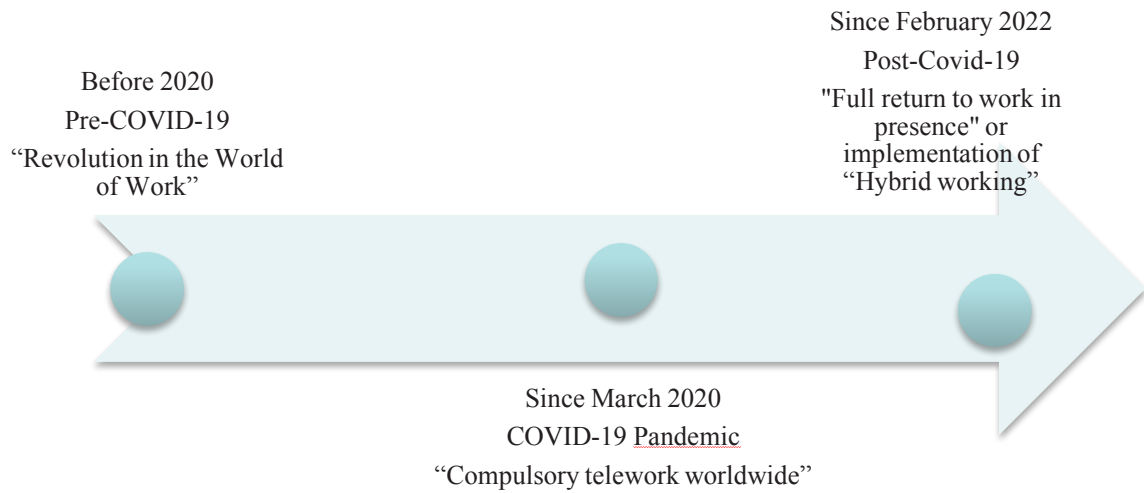


Figure 1 : Context of this research during the COVID-19 pandemic

Problematic and research question

This work is part of a larger research project funded by the Swiss National Science Foundation. The project was carried out prior to the COVID-19 pandemic. The first aim of the project is to assess the impact of NWW - as a set of practices - on employee well-being and performance in different organisational contexts. The objectives were to analyse the impact of NWW practices on HR outcomes, as isolated practices and as a bundle, and to integrate the full range of HR outcomes: both performance and well-being.

The chronology of this research is of paramount importance in understanding the decisions that were made, the questions that were addressed and the methodology that was used. This research was fully embedded and influenced by the COVID-19 pandemic.

This dissertation attempts to assess the impact of NWW practices on the well-being of employees in the public, hybrid and private sectors. It aims to better understand what effects, positive or negative, NWW practices might have on employee well-being and how this can be explained by contextual factors in the Swiss public, hybrid and private sectors.

As shown in Figure 2, the research design of this thesis starts from a theoretical approach inspired by the Job-Resource-Demand (JD-R) model, the Organisational Support Theory (OST) and the HR Attribution Theory. This research contributes to filling some knowledge gaps identified in the current literature on the impact of NWW on employee outcomes. Recently, there have been calls from researchers to stop investigating the bright or dark side of NWW (Nijp et al., 2016), and rather to develop an integrated approach to the potential of positive as well as negative effects of these practices.

Furthermore, on the assumption that contextual and organisational factors support or prevent NWW from having an impact on employee outcomes, and following Albrecht (2010) who argues for the inclusion of more organisational level variables in the JD-R model, this thesis includes organizational variables. In addition, this thesis is based on the perspective of studying stakeholders' perceptions of the possibility of using the NWW. Perception is the process of interpreting the messages of our senses to give order and meaning to the environment (Johns & Saks, 2017, p.84). This approach is used globally in this thesis, as it does not examine policies, but rather stakeholders' perceptions of the use of NWW. Specifically, 'HR attributions' are

included as a mediating variable. HR attributions refer to stakeholders' perceptions and interpretations of 'why these HR practices can be used'.

The main research question is therefore:

What are the effects of NWW practices on employees' well-being?

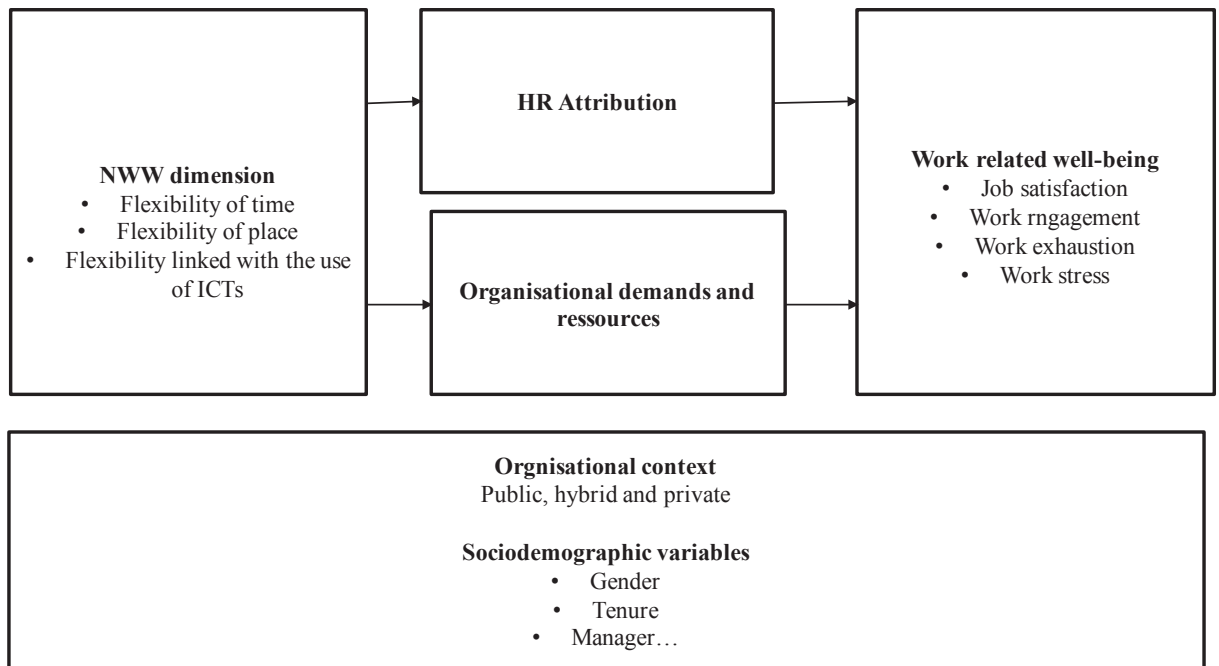


Figure 2: Research Design

In this thesis, the concept of work-related well-being is multidimensional. Following Warr (1990) and Grant (2007), the definition encompasses both positive and negative dimensions of work-related well-being. Including both aspects is of utmost importance as some data have shown potential trade-offs between different dimensions of work-related well-being (Grant et al. 2007). Considering studies that found different effects of HR practices on employees well-being and health (Voorde et al., 2012), this research considers the effects of NWW practices on both health and well-being dimensions (stress, exhaustion, job satisfaction and work engagement).

The design of this general research question is displayed in figure 2. The model controls also for sociodemographic variables and their potential effects on work related well-being.

The objectives of this thesis answer the following sub-questions:

1. Do NWW practices have the same effect on different dimensions of well-being (i.e. work engagement, satisfaction, work stress and exhaustion) or do trade-offs exist?
2. How do NWW practices affect employee well-being?

3. How do NWW practices affect employee well-being in the different organizational contexts (i.e. private, public and hybrid sectors)?
4. Do perceived organizational support and perceived favourable work-life environment, mediate the effects of NWW on employee well-being?
5. How do the attributions made by employees on the “why” these NWW practices were implemented influence their well-being? What are the links between perceived NWW practices and the attributions made of these practices in different sectors?

Contributions of this research

First, this research aims to deepen the knowledge of NWW practices and their effects on workers' well-being. Before the COVID-19 pandemic, the literature review showed that the empirical evidence on this issue was rather scarce and contradictory. Since the pandemic, a number of studies have attempted to examine the effects of these practices in different contexts. The effects of the COVID-19 pandemic are long-lasting, and workplace is only at the beginning of major changes. Some organisations have made it possible for their employees to work from home during lockdown. To give just one example, the University of Lausanne has made some changes to its schedule to allow teleworking for administrative staff, which was not the case before. Research is needed to accompany such important changes for employees, managers and organisations.

This thesis aims to contribute to our knowledge of the perceptions of non-standard working practices on employee well-being. In doing so, it attempts to respond to the demand from academics to study not only human resource management policies and practices, but also the perceptions of those who used these working arrangements.

Work-related well-being is considered, in this research, as multidimensional, encompassing physical, psychological health, and also satisfaction and work engagement. As multiple dimensions of work-related well-being are being investigated, such as physical and psychological aspects, potential trade-offs will be examined. A recent trend of empirical findings, investigating the effects of HR practices on employees' outcomes, show potential trade-offs between different dimensions of well-being (Grant et al., 2007). This research will deepen the knowledge of the potential different impacts of NWW practices on multiple dimensions of work-related well-being. Thus, this research answers the call of scholars to investigate multiple HR practices on employees well-being (Peccei, 2004).

This research examines contextual and structural factors that may influence employee well-being. The research design also compares the results between the public, hybrid and private sectors and controls the results by including socio-demographic variables.

This research aims to shed light on the mechanisms through which NWW practices affect employees' well-being by investigating potential mediation effects. As the empirical literature shows contradictory results, it seems important to investigate the mechanisms through which NWW practices affect employees' well-being at work. It will deepen the knowledge on whether perceived organisational support, HR attributions and favourable work-life environment mediate the relationships between NWW practices and employee well-being.

Work practices are often studied in the absence of other antecedents of work-related well-being and contextual factors, so this thesis attempts to take a broader and more complex perspective on this issue. In addition, this research examines organisational resources and perceived organisational support. Despite the knowledge that organizational resources prove to be an antecedent to employees' well-being (Bronkhorst et al., 2015; Cotton & Hart, 2003), this variable is not much explored as antecedents of workers well-being, even less studied in the case of the public administration literature (Steijn & Giauque, 2021a). Both the scientific field of psychology and human resource management provide the perspective for this research.

In terms of practical implications, this research will help to identify the most useful NWW practices and their contextual conditions to improve employee well-being. As the world of work is changing rapidly due to technological developments and the COVID-19 pandemic, this research is particularly relevant for organisations and practitioners. In a practical sense, this research seeks to identify job characteristics and organisational factors that will enable organisations to manage the implementation of NWW practices in different settings.

This dissertation is structured as follows. Chapter I presents the definition and literature review about work related well-being and NWW practices. Chapter 2 introduces the general theoretical framework and the research design. Chapter 3 presents the methodology and especially the four scientific articles, which are part of this thesis. Chapter 4 introduces additional empirical analysis concerning the data set of the 2nd survey. Finally, Chapter 5 discusses the results of the different papers and the additional empirical investigations. It presents the contributions, the limits of this research and concludes with an agenda for further research as well as practical recommendations for organisations and practitioners.

1. Chapter I Well-being at work

This first chapter provides an overview of the literature on well-being at work and New Ways of Working. The first section introduces the general concept of well-being, the different definitions of well-being at work and its antecedents. This allows us to provide our definition of well-being at work and to understand what is important when studying employee well-being. The second section introduces the concept of New Ways of Working, the different dimensions analysed in this research and the state of empirical evidence. The aim is to identify gaps in the literature and to identify further research's direction.

1.1. Conceptualizing well-being at work

The first section aims to provide the definition of well-being at work that will be used through the thesis. Well-being at work is often defined, measured and used according to different meanings depending on the studies. For example, studies might focus on the dimension of work engagement (Van Steenbergen et al., 2017), health (Nijp et al., 2016) or, for example, satisfaction (van der Voordt, 2003). How shall we define well-being at work and which dimensions should be taken into account? To get some clarity on the matter, this chapter provides a review of the literature on this concept, in order to suggest a definition of the concept for this research.

I begin with the general psychological literature on the meaning of well-being. I then focus on work-related well-being, as this is the main focus of this research. A non-extensive review of the literature provides an overview of the different dimensions that have been studied in two different fields of research: human resource management and psychology. This will help us to define the dimensions that will be used in this research.

1.1.1. General well-being: hedonic and eudaimonic well-being

It seems rather difficult to talk about work-related well-being without mentioning the general concept of well-being. This chapter introduces philosophical ideas and thoughts on the general concept of well-being in life. In fact, well-being as a whole is a much more complex phenomenon than simple satisfaction or the absence of negative feelings.

World Health Organization (WHO) defines well-being as 'a state of complete physical, mental and social well-being, not merely absence of disease or infirmity' (WHO, 1946). This definition

shows that well-being at work is no longer defined solely as the absence of illness, but has become a concept encompassing different dimensions.

What is well-being? What does it mean to be well, to be happy? These questions may sound trivial, since we hear them almost every day. Despite these common notions, philosophers since ancient Greece have tried to assess the meaning of well-being. In the academic literature, the concept seemed complex and controversial. Moreover, different academic fields such as psychology, management, sociology and others have tried to address the issue surrounding the definition of well-being. To begin this review, I will briefly present the main debates surrounding the definition of this concept in the fields of philosophy and psychology.

The thinking behind the concept of well-being has long been historically divided into two different approaches, namely the hedonic and the eudaimonic views of well-being. These two perspectives represent different views and are based on different philosophical traditions. In order to understand the differences in meaning, it is necessary to go back to the philosophers of ancient Greece, as well as to different perspectives in psychology. One can go back to ancient Greece to find the origins of these two traditions. Aristippus, a Greek philosopher from the fourth century before Christ assimilated happiness and pleasure were worth to look for and therefore he defined the hedonic view of well-being. In the same vein, Hobbes and De Sade believed that the pursuit of pleasure was the ultimate goal of life (Ryan & Deci, 2001, p.143). This hedonic perspective views well-being as a pleasant feeling and evaluations. Guest (2017) defines the hedonic perspective as positive emotions related to one's life. On the other side, the eudaimonism view « conveying the belief that well-being consists of fulfilling or realizing one's daimon or true nature. » (Ryan & Deci, 2001, p.143). Ryff and Singer (2008) came back to the origin of the definition of the greek term "eudaimonia" used by Aristotle, in Nicomachean Ethics. In order to clarify its meaning, which is the focus on self-expression and living a meaningful life. The *eudaimonic perspective* views well-being as engaging in behaviour that is self-actualizing, meaningful, and growth producing (Fisher, 2014; Waterman, 1993). This view comes from Aristotle that considered happiness as a vulgar goal: "Instead, he posited, that true happiness is found in the expression of virtue—that is, in doing what is worth doing » (Ryan & Deci, 2001, p.144). In summary and states simply, hedonic well-being refers to pleasure and happiness in life, whereas the eudaimonic perspective is more concerned with the meaning of one's life.

Subjective well-being

This division between the two perspectives has led to different terminology and conceptualisations of well-being. The hedonic approach to well-being has long been the dominant one and has led to a rich literature on the subject. Studies that focus on subjective well-being fall under the hedonic perspective. Different research fields have taken an interest in this concept, such as quality of life researchers, social and cognitive psychologists, positive psychologists, etc. (Diener et al., 2003; Ryan & Deci, 2001; Warr, 1990).

The dominant concept is the one of subjective well-being (SWB). Diener (1984) has proposed the term subjective well-being to refer to the general concept of well-being in life.

In his article, he points out three dimensions of the concept: its subjectivity, the inclusion of a positive measure, and it includes all aspects of a person's life. The definition can be summarized as: 'a person's cognitive and affective evaluations of his or her life' (Diener et al., 2003, p.403). More precisely, subjective well-being (SBW) "consists of three components: life satisfaction, the presence of positive mood, and the absence of negative mood, together often summarized as happiness" (Ryan & Deci, 2001, p.144). It refers to the evaluation of people's emotional reactions to events, their moods and how they feel about their life, the satisfaction with different domains of their life, such as marriage or leisure for example (Diener et al., 2003). It refers to the idea of having a preponderance of positive feelings and relatively few or rare negative feelings (Fisher, 2010). Therefore, this view is represented by life satisfaction, happiness and pleasure and in psychology is long studied in the current field of positive psychology (Kahneman et al., 1999) and the operationalization of such concepts are indicators of positive affect, negative affect, and life satisfaction (Dagenais-Desmarais & Savoie, 2012).

Happiness

The positive psychology literature has a subjective view of happiness (Diener 1984). Layous and Lyubomirsky (2014) states that the use of the term 'happiness' can be defined as 'the experience of joy, contentment, or positive well-being, combined with a sense that life is good, meaningful, and worthwhile' and 'well-being' interchangeably." (Layous & Lyubomirsky, 2014, p.32) It does not seem that there is a clear cut between subjective well-being and the notion of happiness in the literature. Indeed, Layous and Lyubomirsky (2014) use the two concepts interchangeably.

Quality of life

Some authors use quality of life and well-being interchangeably. Although, it seems really important to distinguish the two notions. Quality of life is rather broader concept that encompass well-being. As stated by Lent (2004), the concept of quality of life is rooted in a multiplicity of disciplines such as sociology, medicine and psychology. Lent (2004) qualifies quality of life as “may be seen as a conceptual umbrella encompassing a wide array of constructs and measures that reflect some aspect of physical, social, or emotional functioning (Lent, 2004, p.483). In this view, well-being is considered as one among many indicators of life quality. Other measures that are included into the concept of life quality are, for example social support and physical health.

The most vibrant critic of this conception of hedonic well-being is that it is not theoretically founded.

Eudaimonic well-being

On the other hand, the eudaimonic approach to well-being has been studied more recently, at the end of the 1980s. In 2008, Ryff and Singer published an article entitled "Know yourself and become what you are: A eudaimonic approach to psychological well-being", which clearly aims to strengthen the conceptual foundations of eudaimonic well-being. Ryff (1989, 1995) and her colleagues (Ryff & Singer, 2008) stated that there exists a lack of definition of essential features of psychological well-being in the literature and that measures that were used, at that time, in empirical studies, were not based on a strong theoretical foundation on the concept of well-being. Therefore, leading a review of the literature, Ryff (1989) attempts to provide an alternative formulation of psychological well-being. She defined six dimensions of psychological well-being: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth (Ryff, n.d.). Ryff (1989) has developed scales for measuring these factors. The concepts that are measured in such approach are the ones of optimal functioning, meaning, and self-actualization (Ryff & Singer, 2008), but the most frequent operationalization for this approach is Ryff's model. Criticisms of this view are that it is a Western culture-centric approach. Moreover, it imposes a view on what well-being should be.

The debate of the hedonic approach versus the eudaimonic definition of well-being has not been solved yet (Cvenkel, 2020b; Ruiller, 2008; Ryan & Deci, 2001). However, more recently, different authors have argued the importance to conceive well-being as a multidimensional

phenomenon that includes both aspects of the hedonic and eudaimonic conceptions (Ryan & Deci, 2001, p.148). To that end, Diener et al. (1998) argue that neither the hedonic nor the eudaimonic approach is sufficient in itself to explain well-being of employees. Indeed, each view sheds a different light on the construct (Dagenais-Desmarais & Savoie, 2012). In line with these authors, this research considers the feeling of being satisfied with one's work, the potential result of bad psychological and physical health due to work conditions and the levels of which an individual is engaged and passionate by his work. Each of these aspects are different from each other, and when considering how the world of work is rapidly changing, one should take into account each of these dimensions in order to have a better comprehension of what is happening for employees' well-being.

Following Ryan and Deci (2001) and Fisher (2014), the philosophical line of this thesis does not attempt to separate or choose between the two perspectives, hedonic or eudaimonic, of well-being but rather to use a definition that encompass both views. Looking at the French-speaking academic literature, authors also began to consider the integrative view of well-being (Abord de Chatillon & Richard, 2015; Biétry & Creusier, 2013).

In doing so, it embraces the view that well-being is a multi-dimensional phenomenon and allows us to examine the different effects of flexible practices and job characteristics on these different facets. By embracing this complexity, this research aims to analyse which work practices have an impact on which dimension of well-being. The philosophical perspective here is to consider human being as a whole. Human beings need purpose and need pleasure. In doing so, it aims to identify for practitioners and organisations which aspects of work can be improved in order to promote the well-being of their employees.

1.1.2. Well-being at work

After defining the general contours of the general concept of well-being, I will present a brief context of the study of well-being at work in the academic literature and then an overview of the conceptualisation of well-being at work. There is a divergence of opinion among scholars as to whether well-being at work is a completely separate concept from general well-being, or whether there is a strong link between the two. The most studied relationship between well-being and work has been that between subjective well-being (SWB) and job satisfaction, and even in this area, studies have found only a modest to moderate relationship between SWB and job satisfaction (Weziak-Bialowolska et al., 2020). For example, according to Diener (1994), there exists a strong link between well-being in life and well-being at work, and for other

researchers, the concept of work well being should be treated as a distinct phenomenon (Dagenais-Desmarais & Savoie, 2012; Massé et al., 1998).

I follow the arguments of Dagenais-Desmarais & Savoie (2012) to argue that these two concepts should be treated separately, for different reasons. First, work is a particular and important domain of somebody's life, with specific issues at stakes. It is the domain in which humans gains a salary that allow them to survive. Second, it is very important part of everybody's time that is allocated to work, as workers spend approximately one-third of their time at work (Simone, 2014). Third, working in an organization means to be in a close-up and complete system of values, relationships, functions, and codes. In this regards, work is a very specific domain of one's life and shall be looked at specifically (Dagenais-Desmarais & Savoie, 2012). Finally, empirical investigations show the importance to distinguish these two concepts (Dagenais-Desmarais & Savoie, 2012; Massé et al., 1998).

As general well-being has gained attention from scholars since a very long time, work related well-being is quite a new and recent phenomenon that researchers are just beginning to dig into. In the academic field, the study of working from a psychological perspective began around the turn of the 20th century (Blustein, 2008). According to the historic analysis of Blustein (2008), prior to the industrial revolution, not much attention was given to well-being of workers. The first strand in the field of psychology to give attention to well-being of workers was called industrial psychology. They tend to explore how organisations functioned and maximized their human resources. The addition of the "organizational" component occurred toward the mid-20th century (Blustein, 2008, p.230). Currently, considerable attention is being given to positive psychology (Seligman & Csikszentmihalyi 2000). In the field of organizational studies, the interest on well-being derive mostly from motivation theories (Simone, 2014). Fundamental studies of motivation, as for example, the ones of Maslow or Herzberg, have over time created major bases that could be helpful to understand the organizational well-being and its functioning. (Simone, 2014). Because of the evolution in the world of work, individuals are not merely just task executors, but should be considered as human resources.

The importance of well-being at work has been growing since the twenty century. Employers and governments have started to assess its social and financial implications (Cvenkel, 2020a, p.68). In the academic field, the gain in interest for well-being at work started in the 1990s' (Danna & Griffin, 1999; Warr, 1990).

The last decades have seen the rapid growth of occupational health psychology. This field of research has focused on the impact of individual and contextual factors in the physical and psychological health of working people. Recent research in the field of positive psychology have identified the critical role that satisfying work plays in psychological well-being across various domains of human functioning (Blustein, 2008). Studies that fall within this field emphasize the role of traits, positive affective states, behaviors, and virtues that predispose individuals to experience well-being at work (Hirschle & Gondim, 2020). In parallel, a theoretical model to predict burnout at work, have seen light at the beginning of the 21st century (Demerouti et al., 2001) : the Job-Demand resource model. This model predicts a health-impairment process that leads to burnout and a motivational process that leads to work engagement.

Quite a strand in the literature attempts to study employee well-being (Appelbaum et al., 2000; Godard, 2001; Guest, 2017; Peccei et al., 2013; Voorde et al., 2012). In summary, the dominant approaches to HRM have focused on performance in the past decades to the neglect of the effects of HRM on employee well-being. However, this tendency is being reversed in these last twenty years. Organisations aim to achieve higher performance, but also attempt to provide a more satisfying working environment for their employees (Cvenkel, 2020a, p.64). Moreover, empirical academic research showed the costs of work-related stress for employers due to absenteeism, presentism and the loss of productivity (Pignata et al., 2016).

Symmetrically to this trend, the growing stream of the Human resource management literature focuses on the ‘best practice’ of HRM (Cvenkel, 2020a). Part of this literature are researches about ‘high-performance work systems’ (Appelbaum et al., 2000; Godard, 2001) or named differently as ‘high commitment’ (Guest, 2011) or ‘high involvement’ practices (Voorde et al., 2012). Inside this field of research, critical voices have started to show that these systems could only benefit the organisations and be detrimental for workers (Jensen et al., 2013). Although, recently, there has been a call from researchers to go beyond this division between good and bad HRM practices and support the idea to include in empirical research both employees’ outcomes variables and organizational and performance outcomes. More importantly, Jensen and Voorde (2006) made a call to explore the potential effects of HPWS on employees’ health. This points out the importance, when studying the effects of HRM practices to consider both

well-being dimensions and health variables because there might be a trade-off between these dimensions.

To summarise this historical review, a few elements should be highlighted. First, there has historically been a tension between the productivity of workers and their well-being in the field of management. This tension has given rise to different strands of academic research: for example, the human relations movement following Taylor's principles and, more recently, the employee-focused literature in the human resource literature. In the academic field of psychology, researchers have been trying to address the issue of well-being at work since around the turn of the 20th century, which is much older than the focus of the human resource literature. As a result, different areas of psychology have taken an interest in the issue. Recently, two strands of research in psychology have attracted increasing attention from academics and practitioners. The first is positive psychology, which is interested not only in preventing illness or psychological distress, but also in finding ways to improve employees' well-being at work. The other is the Job-Demand-Resource (JD-R) model, which aims to predict work engagement and burnout and has been empirically tested extensively in different contexts. In the same vein, the human resource management literature has begun to assess the costs of employee stress and absenteeism at work, and thus studies are beginning to address the question of the antecedents of well-being at work. Finally, the types of problems faced by workers have evolved. Since the industrial revolution, they have gone from potential physical injuries to a more complex and psychological phenomenon, such as the problem of burnout. As noted by (Litchfield et al., 2016, p.2) “There continue to be hazards in the modern workplace but they relate more often to the way that work is organised rather than specific agents and the consequential harm is more psychological than physical.”

This research is using the general JD-R framework to capture the antecedents of work related well-being, as well as sociodemographic variables, NWW dimensions, and organizational characteristics.

1.1.3. Conceptualizing well-being at work

This section presents the different schools of thoughts on the matter of well-being at work. I will compare and discuss them in order to suggest a specific conceptualization of well-being at work for this research.

Work-related well-being has been studied through the lenses of different disciplines such as psychology and organizational behavior, anthropology and sociology, management and more

specifically Human Resource Management (HRM), among others. I will focus this review on the management and psychology literature and present, at the end, a definition of well-being at work.

The multidimensional and complex view of the well-being concept is widely accepted in the field of psychology (Veldhoven, 2005, p.402). However, researchers in Human research management and work-related well-being have long only study happiness (Green 2006). Proponents of well-being at work state that it is a complex concept with multiple dimensions (Baptiste 2009; Diener et al. 2003; Grant et al. 2007; Ryan and Deci 2001; Ryff 1995). However, there is not a consensus about which dimensions should be taken into account. Defining well-being at work presents one of a number of challenges. For example, there exist two thesis, anchored in the field of psychology, that focused on defining and conceptualizing this concept (Dagenais-Desmarais & Savoie, 2012). The following section briefly presents the different conceptualizations of the concepts, their similarities and differences and the debates in this field in the psychology literature, but also in organizational studies. The idea is to get a transversal view on the topic of well-being at work. This thesis aims to investigate the effects of New Ways of Working on employees' well-being, through the lenses of the Job-Demand Resource theory. Therefore, this research stands at the crossroads of two fields of research: psychology and human resource management. It seems rather important to understand what scholars of both disciplines have said about this concept. The objective of this literature review is to understand what scholars mean by work well-being and to define it, but most importantly it is to understand what dimensions are important to take into account when operationalizing this concept.

The Psychology Literature

Table 1 is taken from the thesis of Abaidi (2015) and presents the different definitions and dimensions that were considered when defining well-being at work. This review was taken from a thesis anchored in psychology literature. As I will not just repeat what is in that thesis, I prefer to show you this recap and note the similarities and differences among these different perspectives.

Auteurs	Libellé	Dimensions
(Dagenais-Desmarais, 2010)	Bien-être psychologique au travail	Adéquation interpersonnelle au travail Épanouissement dans le travail Sentiment de compétence au travail Reconnaissance au travail Volonté d'engagement au travail
(Cotton & Hart, 2003)	Bien-être au travail	Moral Détresse Satisfaction au travail
(Daniels, 2000)	Bien-être affectif au travail	Anxiété <-> Confort Dépression <-> Plaisir Ennui <-> Enthousiasme Fatigue <-> Vigueur Colère <-> Placidité
Biétry & Creusier (2013)	Bien-être au travail	Relations avec les collègues Management Temps Environnement physique de travail
Danna & Griffin (1999)	Bien-être au travail	Symptômes médicaux physiques et psychologiques Expériences de vie générales Expériences reliées au travail
Robert (2007)	Bien-être du salarié au travail	Organisation Management dans l'entreprise
Robert (2007)	Bien-être de la personne au travail	Aspects environnementaux
Warr (1990)	Bien-être au travail	Déplaisir <-> Plaisir Anxiété <-> contentement Dépression <-> Enthousiasme

Table 1 : Definitions of well-being at work (original from Abaidi (2015, p.68) (original in French)

Table 1 shows the different labels of work-related well-being in the literature, but also the different dimensions linked to this notion. For example, the first model which attempts to give a definition of well-being at work was developed by Warr in 1990. This author, reconciling the hedonic and eudaimonic perspective of well-being, defines the concept as the overall quality of an employee's experience and functioning at work (Warr, 1987). The model of Warr (2002) proposes three dimensions of work-related well-being: pleasure-displeasure, anxiety-comfort and enthusiasm-depression. The first dimension refers to a person's level of job satisfaction. On the anxiety-comfort dimension, feelings of anxiety are a result of low pleasure and high mental arousal, whereas comfort is a result of low arousal and pleasure. On the enthusiasm-depression dimension, depression indicates low pleasure and low mental arousal, whereas enthusiasm indicates high pleasure and high mental arousal. Warr (2002) also mentioned the

possibility of a fourth dimension, namely fatigue-vigour. Following Warr (1990), Daniels suggested a model that contains 10 dimensions of work well being : anxiety–comfort, depression–pleasure, bored–enthusiastic, tiredness–vigour and angry–placid (Daniels, 2000). The similarity of Daniels’ definition with the one of Warr is that they examine negative *and* positive components of well-being. Their conceptualization holds for work related well-being and for well-being in life in general.

More recently, Cotton and Hart (2003) suggests a definition of well-being at work that is derived from occupational stress studies and the organisational health framework. They defined the different components of occupational well-being: distress, moral and job satisfaction. Drawing on a considerable body of empirical evidence in the quality-of-life literature that describes the structure of subjective well-being (Diener, 2000; Heady & Wearing, 1992), Hart and Cooper (2003) argue that occupational well-being includes both emotional and cognitive components. Here again, the dimensions contain both positive and negative component.

Similarly, Danna and Griffin (1999) include also both positive and negative dimensions of work-related well-being. Although, these authors are distinct from all the others as they include health as a sub-component of well-being.

Finally, other authors, mostly based in France, add the dimension of interpersonal relationships at work and neglects negative component in the dimension of well-being (Biétry & Creusier, 2013; Dagenais-Desmarais & Savoie, 2012). Specifically, Biétry and Creusier (2013) advocate for a positive psychology perspective on this concept.

The main critics behind all these terminologies are the following. First, all authors address different dimensions in a theoretical perspective, which has an incident on empirical research as well (Dagenais-Desmarais & Savoie, 2012). Second, these models are not especially theoretically funded. Finally, there is a slight consensus about the fact that both positive and negative affects should be taken into account when conceptualizing well-being at work. In order to complement this side of the psychology literature, the following part presents what has been found in the Human Resource Management literature.

Management and HRM literature

The hedonic dominance with job satisfaction measures

The literature has mainly focused on job satisfaction since the 1920s and it is the most common dimension in all of organizational behaviour (Cvenkel, 2020b; Fisher, 2014; Rothmann, 2008). In a literature review that included publications from 2000–2018 and covered psychology, sociology, economics, and management sciences, the authors Joanna Wyrwa and Jerzy Kaźmierczyk traced back the origins and definitions of the concept. They point out that the first scholar that has defined the concept goes back to 1935 and defined it as “any combination of psychological and environmental conditions resulting in the fact that a person could say with true conviction that he or she is satisfied with his or her job” (Hoppock, 1935, p.44). They underline that the most frequently cited definition of job satisfaction, however, is that of Locke: it represents “A pleasurable emotional state resulting from the perception of one’s work as fulfilling or enabling the fulfillment of significant values available at work, provided that these values are convergent with one’s needs.” (Locke, 1976, p.1319).

In the line of the hedonic approach on well-being, job satisfaction is defined in terms of employees' subjective judgments about their work situations (Locke, 1976; Weiss, 2002). There are two distinct sub-concepts. The global level of satisfaction with one’s work which is measured by job satisfaction and specific facet of job satisfactions such as supervisor and pay, for examples (Fisher, 2014) . Therefore, researchers have been good at measuring it, and many validated measures of both overall job satisfaction and facet satisfactions (e.g., supervisor, pay, work itself) are being available (Fisher, 2014). The main critic behind this measure of work well-being is that it considered only one component, namely satisfaction as a proxy for well-being. It is not theoretically founded and it seems that it has been useful and easy to operationalize.

Danna and Griffin (1999): Well-being and health at work

Danna and Griffin, researchers in the field of management have published “Health and Well-Being in the Workplace: A Review and Synthesis of the Literature”, and used a conceptual framework to define well-being:

“Well-being is viewed as comprising the various life/non-work satisfactions enjoyed by individuals (i.e., satisfaction and/or dissatisfaction with social life, family life, recreation, spirituality, and so forth), work/job-related satisfactions (i.e., satisfaction and/or dissatisfaction with pay, promotion opportunities, the job itself, co-workers, and so forth), and

general health. Health, in turn, is seen as being a sub-component of well-being and comprises the combination of such mental/psychological indicators as affect, frustration, and anxiety and such physical/physiological indicators as blood pressure, heart condition, and general physical health.” (Danna & Griffin, 1999, p.359)

Therefore, according to this definition, eudaimonic component is not mentioned at all. Although, they add the component of health in the definition, with the following meaning: “The term “health” generally appears to encompass both physiological and psychological symptomology within a more medical context (e.g., reported symptomology or diagnosis of illness or disease); therefore, we suggest the term *health* as applied to organizational settings be used when specific physiological or psychological indicators or indexes are of interest and concern.” (Danna & Griffin, 1999, p.364). Thus, they point out that organizational researchers tend to use self-assessment to measure health and well-being (Danna & Griffin, 1999).

Grant (2007) - Importance of well-being trade-offs

Following the research of the work psychologist Warr (1987), the most important current trend in the HRM literature is based on the definition of Grant (2007): ‘However, we define well-being more broadly as the overall quality of an employee's experience and functioning at work’ (Warr, 1987). (Grant et al., 2007, p.52). According to Grant (2007), the different disciplines of healthcare, philosophy, psychology and sociology agree on three core components of work well-being, namely : psychological, physical, and social (Grant et al., 2007). More specifically, “The psychological approach defines well-being in terms of subjective experience and functioning, the physical approach defines well-being in terms of bodily health and functioning, and the social approach defines well-being in terms of relational experience and functioning.” (Grant et al., 2007, p.53)

According to him, psychological well-being can be divided into two perspectives: hedonic and eudaimonic components. For him, the psychological dimension refers to the satisfaction and sense of fulfilment with one's work. The physical dimension relates to the health and safety of employees at work. This can refer to work-related injuries or illnesses, but also to work as a source of stress. Finally, the social dimension focuses on interpersonal relationships and teamwork.

Fisher (2014) - Integrating hedonic, eudaimonic and social well-being

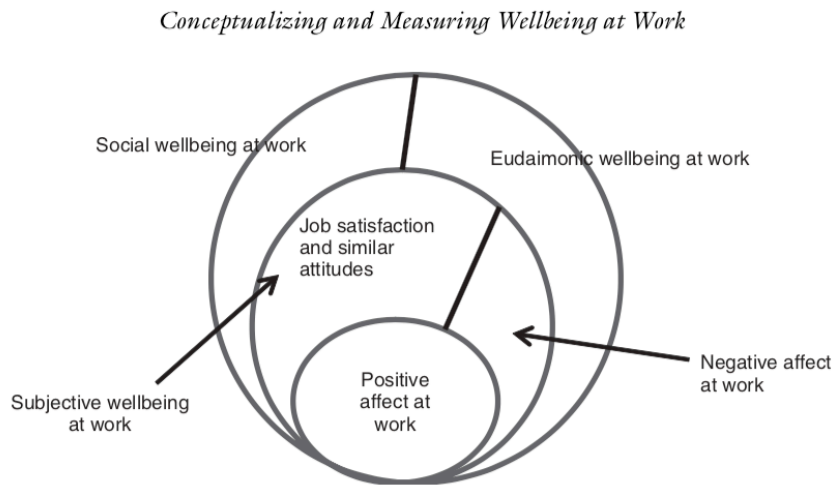


Figure 2.2. Components of Overall Wellbeing at Work.

Figure 3 : Conceptualizing well-being at work (original from (Fisher, 2014, p.7))

More recently, scholars have begun to call for an integrative view of well-being at work - using a definition that includes both eudaimonic and hedonic components. For example, Fisher (2014), approaching this concept with an organizational view, defined three major components of overall well-being at work: subjective well-being, eudaimonic and social well-being (Figure 3). Subjective well-being at work refers to measures such as job satisfaction, affect or organizational commitment. For eudaimonic well-being at work, Fisher (2014) brings under this umbrella the various operationalisations such as: work engagement, thriving, flow and intrinsic motivation, among others. Recently, a focus has been made to study work engagement (Bakker & Demerouti, 2014). For example, the most widely used definition and conceptualisation of work engagement comes from Schaufeli and Bakker (2004), who state that it refers to three components: vigour, dedication and absorption. With regard to social well-being, Fisher (2014) emphasises that research on this topic is still in its infancy. He cites social support as an example of this dimension of well-being.

In the same line, Biétry and Creusier (2013) argue for the need to develop a combined and integrated view of the concept of well-being in HRM studies. Furthermore, authors in the field of HRM argue that HR practices may have contradictory effects on different dimensions of well-being (Peccei, 2004).

The next section introduces the notion of trade-offs and sum up some empirical evidence.

Empirical Studies: Trade-off between dimensions

A recent stream of research has begun to explore the potential trade-offs between different dimensions of well-being (Cvenkel, 2020b; Grant et al., 2007; Voorde et al., 2012). For example, it has recently been shown that while a particular aspect of well-being, such as work engagement, may be improved, the same employee may also experience more stress. For example, in a literature review, Grant (2007) illustrates well-being trade-offs by reviewing evidence on different management practices such as work design, incentive compensation, team building and safety practices. The evidence on the impact of work design practices on workers' well-being shows that such practices tend to increase job satisfaction, but also have a negative impact on workers' physical well-being. (e.g. on their fatigue, strain) (Grant et al., 2007, p.54).

Furthermore, when examining the simultaneous effects of HRM on employee performance and well-being, empirical evidence shows that HRM may be associated with higher performance and job satisfaction, but health-related well-being such as stress is less clear. (Guest, 2017; Peccei et al., 2013; Voorde et al., 2012). For example, in an empirical investigation, Jensen et al (2013) found that the use of high performance systems, combined with low levels of job control, tended to result in employees experiencing higher levels of anxiety, role overload, and more turnover intentions.

In this line of research, the review by De Voorde et al. (2012) focuses on the impact of human resource management practices and their effects on three dimensions of well-being, namely: happiness (measured by job satisfaction and organisational commitment), health-related type of well-being, which distinguishes between stressors (e.g. work intensification) and strains (e.g. burnout), and social well-being, which refers more to interactions and the quality of relationships between employees or between employees and their supervisors. After reviewing 36 quantitative studies published between 1995 and May 2010, they found that, through the lenses of the mutual gains and conflicting outcomes perspectives, employee well-being in terms of happiness and relationships is congruent with organisational performance (mutual gains perspective), but that health-related outcomes are involved as a conflicting outcome perspective. For example, their review points out that empirical studies have found a negative effect of human resource management and the health dimension of well-being (Voorde et al., 2012). Moreover, (Veldhoven, 2005) in a review of quantitative studies assessing the impact of HR practices on employee well-being, found that few studies included a health-related component in the dimensions of well-being. The authors strongly recommend that the potential

negative effects of HRM on employee health should also be investigated. In the same vein, Cañibano (2013), using qualitative data from interviews with managers, found that three innovative HR practices - teleworking, communication and participation - had different effects on different dimensions of well-being. These results argue for a potential trade-off between physical, psychological and social dimensions of work-related well-being of workers (Cañibano, 2013).

More recently, there have been calls for a greater focus on employee outcomes and not just on the impact of HRM on organisational performance (Voorde et al., 2012). As Cvenkel (2020a) suggests that although well-being at work is now being promoted, there has been little empirical research into the factors and antecedents that promote well-being at work. One conclusion from the human resource management literature is that employee well-being is an under-researched area in this field.

1.1.4. Synthesis of the literature review and conclusion

To clarify the definitions and conceptualisations used in both the management and psychological literature, I propose the following framework (Figure 4). Following (Grant et al., 2007; Warr, 1990), this thesis argues the importance of the multidimensional part of the concept. This goes in line with the theoretical review of Taris and Schaufeli (2018), that considers well-being as a domain-specific concept –work-related well-being–, and as a multi-dimensional construct (Taris & Schaufeli, 2018).

Considering the general definition made by Warr (1987, 2002) well-being can be defined as ‘the overall quality of an employee’s experience and functioning at work’ (Warr 1987). As stated in the literature review, considering both the fields of psychology and management that have conducted research on employee well-being, I argue that it is paramount that empirical studies focus on the multidimensional parts of well-being. To study well-being empirically, one must consider hedonic component, which is subdivided into positive affect (e.g. positive affect such as job satisfaction for example) and negative affect (such as anxiety/stress and physical health fatigue), as well as eudaimonic component (e.g. work engagement, thriving at work, etc.). I argue that health should be included as a sub-component of well-being, following (Danna & Griffin, 1999).

On the other hand, this research does not include social well-being. Theoretically and philosophically, the inclusion of the social dimension would make sense. The twist here is to

look at the link between perceived flexibility and social aspects, but also to look at the link between social aspects and work engagement, job satisfaction and health. With an integrative and multidimensional perspective on well-being at work, social aspects are fundamental for the well-being of employees. For example, Fisher (2014) suggests including social well-being as social support. However, in this research project, social support - coworker support- is a variable that is included, but as a mediating variable. The decision not to include this variable as an outcome variable in the model is based on the research design, which includes social dimensions as antecedents of the other dimensions of work-related well-being. This dissertation considers social aspects at work as antecedents of the different well-being dimensions selected: job satisfaction, work engagement, fatigue and stress. For example, the empirical literature establishes links between telework practices and social aspects. The idea of this dissertation is to determine whether social aspects, such as social support, can mediate the relationship between perceived flexibility and health. In this respect, social dimensions are included as mediation variables. This research takes the angle of examining different job resources at the group or organisational social level that could mediate the relationship between telework and different dimensions of well-being (Carillo et al., 2021).

In other words, the subjective well-being dimension is divided into positive aspects of work, such as job satisfaction, and negative aspects related to workers' health, such as stress, anxiety and tiredness. This conceptualisation would not be complete if we did not also include a eudaimonic component. Following Aristotle, this thesis takes into account the importance of fulfilment at work, or in other words, the possibility of realising one's true self at work.

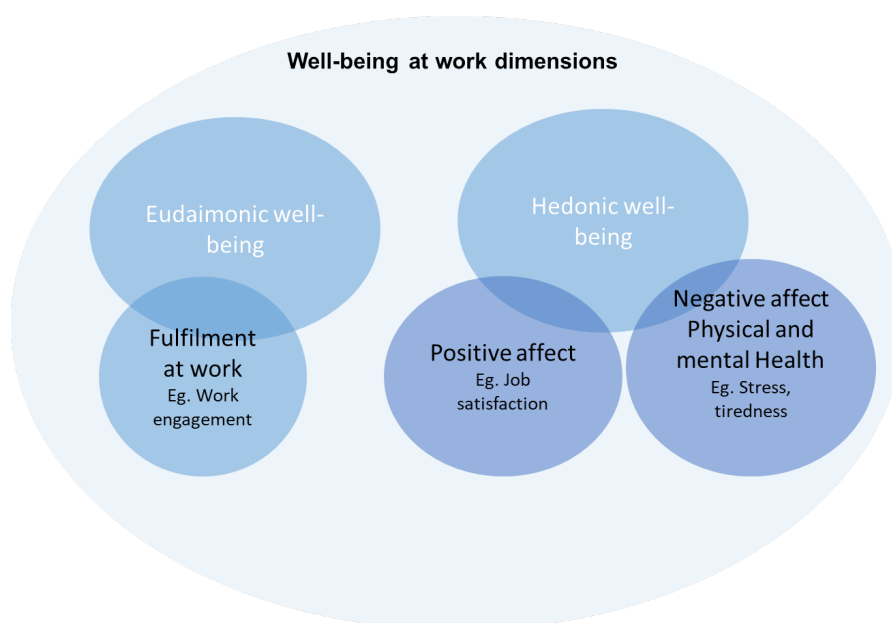


Figure 4: Dimensions of well-being at work

The inclusion of different dimensions of well-being, including both hedonic and eudaimonic measures, is of paramount importance, as some data have shown potential trade-offs between different dimensions of well-being (Grant et al. 2007). Considering studies that found different effect of HR practices on employees well-being and health (Voorde et al., 2012), this research considers the effects of NWW practices on both health and well-being dimensions.

1.2. Antecedents of work related well-being

This section introduces a literature review for each dimension of work related well-being that has been retained in the definition for this research. The idea is to have a general framework to investigate well-being at work. By reviewing the effects of HR practices, job and organizational characteristics, job demands, and job resources, it will provide a synthesis and overview of what matters for employee well-being.

By having a general overview of the antecedents of job satisfaction, work engagement, work exhaustion and stress, this section aims to investigate the differences or similarities of these determinants. As this research examines employee related well-being in different sectors, this section discusses the different antecedents comparing private, hybrid and public organisations.

1.2.1. Antecedents as HR practices and job characteristics

This first section attempts to start with a general understanding of the main determinants of work related well-being relatively to the different disciplines of HRM and psychologist's researchers.

HR practices

HRM scholars have attempted to determine the effects of specific bundles of HR practices on employee outcomes, such as well-being and performance. HR practices refer to different sets of practices. Different concepts and terminologies can be found in the literature: high commitment practices, human resource practices, high performance work practices, and so on. Researchers do not use the same set of practices under the same label, making it difficult to compare studies. As pointed out by Peccei (2004), there is no consensus of which HR practices constitutes a HRM system.

The first source of evidence is Warr's (1987) review of the literature. He identified ten antecedents of job-related well-being: opportunity for control, opportunity for skill use, job variety, opportunity for interpersonal contact, externally generated goals, environmental clarity, availability of money, physical security, and a valued social position. In a recent review, Cotton and Hart (2003) assessed that occupational well-being is determined by personal and organisational characteristics. Their review focuses on the determinants of employee well-

being. They found that one of the most important determinants of well-being is the organisational climate. For example, Guest (2002) analysed data from the UK and found that the HR practice of making work as interesting and varied as possible was strongly and positively associated with higher job satisfaction. For the sample as a whole, the set of HR practices that are significantly associated with higher job satisfaction are: information about developments, equal opportunities, practices to limit harassment at work, and family-friendly practices (Guest, 2002). Similarly, using data from the UK as well, Peccei (2004) showed that the impact of the different HR practices on well-being tends to be more positive than negative. He examined the effect of 33 HR practices on job satisfaction and job stress and found that the impact varies depending not only on the particular practices investigated, but on the specific dimension of well-being examined. His results listed the characteristics of happy workplaces – meaning workplaces where employees experience high levels of job satisfaction and low levels of work stress: reasonable workloads, control on their work and reasonable variety, good salary, security, and being treated with consideration and respect by management– feel that management cares for their well-being and values their contribution at work.

In a more recent research, Guest (2017) defines a new framework to analyse antecedents of well-being at work relatively to HRM perspective. Compared with the model of Bernard (2019), the author adds three main categories: organizational environment –i.e. health priority and zero tolerance for harassment–, the concept of voice –i.e. representation of employees–, and organizational support –i.e. in which are included flexible work arrangements practices–. Table 2 provides a comprehensive overview of these antecedents. In this framework, perceived flexibility practices, such as telework or else, are included in the category of flexible work arrangements practices and in flexible and family-friendly work arrangements.

TABLE 1 Provisional HR practices designed to promote employee well-being

Investing in employees	Recruitment and selection Training and development Mentoring and career support
Providing engaging work	Jobs designed to provide autonomy and challenge Information provision and feedback Skill utilisation
Positive social and physical environment	Health and safety a priority Equal opportunities/diversity management Zero tolerance for bullying and harassment Required and optional social interaction Fair collective rewards/high basic pay Employment security/employability
Voice	Extensive two-way communication Employee surveys Collective representation
Organisational support	Participative/supportive management Involvement climate and practices Flexible and family-friendly work arrangements Developmental performance management

Table 2: HR practices antecedents of well-being at work (original from (Guest, 2017, p.31)

More recently, Bernard (2019) and Posthuma et Campion (2013) provided a synthesis of HR practices that influence employee well-being. Bernard (2019) examined such practices in her dissertation on the impact of high performance work systems on workers' performance and well-being. She found that some, but not all, of these practices had an impact on employee well-being. Her findings suggest that these practices do have an impact on employee well-being: promotion and career opportunities, training and participation in decisions, employee performance appraisal, reduction of status differences, selection at recruitment and job design. However, the results show that pay and job security are not significant in predicting employee well-being (Bernard, 2019, p.251). However, the results of another study show the opposite, as job insecurity appears to be significantly correlated with poor health (Giunchi, 2017).

Job characteristics, job resources and demands at work

Examining the different antecedents of well-being at work is a difficult task. The lack of consensus among researchers on the definition of this concept has an impact on the scientific literature. Literature reviews on the antecedents of work-related well-being exist, but they do not agree on the same dimensions of work-related well-being. In order to provide some clarity on this issue, I will briefly present some examples that illustrate this point.

Part of the literature on the antecedents of work related well-being comes from the JD-R literature. The theory identifies job resources, which are defined as “anything perceived by the individual to help attain his or her goals” (Halbesleben et al.2014, p.6) and “enable employees

to successfully complete their tasks and goals, as a way to enhance their well-being and capacity to perform well” (Nielsen et al., 2017, p.103). Examining 84 quantitative studies published in print and online from 2003 to November 2015, Nielsen et al. (2017) identified which resources are most important in predicting employees’ well-being, at the individual, the group, the leader, and the organizational levels. Their results show that job autonomy was the most explored job resource, along with social support. They conclude that resources at all level are important predictors of employees’ well-being and that organisations should be careful to provide resource at every level for their employees.

In an up-to-date review of the literature, Hirschle, and Gondim (2020) conducted a systematic review of the literature from 2006 to 2016 to understand the antecedent of work related well-being. They found 50 articles that met their criteria and from them, analyse the main antecedents of workers’ well-being (synthesis in table 1 below). Their review show that these variables were predictors of well-being: time pressure and work overload, high demands and low control, decision-making power, social interactions and social support, and negative affective events at work. The review displays some individual characteristics such as self-esteem, optimism or self-efficacy that were positively related to work related well-being.

In sum, scholars do not agree on the definition of HR practices and there is some disagreement on what is part of HR practices or part of job characteristics. Recent overview on workers well-being antecedents include flexible work arrangements (Guest, 2017), whereas older literature reviews do not mention this element (Posthuma & Campion, 2013).

Organisational characteristics: comparing the private, hybrid and public sectors

Another strand of the literature focuses on the differences or similarities of how sectoral and organisational characteristics affect employee well-being in diverse organisations. Whether public and private organisations are different, and what these differences are, is debated in the academic literature (Bozeman & Bretschneider, 1994). For example, some scholars have argued that public organisations have specific organizational environments, organizational goals, organizational structures, and organisational culture (Boyne, 2002). Theoretically, this author points out specific criteria of public settings. According to Boyne (2002), a key difference is that public organisations are different from private organisations in terms of the existence of multiple stakeholders. This variety of stakeholders do have divergent expectations towards public administrations. For instance, public organisations are dealing with customers, thus they have to personalize their services. On another hand, they are dealing with service users who are

mainly interested in having high-quality services and being treated with equity. Moreover, public administrations have also to deal with taxpayers who are interested in having good quality services but at low prices so as to pay less taxes. Public administrations have to cope with all these expectations, even if they are not convergent or even sometimes contradictory. Private organisations have to take into consideration several stakeholders as well, but the nature of their expectations are usually more convergent and less contradictory. This specific point, related to public organisations' stakeholders, leads us to mention another specificity of public organizations. The latter is related to their organisational goals, which could be precisely less clear and multiple, and to their management autonomy, much more constrained due to these competitive expectations with respect to public organizations outputs and outcomes (Borst, Kruyen, & Lako, 2019; Steijn & Giauque, 2021).

	Organisational environment	Organisational goals	Organisational structures
Private organisations	<i>Competitiveness</i> <i>Market influence</i> <i>Variety of stakeholders but with mainly convergent demands</i>	<i>Precise chosen by management</i> <i>Clear managerial roles</i>	<i>Efficacy-driven</i> <i>High managerial autonomy</i>
Public organisations	<i>Complexity: variety of stakeholders, with different demands</i> <i>Influence by external events: change in policy</i> <i>Absence competitiveness</i>	<i>Distinctive goals: equity and accountability</i> <i>Multiple managerial goals Vague goals: imposed through political process</i>	<i>Bureaucracy</i> <i>Red tape</i> <i>Lower managerial autonomy</i>

Table 3: Organisational characteristics across sectors (from (Boyne, 2002, p.100))

Table 3 summarises Boyne's (2002) theoretical model, which he found empirical support for these hypotheses that these organisational characteristics exist (Boyne, 2002). These specific characteristics of private and public organisations have also been confirmed by other empirical studies (Bozeman & Bretschneider, 1994; Lyons et al., 2006). A whole set of empirical evidence exist, that validated these core differences of organizational characteristics between private and public organisations (Bozeman & Bretschneider, 1994; Lyons et al., 2006; Rainey et al., 1976).

This dissertation also focuses on hybrid organisations in the Swiss context. Theoretically and empirically, there are very few or no models that compare private, public and hybrid settings. This research attempts to empirically test the 'core approach' in public administration theory, which states that there are essential differences between private, public and hybrid organisations, with the central assumption that the legal nature of organisations provides a simple but powerful distinction (Bozeman & Bretschneider, 1994, p.200). This dissertation argues that hybrid organisations are somewhere in the middle, with the overall goal and service provided decided at the political level. At the top level of decision making, there is a multiplicity of stakeholders. However, in terms of day-to-day organisational life, hybrid organisations are closer to private than public organisations. In this sense, this dissertation argues for the importance of empirically investigating the potential distinction between public, hybrid and private organisations.

1.2.2. Antecedents of job satisfaction

Job satisfaction has been the subject of scientific interest since the 1930s, and the most widely quoted and old definition of job satisfaction is Locke's: it represents "a pleasurable emotional state resulting from the perception that one's work fulfils or enables the fulfilment of significant values available at work, provided that these values converge with one's needs"(Locke E., 1976, p.1319). Spector (1997) defines job satisfaction as how people like or dislike their job and this concept refers to one's feelings (Spector, 1997).

Theoretically, the model of Job Characteristics Theory (JCT) of Hackman and Oldham (1976) described five determinants of job satisfaction: (1) task identity; (2) task significance; (3) skill variety; (4) autonomy; and (5) feedback. In line with this theory, Parker et al. (2003), in a literature review of 464 published scientific articles, undertook a meta-analytic analysis and found out five categories of antecedents of job satisfaction (Parker et al., 2003):

1. Role: ambiguities, overload and role conflicts
2. Intrinsic characteristics of work: variety, challenge, importance, autonomy in the tasks to be accomplished
3. Leadership style: supportive, participatory, goal-oriented
4. Relationships: cooperation, warmth and pride of belongings
5. Structure, culture and management practices developed within the organization: innovation, information flow, ...

More recently, Wyrwa and Kazmiweczyk (2020), in a review covering publications from 2000 to 2018, summarise the antecedents of job satisfaction as: working conditions; job characteristics; workplace atmosphere; organizational culture; management; workload; stress; pay and reward; relationships with co-workers and supervisors; ambiguity and conflict; and the situation in the labor market (Wyrwa & Kaźmierczyk, 2020, p.147). Additionally, many studies attempted to identify specific-sectors antecedents of job satisfaction (Chevalier et al., 2019) . For example, there is an intensive search for the antecedents of nurses' and teachers' job satisfaction.

These determinants are a mixture of HR practices, which I presented in the previous section, and job characteristics. The antecedents of job satisfaction are often classified at three different levels: individual characteristics, job characteristics and organisational level.

Antecedent of job satisfaction from a sectoral perspective

There is little literature comparing the antecedents of job satisfaction between private and public organisations. There is even less academic literature comparing antecedents of job satisfaction for employees working in public, hybrid and private organisations. Studies investigated differences of sociodemographic characteristics as determinants of job satisfaction among employees working in public, hybrid and private organisations (Bozeman & Bretschneider, 1994; Falcone, 1991). In the study of Falcone (1991), the results show that managers in public organisations are less satisfied than their private counterparts, and managers working in hybrid organisations have satisfaction levels in between. His study highlights the specific characteristics of public organisations, which give less autonomy to management, as well as the presence of policies that affect management, because the results show how both public and hybrid manager's decisions are influenced by external authorities such as, for example, state legislatures.

For example, Vigan and Giauque (2018) present a literature review of the antecedents of public agents' job satisfaction in Africa between 1990 and 2014. Their results suggest that the main factors that influence public servants' job satisfaction are at the organizational level: support of superiors, interpersonal relationships, and quality of life at work (Vigan & Giauque, 2018). Their results show that the effects of individual and job characteristics on job satisfaction among African civil servants are marginal.

In Western countries, individual characteristics do not seem to be significant to predict job satisfaction of public servants either (Cantarelli et al., 2016). However, intrinsic job characteristics appear to be the main determinants of public servants' job satisfaction in Western countries (Cantarelli et al., 2016).

Authors found out that, in a survey study, that promotion opportunities, pay and benefits, performance appraisal, equipment and resources, training, workload, relationships at work were the variables that were important antecedents of job satisfaction among municipal employees (Ellickson, 2002). Similarly, analysing data from federal employees, scholars found that job satisfaction antecedents could be split into three categories: job – i.e pay promotional opportunity, task clarity and significance, skill utilization, individual, and organizational characteristics –i.e. relationships with co-workers and supervisors–(Ting, 1997).

In summary, studies show that there are differences in employee job satisfaction between public, hybrid and private organisations and that comparisons across sectors need to be explored.

1.2.3. Antecedents work engagement

Work engagement is currently the most widely used concept in occupational studies (Lesener et al., 2020; Nielsen et al., 2017). Work engagement is a multidimensional construct and was originally defined theoretically (Schaufeli & Bakker, 2004). The most used definition and the one used in this research is the following: “. . . a positive, fulfilling, work related state of mind that is characterized by vigor, dedication, and absorption” (Schaufeli et al., 2002, p.74). The most widely used measure of work engagement comes from the Utrecht Work Engagement Scale (Schaufeli et al., 2002), which is also used in this thesis. This concept is given much

attention from researchers in the literature. Researchers have reported a Google scholar with “work engagement” as keywords and the search reveals about 67,000 hits (Lesener et al., 2020). Multiple studies attempt to define and review the antecedents of work engagement in the literature (Crawford et al., 2010; Lesener et al., 2020; Saari et al., 2017). Scholars have identified job resources as antecedents of work engagement (Bakker & Demerouti, 2017; Lesener et al., 2020). In different meta-analysis, scholars found significant associations between job resources and work engagement at all three levels : Organisational-level, group-level and individual-level (Lesener et al., 2020; Nielsen et al., 2017). In their meta-analysis of longitudinal evidence on work engagement’s antecedents, Lesener et al. (2020) found out that some job resources have stronger impact compare to others job resources. In their review, they show that job resources that are more connected to the individual employee – i.e. autonomy/job control, or role clarity as organisational level resources – seem to have the strongest impact.

Antecedents of work engagement from a sectoral perspective

The interest of the concept of work engagement in the hybrid and public sector is quite recent (Borst et al., 2020a). Studies investigating sectoral difference are were scarce (Blom et al., 2020). In an empirical study, Van den Broeck et al. (2017) examine different job demands and job resources as antecedents of work engagement across different sectors and found that job demands and job resources were equally related to work engagement across sectors (Borst, 2018; Van den Broeck et al., 2017). This supports the claim that the JD-R model is relevant to examine the antecedents of work engagement in the public sector. In their recent literature review, Fletcher et al. (2020) demonstrate that antecedents of work engagement in the public sector could be classified in different levels: individual-level, job-level, organizational/team-level and management/leadership level. Their review showed the importance of job resources and organizational climate as important drivers of work engagement of public servants. Globally, their literature review display the same job demands and job resources that are linked to work engagement in other sectors.

However, antecedents of work engagement can be sector-specific. For example, Steijn et Giauque (2019) underline, in their literature review, that red tape, frequent changes of political leadership, and the motivations to work as a public servant (PSM) are specific job resources and job demands in the public administration research (Borst & Knies, 2021). PSM may be considered as a multidimensional concept, consisting in at least, four dimensions: attraction to

policy making, commitment to the public interest, affective motives, and self-sacrifice (Giauque et al., 2013).

In the same line, empirical research demonstrated that employees working in public and hybrid sectors display similar characteristics such as higher levels of goal ambiguity, the presence of stricter regulations compared with private sector organisations, and the specific work motivation of public sector workers (Blom et al., 2020). On the other side, hybrid organisations carry out public tasks but may operate under private sector conditions (Van Thiel, 2012).

Another recent literature review, analysing papers published between January 2016 and December 2020 depicts five main determinants of work engagement: organizational and team factors, perceived leadership, job-related experience, individual, and organizational intervention factors (Zahari & Kaliannan, 2022). PSM was identified as the only sector-specific characteristic that favours work engagement of public servants. Respect and trust management from supervisors were also key factors that influence engagement. Finally variables at the organizational level such as organizational culture, climate, organizational justice seemed to be relevant factors for public servants engagement (Zahari & Kaliannan, 2022). Authors made calls to explore the relationship between job characteristics and work engagement in the public sector since it could fulfill a mediating role between job characteristics and employee well-being (Bauwens et al., 2021).

1.2.4. Antecedents health: stress and fatigue

The WHO (2005) highlighted key factors related to stress at work and advocate guidelines to mitigate them. The factors that promote work- place stress according to WHO include workloads, lack of participation and control in the workplace, monotonous or unpleasant tasks, role ambiguity or conflict, lack of recognition at work, inequity, poor interpersonal relationships, poor working conditions, poor leadership and communication, and conflicting home and work demands.

In academic research, health is a difficult concept to define. For this research, I retain the definition of Danna and Griffin (1999) : “The term “health” generally appears to encompass both physiological and psychological symptomology within a more medical context (e.g., reported symptomology or diagnosis of illness or disease); therefore, we suggest the term *health* as applied to organizational settings be used when specific physiological or psychological

indicators or indexes are of interest and concern.”(Danna & Griffin, 1999, p.364). In this sense, I use both a physical and a psychological dimension of health: fatigue and stress.

This thesis distinguishes between stressors and strain, following the occupational health literature (Voorde et al., 2012). For example, job demands such as work overload, time pressure would be considered as stressors and the responses – strains- to such demands would be feelings of exhaustion and stress. Emotional exhaustion is one of the dimension of burnout (Demerouti et al., 2001). This thesis does not aim to study burnout as it is a very specific concept and construct.

Work stress

Stress, according to Lazarus (1984) is a result of each individual process that interpret and perceive events at work and through this interpretation process, individuals experience stress. More precisely, stress occurs when individuals face demands that are perceived as exceeding their capacities (Cox & Griffiths, 2010; Leroy, 2017).

Factors that influence stress at work have been developed and studied (Cooper, C. L., & Cartwright, S., 1994; Danna & Griffin, 1999; Karasek, 1979; Lazarus & Folkman, 1984; Veldhoven, 2005). The work of Karasek (1979) is the reference on this matter. His theoretical model that was tested empirically showed that the main work stressors were: work overload, time pressure, role conflict and control of the work situation. In the same line, Leiter and Maslach (2003) refer to six factors: workload, control, reward, community, fairness, and values. More recent studies develop a broader framework of antecedents of work stress. In her thesis, Leroy (2017) summarized antecedents of stress as: workload, time pressure, lack of autonomy, role ambiguity, lack of balance between role of private and professional life, career development, lack of social support, harassment at work, lack of respect, physical environment that is not well adapted, or even the international competition in which work occurs.

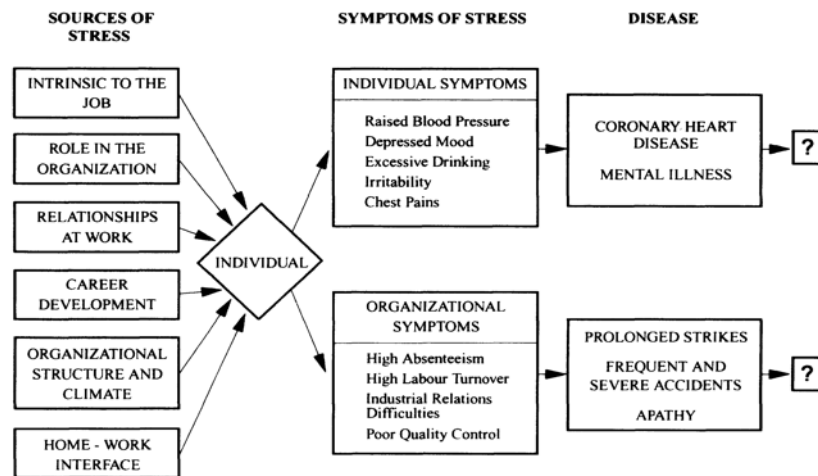


Fig. 1. Stress—a research model.

Figure 5: Stress- a research model (original from Cooper & Cartwright, 1994, p.457)

In the same line, according to Delobbe (2009), factors that influence stress at work can be depicted in seven: (1) intrinsic work design – autonomy and workload-, (2) work time management – flexibility in terms of time scheduling and work time- , (3) organizational roles – role ambiguity, role conflict and responsibility towards co-workers-, (4) work relationships–coworkers and supervisor supports–, (5) career prospects –restructuring and insecurity in the world of work–, (6) organizational structure and climate –participation and favourable well-being environment , and (7) work-life balance categories (Delobbe, 2009, p.15). Similarly, the model of Cooper et Cartwright (1994) –see Figure 5– list the same antecedents, except it is missing the category of time management.

Finally, recent evidence suggests that characteristics that have been clearly identified as stressors may have different relationships with work outcomes. For example, the study of Boswell et al. (2004) demonstrated that there exist two types of demands: hindrance and challenge. Their empirical investigation support that both hindrances and challenges results in psychological strain –i.e. exhaustion–, however hindrances had a negative impact on intentions to leave, but that challenges had positive effect on other work outcomes (Boswell et al., 2004).

There are debates in the field of occupational stress as to whether the stress effect arises from

the interaction between the individual and his or her environment, or whether organisational aspects create a stressful environment. This thesis is in line with the work of different scholars who emphasise the importance aspect of organisational and structural characteristics that will favour or not the well-being of employees. As stated by Wilson et al. (2004) :” The common thread in all of this work is the need to expand the work–health relationship beyond the immediate job–worker interaction, and to provide a more systematic accounting of macro-organizational influences” (Wilson et al., 2004, p.566). In their empirical study conducted in the United States, the authors tested the Healthy Work Organisation model and found that employees' perceptions significantly influenced health and well-being outcomes, providing support for the theoretical model.

Exhaustion

The JD-R model represents the mostly widely used frameworks for examining the differential relationship between job demands and job resources and burnout (Bakker & Demerouti, 2007). Exhaustion is one of the core dimension of burnout. Maslach et al. (2001) defined this dimension as “It refers to feelings of being overextended and depleted of one’s emotional and physical resources.”(Maslach et al., 2001, p.399).

Moore (2000) discusses the concept of work exhaustion as one of the three dimension of burnout and lists the different antecedents as : role conflict and ambiguity, workload, interpersonal conflicts, autonomy, and lack of rewards (Moore, 2000). Additionally, to these components, Maslach et al. (2001) underlined the importance of time pressure and the lack of social support-identified as a job resource- a lack of feedback and little participation in decision making as important antecedents of burnout.

Antecedents of health from a sectoral perspective

Much of the research on burnout is industry-specific, for example in teaching, nursing or the police. The authors have specifically identified job demands in the public sector that are associated with exhaustion. For example, when analyzing data from the Dutch public sector, Borst et al. (2021) found that four public sector specific demands - organizational restructurings, technological innovations, aggression from citizens, and integrity pressure-negatively related to employees well-being. Another example is the one of public service motivation. A study found, based on a survey of 412 police officers in China, that PSM moderates the relationship between work stressors and individual well-being (Liu et al., 2015).

Another study in a University in China, shows that hindrance stressors, such as red tape were associated negatively to physical and mental health, and that perceived organizational support moderated the relationship (Bao & Zhong, 2019). However, more recent research points to contextual factors that are not sector-specific but are present at an organisational level, such as expectations of fairness, equity and hierarchies (Maslach et al., 2001).

In summary, antecedents of employee health differ among sectors. The JD-R literature has been examining and found job demands and job stressors specific to the public and hybrid sectors. However, the empirical evidence is rather scarce and scholars have made calls to further explore these specificities.

1.2.5. Synthesis of antecedents of work related well-being

The main findings of this review are as follows. First, there seems to be a consensus on the main determinants of employee well-being. The results show that HR practices, job characteristics, management and organisational context and individual characteristics are important in this relationship (Table 4). This paper focuses on the organisational context and examine individual variables as control variables. Among the most cited, we can highlight the importance of autonomy, workload, social support and organisational climate as key determinants of employee well-being, which is consistent with the JD-R theory literature (Bakker et al., 2007). Second, there exists some difference in terms of job or organizational characteristics across sectors. Public organisations are more formalized, public agents show specific types of motivation. However, the general antecedents and job characteristics for workers well-being are the same across sectors. The difference lies in the determinants of work engagement, where red tape, frequent changes of political leadership, and the motivations to work as a public servant are sector-specific job resources or job demands in public organisations. Empirical research investigated differences across public and private sectors, however the literature on antecedents of workers well-being in the hybrid sector is almost non-existent. Third, there are no major differences in the antecedents of the different concepts. The same HR practices, job characteristics and organisational structure and management are important for improving job satisfaction, work engagement and employees' health. The main difference lies in job demands perceived as challenging, which would improve work engagement but have a negative effect on health. Finally, work-family friendly policies and temporal and spatial flexibility are the least cited antecedents of employee well-being, with only one author review briefly mentioning them (Delobbe, 2009).

	Individual characteristics*	Job characteristics	Organizational characteristics	HR Practices	External Factors (Social, Political, Legal, Economic)
Job satisfaction	Self-efficacy	Workload	Family-friendly practices	Salary	Changes in politics **
Work engagement	Self esteem	Time pressure	Environment that cares for employees well-being	Career development : including training	Downsizing and restructuring
and Health	Optimism ...	Task and skill variety Autonomy Feedback Control Role ambiguity and role conflict	Participation in decision making and voice Supportive management Cooperation and belongings	Equal opportunities Security Zero tolerance for harassment	...
Work engagement		Job demands considered as challenging (+)	Red tape, frequent changes of political leadership, and the motivations to work as a public servant (PSM)**		
Health		Work-family conflict (-)			

Note: *Individual characteristics do not seem significantly related with job satisfaction among public servants. ** Specific characteristics that improve work engagement in the public sector

Table 4: Antecedents of well-being at work from a sectoral perspective

1.3. New Ways of Working and well-being at work

This section introduces the concept of New Ways of Working, the definition and the state of the art on the link between NWW and well-being at work. At the end, gaps of the literature are presented in order to introduce the research questions and how this research attempts to fill up these gaps.

1.3.1. NWW and acceleration of changes in the world of work

Let's go back to the origins of this concept and why it has appeared in academic literature. The world of work is facing new challenges, in particular due to the development of technologies, and organisations need to adapt as a result (Kowalski & Loretto, 2017). In addition, the COVID-19 pandemic has put pressure on the way work is done. Authors mostly agree on the emergence of this 'new world of work', which encompasses multiple practices. According to Alfes et al. (2022), this change is composed of three components: spread, speed, and depth.

Scholars give different terminology to describe this new reality, as for example: “new forms of organizing” (Ajzen et al., 2015), ‘new ways of organising’ (Kelliher & Richardson, 2012), ‘new ways to work’ (Peters et al., 2014). For example, “the expression ‘new work practices’ to refer to a wide range of practices placed on a continuum of work flexibilization and diversification, from remote work to collaborative entrepreneurship to digital nomadism.” (Aroles et al., 2019, p.2). Similarly, the notion of flexible work arrangements is widely used and is defined as: “This chapter focuses on flexible working arrangements (FWAs), that is organizational policies and practices that enable employees to vary, at least to some extent, when and/or where they work or to otherwise diverge from traditional working hours. They include, for example, flexitime, term time working, part-time or reduced hours, job sharing, career breaks, family-related and other leaves, compressed workweeks and teleworking.” (Lewis 2003:1). Therefore, NWW is different from the concept of flexible work arrangements (FWA), as the latter refers to flexibility in terms of employment. These concepts encompass broader flexibility practices than “New Ways of Working”, such as for example, contractual flexibility.

In this context, lots of concept appear in the academic literature such as: the future of work, smart working, new work practices, flexible working arrangement, NWW, NWoW, or flexible practices and so on.

Although the definitions, the practices studied and the terminology used by these scholars differ, there is some convergence and similarity. The majority agree, even before COVID-19, that there have been major changes in the world of work since the end of the 1900s, both for workers and for organisations. They agree that not only are practices available to workers, such as teleworking, but more importantly that these practices are now *facilitated and enhanced* by technological developments. (Alfes et al., 2022). These practices imply, notwithstanding the different definitions, some types of *flexibility* for workers.

Another important aspect of NWW is the nature of work and occupation. In fact, the literature addressing the issue of NWW mainly focuses on *knowledge workers* (Van Meel, 2011). Indeed, NWW are predominantly designed for knowledge-workers (Ruostela et al., 2015), who can enjoy “workplaces [are] transformed into flexible, adaptable and collaborative learning environments” (Kemp, 2013, p.4). Knowledge workers can be defined as workers whose knowledge base is esoteric, intangible and non-substitutable and their knowledge base is used to analyse complex problems and their work is highly specialized and requires problem-solving skills (Eskola, 2017).

The closest term to that of NWW is the concept of 'smart working'. In a literature review, Torre and Sarti (2020) try to specify what 'smart working' means. They conducted a systematic review of the literature on the concept of “smart working” and they finally selected, with their methodology, 23 academic scientific articles. Their review highlights some similarities among the definitions found of the concept of “smart working”: “The origin of the smart work (telework, e-work, mobile work) – working independently of time and place with the help of ICT - came from the last century when Nilles first coined the term ‘telecommuting’. » (Vitola & Baltina, 2013, p.254). Similarly, Hill et al. (2008) define the concept of “workplace flexibility” in terms of: “In harmony with the worker perspective, we define workplace flexibility as ‘the ability of workers to make choices influencing when, where, and for how long they engage in work- related tasks’. » (Jeffrey Hill et al., 2008, p.152). The definition omits the component of ICTs.

However, I argue that major changes have occurred since the 1960s and 1970s with the introduction of new technology, particularly the use of computers, into the workplace. As stated by some authors “There is no doubt that the spatio-temporal structure of organisations, and work in general, has drastically changed, as we are moving towards a work culture of instantaneity and ever-increasing connectivity.”(Aroles et al., 2019, p.6) Additionally, the

economy has shifted from manufacturing to knowledge and service economies (Eskola, 2017; Kemp, 2013). Finally, the main point of Taskin et al. (2019) to this debate is the concept of acceleration. The German philosopher Hartmut Rosa (2010) analysed this recent period and suggest that it is characterised by three types of acceleration: technological, social change and lifestyle.

Even if these practices existed before the 2000s, this does not mean that they were widespread. Even if some practices, such as teleworking, existed before this century, I argue that in the last 30 years a wave of technological, economic, social, demographic and environmental changes has occurred and accelerated, forcing organisations to find solutions to remain competitive and efficient. Thus, the impact of the COVID-19 pandemic since 2020 has led organisations to adapt quite abruptly. The end of the twentieth century has seen some important changes in technological developments: the use of computers, software and global communications have had a huge impact on the world of organisations and the way work is done. As written by (Ruostela, 2012, p.31) “However, work-life and business environment today it has become much more digital, loose, informal, flexible, and mobile.”

The world of work is facing new challenges since the “ICT revolution of the 1990s” (Kingma, 2019, p.385). The surge of ICT (Baek & Cha, 2019) has enabled the creation of virtual working environments and has made it possible for employees to access company information and communication channels anywhere and at any time (Nijp et al., 2016). Hence, the virtualization of work has made it possible to introduce teleworking at a larger scale (at home, at a satellite office, in a co-working space, on a train, etc.) (Gerards et al., 2018). Finally, the currently popular *green imperative* puts also pressure on the world of work. The environmental impact of commuting traffic could be diminished via the use of telework, which was clearly demonstrated during the COVID19 crisis. This practice allows people to work from other places than the organization’s office and thus contribute to a decrease in traffic and its environmental impact (Ruostela et al., 2015; Taskin et al., 2017). In addition, by allowing their employees to telework, organisations may reduce the amounts of space used in their buildings and therefore decrease the amount of CO₂ that each person emits (Ruostela et al., 2015). Finally, flexibility at work, and work-life-balance issues are increasingly important factors for organisations to attract qualified workforce.

1.3.2. Definition NWW

The term “New Ways of Working” is controversial and scholars do not agree on the definition nor the different practices that are part of this concept (Jemine, 2021). Before the COVID-19 pandemic, the question of the real novelty of NWW practices had risen among a diversity of scholars (Ajzen et al., 2015; Taskin et al., 2017). Ajzen et al. (2015) point out that practices such as telework are far from new as it has been created since the 1970’s. As Alfes et al. (2022) argue « The concepts of ‘new’ and ‘future’ often invite the idea of accomplishing a clean break from previous ways of working; that the ‘old’ is irrelevant, obsolete, or superseded, while the ‘new’ is the inevitable next step; that we are undergoing an abrupt transformation with separate ‘before’ and ‘after’ stages » (Alfes, 2022, p.4363).

Throughout this thesis there has been a constant reflection on this concept, what it means and how to measure it in the different questionnaires. However, the common thread was to see NWW as part of a process of organisational change in the world of work. I am reminded of the paper by Alfes et al. (2022), which presents NWW as a change in the world of work that is specific in terms of speed, breadth and depth.

The most common definition found in the literature is the following: “NWW is giving the opportunity to workers to choose when and where they work while using information and communication technologies (ICTs) that are making them available anywhere and at any time” (eg. (Nijp, Beckers, van de Voorde, Geurts, & Kompier, 2016; Van Steenbergen, van der Ven, Peeters, & Taris, 2017).

NWW practices, before COVID-19, were labelled as a “management fashion” by some scholars (Jemine et al., 2019). These scholars defined NWW: “as projects of organizational change involving a process of legitimation.”(Jemine et al., 2019, p.3). This literature focused on the legitimization process of changes induced by the implementation of NWW. Since my thesis focuses on the outcome of flexible work practices, I will not get into this debate.

The definition I retain during this research is the following: “NWW are a bundle of practices that comprehend: flexibility in time (flexible working hours), flexibility in place to work (teleworking or at the office), use of new technologies networks and collaborative tools, as well as free availability of knowledge” (Blok et al. 2011; Brummelhuis et al. 2012). I assume that these practices will have an impact on how the work is done and affect employees’ behaviours.

This pandemic had accelerated the possibilities and the facilitation of the use of NWW, simply by making telework compulsory in Switzerland.

In summary, the following dimensions of NWW are being studied:

- 1) Flexibility in terms of time
- 2) Flexibility in terms of place
- 3) ICTS use
 - a. Access to organizational knowledge at distance
 - b. Easy access to colleagues and supervisors through the use of ICTs
- 4) Adequation of the place at home.

The operationalisation of these dimensions is going to be discussed in the methodology section.

1.3.3. NWW and autonomy

How NWW practices do differ to the concept of job autonomy? This is a relevant question because of the proximity of those two concepts. The concept of job autonomy has been the subject of extensive study in the literature, particularly with respect to its connection with the Job Characteristics Model. This theory argues that five job characteristics are important drivers of employees' motivation, satisfaction and performance : skill variety, task identity, task significance, autonomy, and feedback (Hackman, 1980). The general definition of job autonomy is that: "The degree to which the job provides substantial freedom, independence, and discretion to the individual in scheduling the work and in determining the procedures to be used in carrying it out."(Hackman & Oldham, 1976, p.258). Recently the concept has been defined as : "job autonomy grants employees more freedom, independence and discretion to make decisions at work" (Magdaleno et al., 2022, p.1).

It is important to emphasize that, for some scholars, the overarching theme of NWW is providing employees autonomy. Authors have linked the NWW practices to the concept of *autonomy* (Hackman & Oldham, 1976, p.258). For example, (Magdaleno et al., 2022, p.1) stated that "for this study it is important to emphasize that the overarching theme of NWW is providing employees autonomy by giving them control over their work content, time, location and communication" (Brummelhuis et al., 2012, p.114) . Scholars mostly agree that NWW provides employees with more autonomy on specific aspects : the time and location of the work (Kemp, 2013). NWW practices are not necessarily linked with the execution of the tasks at hand. Therefore, one organization could provide NWW practices, but not autonomy to their

workers. For example, employees could work at home, but have strict schedules or have a very little amount of autonomy on how they execute their tasks. Management could provide NWW practices and not letting their employees have a lot of discretion in their work by using control management (Taskin, 2021). Also, NWW practices do not come without the development of technologies, while autonomy can come without them. So, I would argue that these two concepts may be linked with one another *but are not necessarily linked with one another*.

I would argue that NWW practices and job autonomy are close concepts, but different in some respects. In this research I would argue that job autonomy is closely related to control over one's work and how one carries out one's work tasks. Job autonomy can be understood as having discretion over how to do one's job. In this case, autonomy is linked to the tasks at hand. On the other hand, NWW practices provide workers with more autonomy in terms of the modalities of their work: time, space with the use of technological devices, but not necessarily autonomy in the way they perform their tasks. In addition, the authors also point to the risk of increasing control management with the introduction of work flexibility: "First, even though one of NWW's fundamental objectives is increased employee autonomy, it is possible that the transition to remote working will, in fact, entail an intensification of control driven by technology" (Hartner-Tiefenthaler et al., 2021, p.8).

1.3.4. NWW and management styles

This debate also raises questions about the links between NWW practices and management styles. Some authors argue that one of the dimension of NWW is the management style (Laihonen et al., 2012; Peters et al., 2014). They do not agree on what types of management style is part of the NWW. Some authors give the following definition: "The concept of new ways of working is also multidisciplinary: it relates to human resources management, information technology and facilities management. (Laihonen et al. 2012, p.103)." The question of including management component seems to be at the core of the academic debates. Indeed, Kemp (2003) include four dimensions of NWW in his definition:"1. Anytime, anywhere: enabling employees to work independent from time and place. 2. Manage you own work: steering employees towards achieving results. 3. Unlimited access and connectivity: providing free access to and use of knowledge, experiences and ideas. 4. My size fits me: implementing flexible employment relationships."(Kemp, 2013, p.6). Similarly, Peters et al. (2014) include trust management and empowerment for workers into the definition of NWW. Other authors give even a broader definition of NWW that encompasses: flexwork in terms of flextime and

flexspace, and also work organization methods that support collaboration and flexibility and management methods that encourage worker participation in decision-making (Taskin et al., 2019).

In this dissertation I argue that leadership style, or a particular type of leadership style such as participative leadership, is not necessarily included in the definition of NWW. There are several arguments in favour of this. Firstly, studies show that the implementation of flexibility is not necessarily accompanied by trust management (Taskin & Edwards, 2007).

As my research focuses on public organisations, I do not include management style as part of the definition of NWW, because public organisations in Switzerland have not undertaken any specific transformative organisational process labelled as NWW, but they have introduced flexibility in terms of space and time. I would argue that NWW are a set of practices that are now widely available for knowledge workers, especially since the pandemic of COVID-19. NWW in this paper refers to flexibility in terms of the organisation of the working day or week - teleworking or not. The terminology of the concept is not ideal, especially since the strike of the COVID-19 pandemic, and one should rethink it. Since the COVID-19 pandemic, the new paradigm is that of hybrid work (Lott et al., 2022). Scholars are already calling for developing new concepts that reflect the “new workplace” (Lott et al., 2022). In the end, I would argue that NWW are part of a change in the working conditions.

1.3.5. Empirical evidence NWW and work related well-being

The empirical evidence on the link between NWW and well-being at work is quite mixed. Some studies found negative effects of NWW on employees' well-being. For example, Blok et al. (2012) undertook a case study in the Faculty of Industrial Design Engineering, in Delft University. They analysed three departments with a total of 73 employees that changed from a traditional way of working towards these practices of new way of working, namely shared workplaces, introduction of social ICT and the ability to work from home or any other remote location at flexible work hours. Questionnaires were sent to participants two times after the change implementation, within six months of interval. In the second wave, one result showed that even after half a year still not all of the employees were habituated to these new practices. The main takeout from this study is that the management style between the implementation of NWW and six months later, decreased. On the other side, some authors analysed the effects of NWW on both employees' outcomes and performance. Nijp et al. (2016) conducted an

intervention study within a Dutch financial and insurance company. The study took place to analyse the changes in employees' behaviours before and after the implementation of NWW and had a quasi-experimental longitudinal design. The results show no effect of NWW on employees' work-life balance, nor on employees' health. On the other hand, three studies found positive outcomes between NWW and employees' outcomes (Kemp, 2013, p.6).

Most studies focusing on NWW practices analyse often only one practice of the NWW bundle; making difficult to draw a clear picture of the effect of NWW practices on employees' outcomes. The critic states that the literature about NWW could be assimilated to the literature about teleworking or schedule flexibility, concepts that have been studied since the 1970's. Countless studies are available on components of NWW such as teleworking (Baltes et al., 1999; Gajendran & Harrison, 2007; Olson & Primps, 1984) or flexible schedules (Grzywacz et al., 2008; McNall et al., 2009) and their effect on employees' well-being. Regarding telework practices, recent literature reviews point out the 'paradox' (Gajendran & Harrison, 2007; Van Steenbergen et al., 2017) and the results concerning the impact of teleworking on employees' health and well-being remain inconclusive.

The use of NWW posits as that employees need to have access to organizational knowledge, mainly through the use of ICT. Therefore, it is worth mentioning that there exists an ongoing debate of the increasing use of ICT in organisations: "The complex relationship between increased expectations and stress were evident in the language participants used to describe their relationship with mobile." (Mazmanian et al., 2013, p.1346). And the term of paradox is also used in this research field: "In practice, thus, the use of mobile email devices produced an autonomy paradox, which had important implications for the professionals' work lives— longer working hours, blurring of temporal boundaries, increased stress, and reduced downtime."(Mazmanian et al., 2013, p.1351) This participates to the "always-on culture" (Mellner et al., 2017).

Concerning the effects of flexible schedules on employees' outcomes, the answer seem more consistent (Baltes et al., 1999). In a meta- analysis of 31 studies, Baltes et al. (1999) found that flexible schedules were related to job satisfaction of employees. More recent empirical evidence also supports this hypothesis. For example, Grzywacz et al. (2008) found that schedule flexibility had an effect of reducing stress, and burnout among workers. Therefore, it show the importance to focus on the bundle of NWW practices (Godard, 2001).

Additionally, in these studies, well-being is always operationalized differently, which make the comparison difficult. Well-being was measured using different items: job satisfaction, work engagement, absorption, work enjoyment, intrinsic work motivation, fatigue, exhaustion, and burnout. Most of the studies used work engagement as a proxy of well-being, and this does not tell us anything about the multiple dimensions of well-being at work nor on the health of those employees. Very few studies are interested in explaining the same variables and therefore, it is still very difficult to draw strong conclusions about the impact of NWW on these different outcomes. Furthermore, there is a need for a clearer definition and a conceptualization of well-being at work in this research field and there is a need to analyse not only well-being but also health outcome.

Empirical research related to the outcomes of NWW is extremely scarce, when we consider these practices as a bundle. In summary, studies either found no effect of NWW on employees' outcomes (Nijp et al., 2016, Van Steenbergen et al., 2018), or found that interaction variables, such as management style or trust partially mediated (Gerards & al. 2018) or fully mediated (De Leede & Kraijenbrink, 2014) the relationships between NWW and work engagement. Therefore, the impact of NWW on employees' well-being are contradictory (Laihonen et al., 2012; Peters et al., 2014) and interaction variables seem of utmost importance. Most of the empirical evidence comes from cases studies in the Netherlands in the private sector. External validity of case studies is per se limited.

NWW and well-being since the COVID-19 pandemic

When looking at a literature search of scientific articles with the keywords “New Ways of Working” or “NWW” between 2020 and 2022, one does not find a lot of results. One study investigated the link between NWW and the type of management (Leclercq-Vandelannoitte A., 2021). This article argues that NWW have disrupted the traditional relationships of employees-supervisors. Examining the point of view of the manager, this research focused on qualitative data, while using a Foucauldian framework, and show how managers find ways to legitimize their function, maintains their authority and position of power in this context of NWW. This article makes a point by describing how NWW induced change in organisations influence the management and the managers' role and authority. It goes along with what I argued previously, that NWW practices will have an impact on management and management will ultimately evolve with these new modalities. In this same line of research, a study that was published after the pandemic, although the empirical investigations happened before 2020, that examined how

management induced control practices after the implementation of NWW projects in a public organization setting. With qualitative interviews, this study's main conclusion was that "working" was very much linked with "being at the office" and even though they were not control management practiced explicit, a lot of implicit behaviours by managers and by employees act in this sense: "First, even though one of NWW's fundamental objectives is increased employee autonomy, it is possible that the transition to remote working will, in fact, entail an intensification of control driven by technology" (Hartner-Tiefenthaler et al., 2021, p.8).

Other authors used a qualitative methodology to explore how technology-driven change through NWW affects co-working spaces in a field study in France, Belgium, Switzerland and Liechtenstein (Endrissat & Leclercq-Vandelannoitte, 2022). Their findings highlight the tensions between trying to be productive and efficient in a crowded space and having these shared spaces and social interactions. The gist of their research can be summarised as follows "As illustrated in the empirical material, some co-workers are productive in spaces that convey a "buzzing productivity," with everyone wearing headphones and being attuned to their personal devices, while others are energized by moments of community and interaction, triggering a spark of creativity." (Endrissat & Leclercq-Vandelannoitte, 2022, p.12). Another study, anchoring the term "NWW" into empowerment HR practices, Coun (2021), analysed whether these practices and empowerment leadership are linked with workplace pro-activity and psychological empowerment. Their study demonstrated that access via ICT had an effect on empowerment, which in turn had a motivational impact (Coun, 2021). Finally, the literature review of Kotera and Vione (2020) shows a positive relationship between NWW and work engagement, work flow and connectivity among co-workers. On the other hand, their review highlights that NWW blurred work-home boundaries, increase exhaustion, and mental demands (Kotera & Correa Vione, 2020). While NWW can help workers' engagement, work-related flow, and connectivity among staff, NWW can also increase blurred work-home boundary, fatigue, and mental demands.

Empirical evidence: comparison between sectors

The review of literature on the impact of NWW practices on employee well-being before the pandemic was evidence-based only in private companies, mostly in the Netherlands and English-speaking countries. Regarding the literature on the impact of NWW on employee well-being, no studies have focused on the public sector (Athanasidou & Theriou, 2021). Empirical

evidence on the impact of NWW practices on employee well-being in the public sector is lacking. More generally, empirical research on the role of job and organisational characteristics on public sector employee well-being is limited (Fletcher et al., 2020; Johari et al., 2018).

Concerning the hybrid sector, I found one study that examines one dimension of NWW, namely telework in a hybrid organisation in the USA (Hylmo & Buzzanell, 2002). Their study showed the presence of a paradox of control was at work: systems designed to create more freedom ended up reducing autonomy and flexibility. Otherwise, to our knowledge, there is no empirical evidence of sectoral differences or similarities in the literature on NWW practices, teleworking or flexible working arrangements.

A few studies that focus on one dimension of NWW, such as teleworking, and its effect on employee well-being exist. For example, Caillier's (2012) findings on the impact of telework on job satisfaction show the importance of team-oriented management and supportive supervisors in this context.

In another study examining the impact of pandemic-induced remote working on work alienation in the public sector in Canada, the authors found that job autonomy and working time flexibility were important job resources in this context (Doberstein & Charbonneau, 2022). In the Netherlands, De Vries et al. (2019) analysed data from civil servants working for a Dutch municipality and found that the impact of telework on their organisational commitment was either neutral or negative. Another study happening during the compulsory pandemic-related telework, focusing on Korean public servants, found that job autonomy, organizational goal clarity, and organizational justice were positively and significantly related to job satisfaction (Kim, 2022). This finding is consistent with the results of the cross-sector meta-analysis of 130 studies by Borst et al. (2020). Their review highlights that specific characteristics such as bureaucracy, frequent changes in political leadership and different motivations for working as a public servant are associated with work engagement. These institutional and organisational characteristics may vary across organisations.

In relation to NWW practices, there are different mechanisms through which these specific organisational characteristics might play a role in actors' perceptions of the availability of these practices, in managerial variables related to NWW, and in employees' interpretations of why NWW are implemented in these different organisational contexts.

Institutional and organisational characteristics may differ between sectors, such as management autonomy, the presence or absence of bureaucracy, but also the clarity of organisational objectives. For example, public organisations display specific organisational characteristics such as more bureaucracy, more red tape and less job or managerial autonomy (Boyne 2012). In this respect, it is likely that these characteristics will influence the potential use of NWW and their effect on employee well-being.

For example, a key issue in flexible working in the public sector is that of control management (Kotera & Vione, 2020). In their paper, Taskin et Edwards (2007) show, in Belgium public organization how telework challenges the question of control versus trust management. Some of their results how teleworkers tend to increase their pro-active presence online :” On the other hand, employees seemed to increase their electronic interactions when working from home, replicating exactly the professional schedules at home and making themselves available to react in real time to every email or phone call.”(Taskin & Edwards, 2007, p.203). Based on the old model of employee presence and visibility, managing teleworkers raises many new questions (Felstead & Henseke, 2017).

Reviews of the antecedents of public sector well-being have shown that organisational characteristics are important for public sector employees (Fletcher et al., 2020); however, there is a paucity of empirical research that considers such characteristics in relation to perceptions of NWW practices, and there exist no studies that compare these characteristics across sectors. In conclusion of this chapter, it seems rather of utmost importance to understand the effects of these flexible work arrangements – labelled as « NWW » – on employees well-being. Furthermore, the investigation of such research questions in a context of public organisations seems rather actually missing and research is needed to understand the challenges at hand in organisations nowadays.

1.3.6. Synthesis NWW and well-being at work

In sum, the review of the literature shows that the concept of NWW does not make a consensus among scholars. This leads to different variables being investigated in the empirical studies. Studies differ in terms of which dimensions are taken into account when operationalising NWW. Consequently, comparisons among them are difficult to make. The conceptualization

of work well-being differs equally in the empirical evidence, making it difficult to comprehend which dimensions of NWW affect which dimensions of work related well-being. The investigation displays contradictory outcomes for well-being at work, leading the academic community to look for mediation variables. The main evidence shows that contradictory results are found when studying the impact of NWW on work related well-being.

The empirical evidence has risen since the COVID-19 pandemic, with the implementation of telework. However, this literature focuses mostly on the impact of telework on employee well-being, which cannot be fully compared with the literature of NWW, as the perceived place flexibility is one dimension of NWW, among others.

Finally, the empirical evidence on NWW in the public sector is very scarce or almost non-existent. Comparisons of the perceptions of NWW in different sectors is an avenue for further research. Indeed, academic literature shows that differences and similarities can exist between different sectors. In particular, the existing literature on HR practices shows that the effects of these practices on outcomes can differ depending on the sectors studied (Borst et al., 2020a). The academic literature highlights characteristics specific to the public and hybrid sector such as higher levels of goal ambiguity, the presence of stricter regulations compared with private sector organisations/red tape, and the specific work motivation of public sector workers (Lee, 2016; Perry et al., 2010; Perry & Hondeghem, 2008). More specifically, job characteristics might also differ among sectors such as employees' expectations towards work-life balance, job autonomy, or social relationships and climate (Blom et al., 2020; Borst et al., 2020a). In this regard, existing literature supports that employees' perceptions, behaviors, and attitudes have to be contextualized because they greatly depend on the institutional features of the organization they belong to (Vandenabeele & Perry, 2008).

In this sense, this research examines the relationship between NWW practices and employee well-being in different organizational contexts. This has not yet been studied in this field of research, and comparative studies between sectors of the JDR-theoretical framework demonstrate that differences exist between sectors (Steijn & Giauque, 2021b). This is why the next part of this thesis presents the general theoretical framework and research design.

2. Chapter II The theoretical framework: JD-R model

This chapter presents the overall theoretical framework of this research and the research design. It starts by introducing the Job demand and resource (JD-R) model and its links with flexibility at work. The second part introduces the research design and mediation variables and their relations with NWW dimensions and workers well-being within the Perceived Organizational Support theory (POS). Additionally, the discussion incorporates recent literature on HR attributions.

2.1. The Job Demand and Resource Theory

The JD-R model takes its origin in the seminal paper of Demerouti and Bakker (2001), which attempts to explain what causes burnout in the world of work. This model takes its root in previous theories such as the demand-control model (Karasek 1979) and the effort-reward imbalance model (Siegrist, 1996). In their seminal article, the authors present job demands as “those physical, social, or organizational aspects of the job that require sustained physical or mental effort¹ and are therefore associated with certain physiological and psychological costs” and on the other side they defined job resources as “those physical, social, or organizational aspects of the job that may do any of the following: (a) be functional in achieving work goals; (b) reduce job demands and the associated physiological and psychological costs; (c) stimulate personal growth and development” (Demerouti et al., 2001, p.501).

In 2004, Schaufeli and Bakker (2004) introduced a revised version of the model, adding the component of work engagement (Figure 6). This included a positive note into the model, not explaining only the negative side of job demands but also explaining the motivational process that lead to more engagement. They authors define work engagement as a positive, affective-motivational state of fulfilment in employees that is characterized by vigor, dedication and absorption (Schaufeli & Bakker, 2004). The revised JD-R and different processes can be seen in the figure below. Moreover, the model assumes that when job demands are high, employees must exert extra effort to reach their results and this may come with fatigue, stress, which are seen as physical and psychological costs. Such demands are, for example, work overload, time pressure or role ambiguity. This leads to cause a health impairment process. On the other side, job resources have the opposite effect on employees and mitigate the negative effect of job demands. Examples of job resources are social support or supervisor feedback. For example,

social support satisfies basic human needs such as the one of relatedness. Therefore, it stimulates a positive work-related state of mind, as work engagement (Ryan & Deci, 2001). This theory has been empirically tested in various countries as well as in various types of organisations (Bakker et al., 2007; Bakker & Demerouti, 2014).

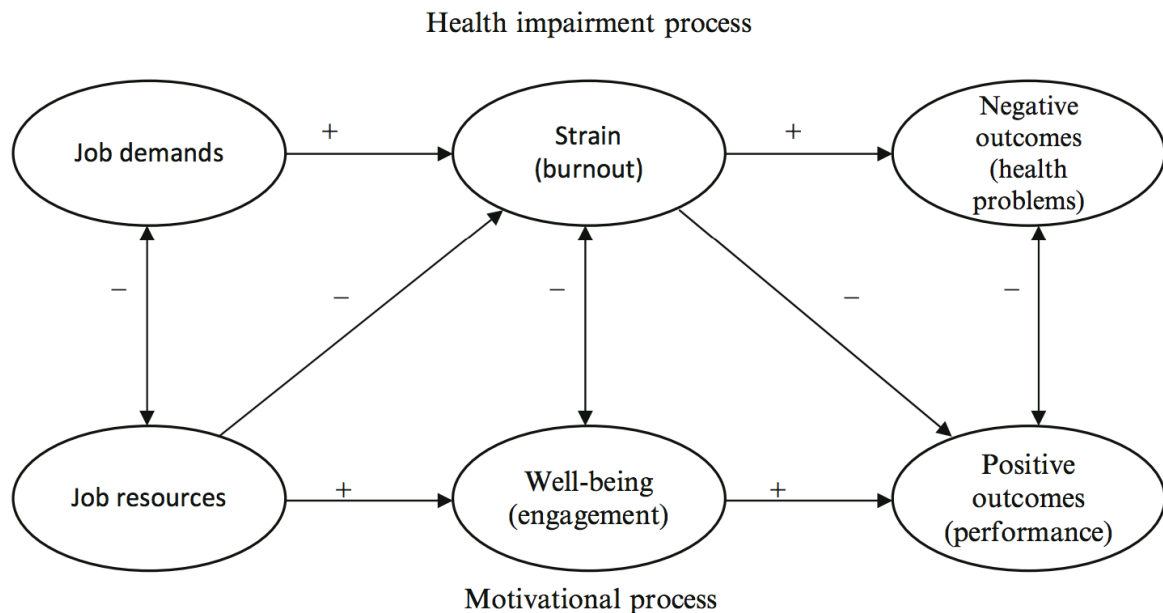


Figure 6: The revised JD-R (original from (Schaufeli & Bakker, 2004, p.297))

Finally, the last update of the model happened in 2010, with Crawford, LePine, and Rich (2010) finding a difference between two categories of job demands. Through a 46-sample meta-analysis by they identified the first category of job demands as “challenges” (such as workload and time pressure) and the second as “hindrances” (for example role conflict and “red tape”). Both types of demands were positively related to burnout. Although, they found that the relations between job demands and engagement were not the same whether job demands were considered as challenges or hindrances. The latest were related negatively to work engagement as the first were related positively with engagement. The assumption behind the model was that as challenges and hindrances tend to be both demanding, challenges have the potential to promote mastery and future gain, whereas hindrances could impede personal growth and goal attainment.

Personal resources are also included in the JD-R model. These are “psychological characteristics or aspects of the self that are generally associated with resiliency and that refer to the ability to control and impact one’s environment successfully. » (Schaufeli & Bakker,

2004, p.49). These are, among others, self-efficacy, optimism or even resilience. As the point of this thesis is to analyse which aspects of the jobs are links with NWW and which organizational context favours well-being of employees, I will not include personal resources in this research. Because I want to conduct research that will be useful to practitioners and organisations, I focus primarily on organizational aspects.

2.1.1. The JD-R and NWW practices

From my knowledge, only very few studies anchor the analyse of NWW practices on employees' well-being into the Job Demands-Resources Model (Gerards et al., 2018; López-Cabarcos et al., 2020; Sardeshmukh et al., 2012; Van Steenbergen et al., 2017). This thesis relies on the JD-R model because of its predictive value for employee well-being and because the model is useful to explain mechanisms through which, certain job demands and job resources affect employees' well-being. This theory assumes that specific job's characteristics, namely job demands and job resources, are important predictors of employees' outcomes, in various occupational settings.

For example, Gerards et al. (2018) used the JD-R model to study the impact of NWW practices on work engagement. The results show that NWW have a positive effect on work engagement, but the interaction variables fully mediated the relation. Using the same theoretical lenses, Van Steenbergen et al. 2017 undertook a quantitative analysis in a Dutch company to measure the effects of the implementation of NWW on job demands and job resources and on well-being and burnout. They studied an organization in transition, in three waves (one before and two after the transition). They found no significant effect of NWW practices on work engagement or burnout. However, they found specific relations among NWW and job demands and job resources. For example, their findings indicate that NWW can be beneficial (i.e., lead to a decrease in mental demands and workload) and detrimental (i.e., lead to decreases in autonomy and possibilities for professional development) for employees. Similarly, Brummelhuis et al. (2012) examined the effects of NWW on work engagement and exhaustion, and investigated whether communication quality mediated these relationships. The study showed a positive effect of daily use of NWW on daily work engagement and a negative effect of the use of NWW on daily exhaustion.

These studies show how the implementation of NWW practices might alter employees' perceptions of their job and their working environment. The results point out that NWW

influence job characteristics of employees (Schaufeli & Bakker, 2004). For example, considering the component of telework, this component might diminish face-to-face interactions with co-workers and managers, which can affect employees' perceptions of relatedness to its team and organization. Relatedness is a job characteristic that has been identified as an important job resources in the literature (Bakker & Demerouti, 2017). At the same time, teleworking offers the advantage to reduce the stress due to commuting and therefore might reduce the perception of employee's mental demands of their job (Gajendran & Harrison, 2007; Sardeshmukh et al., 2012). Each NWW practices will likely affect different job demands and job resources and it is important to assess these specificities in order to understand the mechanisms.

Some studies show that NWW practices might have different effects on job demands or job resources (Gerards et al., 2018; Van Steenbergen et al., 2017). Therefore, this research anchors the study of NWW into the JD-R model in order to comprehend the mechanism through which NWW practices affect employees' well-being.

2.1.2. Contextualising the JD-R model

Additionally, no studies have been undertaken focusing on the effect of NWW on employee well-being across sectors and this research aims to fill this gap. As the work environment of public sector employees may considerably differ from those of private sector employees (Steijn & Giaque, 2021a), such analysis seems to be promising.

For example, perceptions of the availability of NWW practices are likely going to affect employees' perceptions of their autonomy at work (Gerards et al., 2018). In this regards, differences among public, hybrid and private organisations might exist. The main specific characteristics of public organisations are political control, and accountability, whereas private organisations are driven by market and profits making (Coursey & Rainey, 1990). Hybrid organisations, also known as hybrid organisations being in a kind of in-between situation compared to private and public organisations (Blom et al., 2020). Because of such characteristics, public employees may feel more constrained in their work and perceive limited autonomy (Borst & Knies, 2021).

Studies examining well-being at work in the public sector with the lenses of the JD-R model are very recent and evidence remains scarce (Bauwens et al., 2021; Fletcher et al., 2020). A

recent literature review on this matter shows that the JD-R model is pertinent when studying work engagement and burnout in the public sector context, but this review also highlights differences of levels of well-being across sectors (Steijn & Giauque, 2021b; Van den Broeck et al., 2017). In addition, studies display differences of job resources and job demands across sectors. For example, Van den Broeck et al. (2017) investigated whether employees may differ across sectors in terms of the level of job demands, job resources, burnout, and work engagement. They explored health care, industry, service, and public sector with a total of 2585 employees across sectors in Belgium. Their results show that lowest workload, social support, autonomy, were lowest compared to the private and hybrid sectors.

Other studies demonstrate the existence of resources and work requirements that are specific to the public sector. For example, Borst et al. (2017) identified red tape as a specific job demand of the public sector, which is confirmed by other studies (Giauque et al., 2014). Another study compared, in an Australian sample, difference among public and private sectors and their results confirmed a difference in the level of control. Public employee displayed less level of control in their job compared with their private counterparts (Macklin et al., 2006).

There are a few key points to bear in mind. Firstly, the JD-R model is applicable to different organizational contexts, and the resources and constraints at work can be found in different sectors. However, the existing literature shows that there are particularities, especially in the public sector. In this sense, it is interesting to look at both the level of well-being, the perception of the possible use of NWWs, and the different interactions between these variables, in different organizational contexts. Perceived availability of NWW, perceived levels of well-being should be investigated in the different sectors, in order to better comprehend these practices in the different contexts.

2.2. The Research Design

This section introduces briefly the research design and the general theoretical framework of this research.

Figure 7 displays the different variables investigated in this research and the links between them. This research design can be understood as a general framework for this thesis and the

research reflection, theories mobilized in the different articles. Then, each scientific article focuses on a specific part of the design.

Organizational variables are in the model in terms of the different types of organisations. Sociodemographic variables are included as control variables. These different variables, such as gender and being in a managerial position, were chosen to control for socio-economic determinants that might be antecedents of work-related well-being. Moreover, in relation to NWW, employees and managers may not have the same role, as the latter have to implement and manage its use, so it is of utmost importance to control for this issue.

The main research objective is to understand the effects of the different dimensions of NWW on the different dimensions of well-being. In order to better comprehend how flexibility impact well-being, mediation variables are also investigated.

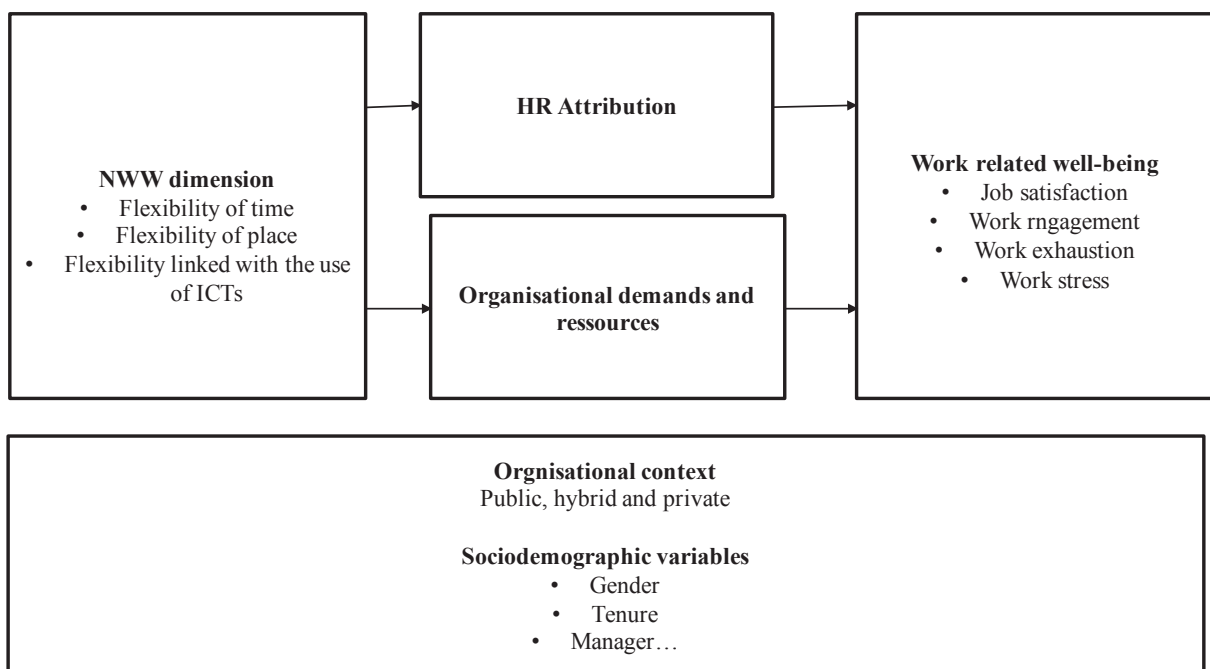


Figure 7: Research Design

To summarize, the research design anchored the investigation of NWW practices within the Social Exchange Theory (SET). According to this theory, employees feel like reciprocating efforts and engagement at work, in exchange of work characteristics offered by employers (Eisenberger et al., 1986; Gould-Williams & Davies, 2005; James et al., 2008). Specifically,

employers might offer some material (i.e. pay, reward) or immaterial (i.e. organisational support) to employees, and in turn, employees engage in their job (Aselage & Eisenberger, 2003). This general theory offers an explanation as to why employees want to reciprocate with work and motivation. Respectively, this research posits that there is an implicit contract between employers and employees. Employees perceived having access to NWW to a certain degree and these perceptions affect their engagement, satisfaction, exhaustion and stress. Having not access to this flexibility will likely result in a perception of less engagement for example. These perceptions are likely to be formed differently according to different sociodemographic characteristics. Additionally, these perceptions will depend upon the context their organisations. Empirical research demonstrates differences across sectors in terms of organizational roles, structures, and processes. For example, public organisations are often described as more formal, more bureaucratic compared to their private counterparts (Giauque et al., 2023). Systematic comparison across the three different sectors is lacking, therefore this research aims to fill this gap.

2.2.1. Mediation variables

It appears that interactional variables have been largely ignored in the empirical literature to date. Additionally, this research model presents two types of mediation variables. Each is linked to a different theory in the psychological literature. Resources and organizational demands are part of the JD-R framework. The model hypothesizes that the perception of NWW will have the effect of modifying employees' perception of organizational requirements or organizational resources. For example, the perception of schedule flexibility is likely to give the impression that the environment is conducive to work-life balance from the employee's point of view.

Future research should also take into account context and organizational variables that may be conditions under which NWW could have positive impacts. This is the case, for example, of trust in organisations (Alfes et al., 2012; Cho & Ringquist, 2011; Destler, 2017), which appears to be central in NWW work configurations. As job characteristics are important to understand employees' health and well-being, organizational aspects and perceptions about work environment are also relevant to explain employees' outcomes (Albrecht, 2012; O'Neill et al., 2009). This argument is supported by (Ruostela et al., 2015, p.158) case studies that analyse New Ways of Working : "It all starts with the social atmosphere. If there's a hang-up, it doesn't matter what you're doing here. Of course, the physical and the virtual environment need to support it, they cannot be forgotten."

Theoretically, the importance of context and perceptions by workers have been shown in Human Resource Management (HRM) and in psychology. In the field of HRM studies, authors have underlined the importance to analyse not only HR practices and policies put in place but also the interpretation made by workers of those practices (Gould-Williams, 2007). Theoretically, the organizational support theory (OST) gives some insight on this matter. According to OST, employees perceive treatment from their organization as favorable or unfavorable and develop feelings of obligation or dissatisfaction towards their organization accordingly. Their perception is an indication of the “extent to which the organization values their contributions and cares about their well-being” (Aselage & Eisenberger, 2003, p.493). In other words, perceptions of workers matter in the way they experience their work environment.

In this research, I investigate the classical variable of POS as a mediation variable. Thus, a function specific support is also analysed: the perceived favourable work-life balance environment. Finally, the aspect of attributions made by employees on the “why” these flexible work practices were implemented is added into the model. Mixing OST theory and researches on psychological climate, I argue that creating a supportive environment is of utmost importance, in a context of implementing flexible work arrangements, to improve or maintain employee well-being.

As stated by organizational scholars (Griffin, 2007, p.860) : “In abstract terms, context is the set of circumstances in which phenomena (e.g. events, processes or entities) are situated. The context typically exists at a unit of analysis above the phenomena being investigated.” This argument was also relied by (Johns, 2006) who discusses the importance of context in organizational research and how it is under appreciated by researchers. In organizational studies, there exists different concepts and variables that refer to organizational structure. When we talk about climate, terms such as organizational climate, culture, collective climate can be mismatched. Culture is more norm-focused and can be defined as: “Culture is defined as the normative beliefs (i.e., system values) and shared behavioural expectations (i.e., system norms) in an organization.” (James et al., 2008, p.21). As organizational climate refers to employees’ perceptions of their organisations, organizational culture aims to comprehend the underlying components, i.e. values and norms that shape organisations’ life. Therefore, climate may be considered as a materialization of the deeper organizational culture (Schneider et al., 2013).

Schneider et al. (2013) define organizational climate as employees' shared perceptions of the policies, practices, procedures, and behaviours that are rewarded, supported, and expected in an organizational context. For clarity, it should be noted that a distinction is made between psychological and organizational climate, the former referring to individual's perception of the climate and the latter to shared perceptions of climate (James and Jones, 1974). According to Johns (2010), job and climate constitute two levels of individual's context. The way jobs are designed "is embedded in a larger work context" and how jobs are designed "constitutes a context for their incumbents" (Johns, 2010, p.361) that may influence employee outcomes.

In the present study, the construct of psychological climate is retained, as it refers to the perceptions of employees of the organizational climate. Since the research focus on employees' specific outcomes at the individual level, it seems rather logical to use a construct of climate that is perceived at the individual level as well. Following James and James (1989), psychological climate refers to the individual employee's perception of the psychological impact of the work environment on his or her own well-being (James & James, 1989).

Moreover, following Schneider (1975), this thesis rather conceptualizes climate as a "functionally specific" construct couched in terms of a "climate for [...]. [something]" instead of a generic and generalizable construct. This methodology has begun to be quite popular in empirical studies. Indeed, the choice of which psychological climate to investigate is based on the research design and the population that is being targeted. For example, Molines et al. (2017) chose two types of organizational climates: trust climate and emotional-exhaustion climate, to study the link between organizational stressors in a police station and organizational citizenship behaviour. They showed that low-trust climate and moderate trust climate would amplified the negative effects of these organisational stressors. In an another study, Nerstad et al. (2019) conducted a two-wave field study of 1081 employees and their results showed that perceived motivational psychological climate may mitigate the effects (mastery climate may mitigate) and that a performance climate may enhance— of employees' engagement and cynicism.

This thesis will pursue with the notion of psychological climate, identified as organizational job resources for employees.

Albrecht (2010), suggested elaborating the JD-R framework by including organizational-level resources such as, for example, organizational climate, organizational support and supportive HRM policies. Furthermore, he tested this model, in an empirical analysis, with a questionnaire that obtained 3,515 responses in a large multi-national mining company and the results showed

that team climate and job-level resources directly and indirectly influence employee engagement as an indicator of job-related well-being (Albrecht, 2012). The analysis show that team climate was positively associated with engagement and job resources. He concludes that: “The results therefore serve to extend the JD-R by suggesting that organizational- and team-level resources are additional and distinct resources which inter-relate with job-level resources as a “system” of resources to influence engagement.” (Albrecht, 2012, p.848). Finally, this author states that the link between organizational climate and employee engagement, as a proxy of employees’ well-being, has not been clearly drawn in the literature and therefore, further researches are needed (Albrecht et al., 2018).

Other particular studies have found links between specific climates and employees’ engagement and health (Nerstad et al., 2013; Parker et al., 2003; Pecino, 2019). Parker et al. (2003) performed a meta-analysis of relationships between climate perceptions and psychological well-being. The results of their analysis supported the relationships between psychological climate and psychological well-being, and employee performance, with the stronger of the relationships belonging to psychological well-being. Another meta-analysis of Halbesleben’s (2010) showed that feedback, autonomy, social support and organizational climate are consistently associated with engagement, which is consistent with the JD-R literature (Bakker & Demerouti, 2007).

As the surveys were conducted in private, public and hybrid organisations, I did not choose a climate specific to one type of organization. Rather, I chose these different climates as they may be encountered in all types of contexts and because they may be related to the implementation of NWW practices. New Ways of Working can be compared to the “old ways of working” with being present at the office on the 8-18 o’clock, there are likely not only to affect the way the work is done but also the perceptions of work, what it should be or how it should be done.

Perceived favourable Work-Life Balance environment and POS

Perceived organizational support (POS) refers to perceived favorable treatment received from the organization (Rhoades & Eisenberger, 2002). In a review of the effect of remote work on different dimensions of well-being, scholars underline the importance of social support when employees are teleworking (Charalampous et al., 2019). According to the literature review, social support has been found to mediate the relationship between telework and work exhaustion before the COVID-19 pandemic and teleworkers with social support were more

satisfied and committed to their organization (Charalampous et al., 2019). This is line with social exchange theory (SET) as employees who feel social support are likely to feel like reciprocating with a sense of obligation towards the organization, for example with being more engaged at their work (Aselage & Eisenberger, 2003). The model will analyse whether POS is a mediation variable between NWW practices and employees well-being.

Boundaries between work and private life must constantly be negotiated for employees. The constant connectivity and the implementation of NWW or the implementation of compulsory telework during the pandemic had made this matter as an urgent topic. In academic research, different concepts have emerged to investigate this problematic.

Work-life balance is defined, among the community of scholars, as an holistic concept, referring to individuals' perceptions of their satisfaction to their time/role devoted to their private or work-life depending upon their priorities, values and circumstances (Barakat, 2021; Kossek et al., 2011). This thesis aims to use a more encompassing term as the work-life balance, rather than work-family balance, as not all employees have families and roles in their private life might be multiple and diverse.

One of the most used concept in this literature is the one of Work-Family Conflict (WFC). It can be defined as: "One element of the work-non work interface is the conflict a person may experience between the work role and other life roles."(Greenhaus & Beutell, 1985, p.76). More precisely, Work-Family Conflict can be specified as "WFC has been classified as a type of interrole conflict in which forces deriving from the work and family domains are somehow incompatible."(Kreiner, 2006, p.486). This variable is often used in research as a dependent variable, had been extensively investigated and its main antecedents can be summarized into three categories : "(1) responsibilities and expectations, such as the level of care-giving one has for others (children, elderly parents, etc.); (2) psychological demands, such as role ambiguity or work pressures; and (3) organizational policies and climate, such as work schedules, family-friendly policies, supervisor support, etc."(Kreiner, 2006, p.486).

In the same line of research, Kreiner (2006) describe the concept segmentation and integration of work-life as "I define segmentation as the degree to which aspects of each domain (such as thoughts, concerns, physical markers) are kept separate from one another — cognitively,

physically, or behaviourally. Integration, by contrast, represents the merging and blending of various aspects of work and home.” (Kreiner, 2006, p.1).

This literature is more focused on personal preferences, how an individual function at work or at home and even though the concepts are linked with the work-life balance that this thesis used, they were not investigated. The reasons are that this research focus on perceptions of individuals on how their managers and organisations value work-life balance, and how these perceptions might influence their well-being. The aim behind this idea is to identify structural component and leadership attitudes that will favour employees’ well-being in a context where work modalities are rapidly changing.

Looking at concepts such as work-life conflict, relatively to NWW could be interesting and is identified as an avenue for further research. The relationship between NWW and work-life conflict could be examined through the lenses of individual preferences or/and be related to the perceptions of employees on how much their organization and their managers is private-life supportive.

In this thesis, one of three dimensions of work-life climate identified by Thompson et al. (199) was retained. This dimension refers the extent to which the organization and the manager is work-life balance supportive. Managerial support refers to the extent to which employees perceive that their managers are sensitive to employees' work–life balance demands (Kim et al., 2016). This concept refers to the perceptions of employees on how their supervisor and the organization favour their work-life balance (Allen, 2001). This thesis examines how the perceptions of employees regarding the extent to which their superior and organization is favourable to their work-life balance, instead of looking at the policies that favour work-life balance.

The idea behind this mediation effect is that flexibility in terms of time and place will allow employees to manage their work-life boundaries in ways that create satisfaction and effectiveness in both domains. The literature to date focus mainly on the adoption of work-life balance policies – such as flexibility in terms of time – and its effects on well-being (Kossek et al., 2006). However, it does not tell us the actual use or perceptions of availability of these policies from the employee point of view. Sometimes, employees do not make the use of such available policies because they fear that this could incur negative consequences for their career development (Asiedu-Appiah & Zoogah, 2019). Therefore, the perceptions of availability of

flexibility is likely to be linked with perceptions of employees to be in an environment that consider their work-life balance issues.

Theoretically, according to the JD-R model, high job resources can increase work engagement, while high job demands can result in burnout (Bakker et al., 2007). Building upon this model, a supportive work-family balance environment is likely to act as a job resource for employees, because it would help them balance their work and private roles. Empirical evidence supports this claims as some family-related job resources were identified, such as work–family culture and family-supportive supervisor behaviours (FSSBs), enhanced work engagement (Peeters et al., 2009). On the other side, lack of resources and high demands, such as role conflicts (WFC), would impact negatively employees well-being (Opie & Henn, 2013).

Empirical evidence

None empirical evidence exists on the link between NWW practices and perceived favourable work-life balance environment before the COVID-19 outbreak. Few empirical evidence exists on the link between work-life balance climate and employees' well-being. In a literature review, Wood et al. (2020) analyse the findings of 16 articles that investigates empirically the links between work–life balance and work engagement constructs. They find that different constructs of work-life balance re identified as an antecedent of work engagement in the empirical studies examined (i.e. WFC, work-life balance, supportive work-family culture). None of their selected studies investigated the links between flexible work practices and supportive work-family environment. In their study, O'Neill et al. (2009) analysed the relationship between work–family climate and organizational commitment and turnover intent among 526 employees from 37 different hotels across the US. Their results suggest that of the three dimensions of work–family climate identified by Thompson et al. (1999), managerial support for work–family roles were perhaps the most important correlate of employee intentions to leave the organization and of their commitment to their organization. In the same vein, Allen et al. (2001) analysed specifically employees' perceptions regarding the extent to which their organization is family-supportive and found that this climate explained a significant part of the variance of job satisfaction, organizational commitment, and turnover intentions.

Considering that NWW are likely to have an impact on how workers organize their time for work and for their private life, it seems of utmost importance to analyse this variable and to examine the effect of supportive management in this model.

However, while some studies have highlighted the difficulty that employees face in reconciling their personal and professional lives during forced telework, other studies have shown that forced telework led to a better work-life balance (Mohring et al., 2020; Wang et al., 2021). In any case, employees' perception of the degree of openness of their direct supervisor, or of their organization as a whole, to the work-life balance issue is a dimension that can clearly impact employees well-being. The difference between perceived favourable work-life environment and social support might not be so clear-cut. I would argue that having organisations or managers that are sensitive to the work-life balance of their employees and for example that let employees having control over their scheduling is a form of social support (Barakat, 2021). It can be seen as being support-specific and thereby as a sub-category of social support. This specific support helps employees to balance their work and non-work domains.

Thus, a favorable work-life balance climate positively affects work engagement among street-level bureaucrats (Destler, 2017).

HR attributions

Recent scientific literature took interest in attribution theory in the field of HRM. The original idea of the attribution theory of Kelley (1967) comes from social psychology and explains that employees may create perceptions or attributions of events occurring in their environment. In this article, Kelley explores the different types of attributions people make, including internal or dispositional attributions (attributing behavior to a person's character or abilities) and external or situational attributions (attributing behavior to environmental factors) (Kelley, 1967). Nishii et al. (2008) were the first who investigated the impact of employee's attributions of the purpose of a HR system on employees' attitudes and behavior. They defined employees' HR attributions as "causal explanations that employees make regarding management's motivations for using particular HR practices" (Nishii et al., 2008, p.8).

Nishii et al. (2008) distinguish between HR systems that are either designed to enhance employees' well-being or HR systems that are intended to reduce costs. This distinction was made between commitment focused HR attributions (management intention to enhance well-being and service quality) and control focused HR attributions (focusing on lowering costs and exploiting employees). Empirical studies demonstrate that employees who had commitment HR attributions showed positive outcomes (Nishii et al., 2008; Shantz et al., 2016). The

empirical evidence on this matter is very recent and very scarce (Wang et al., 2019) and more research is needed (Hewett et al., 2018).

To explore the relationships between HR attributions and employee outcomes, we turn to the literature on social exchange theory (SET) (Blau, 1964) and its extensions (perceived organisational support) (Rhoades & Eisenberger, 2002), and the literature on the job demands-resources (JDR) model (Bakker et al., 2004).

In the JDR model, resources are located at different levels, including the level of support provided by the organisation (Bakker & Demerouti, 2014). In this research, we argue that when employees perceive that flexible work practices are motivated by an underlying managerial philosophy of caring for employee well-being, employees experience a higher level of social resources, as employees feel a strong sense of consideration and support from their management (Eisenberger et al., 1986). In accordance with the Job Demands-Resources (JDR) model, these resources act as catalysts for both intrinsic and extrinsic motivational processes. This involves the fulfillment of fundamental needs and the attainment of work-related objectives, leading to a positive impact on employee engagement and commitment (Bakker & Demerouti, 2007). Finally, job resources have been found to be negatively linked to job strain so that individuals who possess more resources are less likely to experience negative outcomes such as feelings of burnout and stress (Hobfoll & Vaux, 1993).

However, when employees interpret the implementation of flexibility as a reduction of costs for the benefits of the organisations, it acts as signal of diminishing job resources for employees, thus having negative impacts on their well-being. In this regards, HR attributions are investigated within the research on the link between NWW practices and employee well-being.

2.2.2. Synthesis of the theoretical framework

In conclusion, this theoretical section has demonstrated a broad and general research design. The idea of the article-based thesis is that each of the scientific articles will provide a precise answer to a research sub-question. In addition to this, empirical analyses are presented in Chapter 4, in order to analyze the sector comparison question in detail.

This research is based on existing theories, in particular the JD-R model, a theory currently widely used to understand the antecedents of burn-out and work engagement. However, contextual and organizational variables are often missing from this work psychology-based

design. To complement this approach, this research draws on and blends HRM theories, to bring in both an individual perspective-actors' perceptions-and an organizational perspective-different organizational resources and sectoral contexts. This design thus favors an integrative approach to well-being at work, and argues in favor of an approach that sees organisations as both a structure and a collective of individuals. Similarly, a multidimensional approach to well-being is being investigated, in order to understand the differentiated effects of NWW on the latter. Finally, mediation variables are included in the research design in order to better comprehend the mechanisms through which perceived flexibility affect employee well-being.

3. Chapter III Methodology and scientific articles of this thesis

This chapter presents the methodologic approach applied during this thesis. The first part presents the pandemic context, then the background to data collection, the design of the questionnaires, and the organisations participating in the surveys. The second section presents the four scientific articles that make up this thesis.

3.1. Context of the surveys

The COVID-19 pandemic

When reflecting on the impacts of NWW practices on employees' well-being, in the context of the COVID-19 pandemic, one must distinguish different periods in times. The world of work had been shaken since March 2020 in Switzerland and forced organisations to make teleworking compulsory for their employees until June 2020. Then, semi-lockdowns and another period of compulsory telework happened in 2021. In order to get a clear picture on these events, which had direct and important impacts on the writing of this research, there is the timeline below.

According to the FNS project one questionnaire common to the research team had to be developed allowing in-depth multivariate statistical analysis to estimate the statistical relationships among the variables in the research model. The FNS project was accepted for funding in 2019 and I started this research in October of the same year. The first article is a literature review on the topic of NWW and well-being before the pandemic. As the COVID-19 pandemic stroke at the beginning of 2020, the team of the FNS project had to adjust the survey that was planned. Instead of planning only one survey, two were created, in order to tackle the new reality induced by the pandemic. The first one took place in the spring of 2020, in one Swiss Public Administration, during the semi-lockdown in Switzerland (**survey 1**) and the second, which had a broader outreach, as it was passed to multiple organisations, took place in Autumn 2021 up to March 2022 (**survey 2**).

- On the **16th of March 2020**, the Swiss Federal Council announced the semi-lockdown, shutting down schools, universities, shopping centres, private and public manifestations, and making telework compulsory for all organisations. For example, at the University of Lausanne, employees could not access their working place, meaning that teleworking was compulsory.

- On the **19th June 2020** the semi-lockdown is over and the Swiss Federal Council removed the restrictions.
- **Summer 2020**: period of openings and removing measures against COVID-19
- On the **19th October 2020**, the Swiss Federal Council announced new measures to reduce the propagation of the COVID-19 and the strike of the second wave. It recommends telework for organisations. Although it was not compulsory.
- **18th January 2021** – Swiss Federal Council makes teleworking compulsory again. Second period of semi-lockdown in Switzerland with shutting down of restaurants, shopping centres, private and public manifestations, but not the closing of mandatory schools.
- **31th May 2021**: end of compulsory teleworking
- **From September 2021** the Swiss Federal Council imposed the COVID certificate to enter some places such as restaurants, bars, theatres, etc.
- **16th February 2022**: The Swiss Federal Council ends all of the restrictions concerning the COVID-19 pandemic.

These different periods of times can be summarized:

1. **1st Semi-lockdown**: compulsory telework and closing of all shops, universities, schools, etc.

2020 March 16th – June 19th

Based on the Swiss federal law: Ordinance 2 on measures to combat coronavirus (COVID-19) of March 16, 2020, stipulated that the Federal Council of Switzerland describes the situation in Switzerland as "extraordinary" within the meaning of the law on epidemics.

→ [First survey](#)

2. **Recommendations of telework** from the Swiss Federal Council
19th October 2020 – 18th January 2021

According to Ordinance on measures to combat the COVID-19 epidemic in special situations, the Federal Council stipulates that telework is recommended from the 18th October.

Based on the Swiss federal law: Ordinance 2 on measures to combat coronavirus (COVID-19) of March 16, 2020, stipulated that the Federal Council of Switzerland describes the situation in Switzerland as "extraordinary" within the meaning of the law on epidemics. Modified on the 18th Octobre 2020.

3. **2nd Semi-Lockdown:** compulsory telework and closing of all shops, etc. But the schools remained opened.
13th January 2021 – 31st May 2021
Based on the Swiss federal law: Ordinance 2 on measures to combat coronavirus (COVID-19) of March 16, 2020, stipulated that the Federal Council of Switzerland describes the situation in Switzerland as "extraordinary" within the meaning of the law on epidemics. Amended on the 13th January 2021.
4. **Recommendations of telework, but not compulsory in any organisations** from the Swiss Federal Council
4th June 2021 – 13th January 2022
Based on the Swiss federal law: Prescription on certificates attesting to vaccination COVID-19 vaccination, COVID-19 cure or the performance of a COVID-19 screening test (COVID-19 Certificates Ordinance) of June 4, 2021.
[Second survey](#)
5. **Post-pandemic world of work**
From 16th February 2022
Based on the Swiss federal law: Ordinance 3 of the 16th February, on measures to combat the coronavirus (COVID-19).

This timing has had several impacts on this thesis. Collecting data were dependent upon the type of recommendations made by the Swiss Federal Council regarding telework. The first survey was collected online during the first period of semi-lockdown and the team of scholars waited until most of the restrictions were removed in order to analyse the effects of “NWW” on employees’ well-being in a non-compulsory teleworking period.

In summary, this research is based on two different surveys, collected at two different periods in times:

1. **Survey 1st: May to June 2020 - 1st semi-lockdown in Switzerland in one Public Administration Organization**
2. **Survey 2nd: Winter 2021-2022 – Post-lockdowns in Switzerland in public, private and hybrid organisations**

3.2. The surveys' design and measurement of the variables

This section discusses the design of the surveys, the most important choices in terms of operationalizing the study variables, and more specifically the NWW dimensions.

The questionnaires were developed by the team of researchers, including variables for this thesis and variables for the thesis of F. Cornu. Some arbitrages had to be found in order to maintain the length of survey not too long for the participants.

The first survey

As we were in an emergency situation with the COVID-19 pandemic, priority was given to the organization that quickly agreed to take part in our survey. Also, as the aim of the project was always to evaluate the effects of NWW in multiple sectors, we favored the public sector. However, in order to save time and resources, and as we had no idea at the time how long this compulsory teleworking would last, we moved ahead quickly with this partner organization. This organization gave us access to a wide range of departments, which represented a very substantial target audience and promised robust analyses. This organization was a Swiss public administration at the cantonal-level in the French part.

The first survey was conducted during the spring 2020 at a Public Administration organization. Since the delays were short, because it was the first semi-lockdown in Switzerland, the FNS team developed the questionnaire rapidly, in the line of the variables that were chosen theoretically in the two PHD thesis. The team was not sure how long the semi-lockdown would last and targeted one Public Administration organization that agreed to pass on the survey to their employees. This is the reason why the questionnaire was much shorter than the second survey. The survey was constructed on survey monkey, which is a pragmatic software to build on surveys. The output of the survey from Survey Monkey came directly as Excel sheet, which constituted our data set. Most of the items were measured using 5-point Likert-type scales, with the endpoints *strongly disagree* (1) and *strongly agree* (5). The instruments relied on self-reports. The respondents answered the same questions for the two time periods—before and during the Covid-19 crisis- in the same questionnaire.

The second survey

In total, 15 organisations participated in this survey. Among them, five were public administrations. One of them participated in the survey from the 13th January 2021 up to February 2021. This period was under a special regime of compulsory telework and for that

reason, this public administration had been not used in the analyses, as it would not have been comparable since the COVID-19 context was different. Three organisations are part of the private sector.

In the end, the sample is made of four public organisations, two hybrid organisations and three private organisations.:

1. Public: Two public administrations at the cantonal-level in the French part of Switzerland and two public administrations at the communal-level in the French part of Switzerland;
2. Hybrid: SIG, Loterie Romande;
 - a. Services industriels genevois is a Swiss company serving more than 500,000 people in the canton of Geneva. Its mission is to provide essential services: supplies water, gas, electricity and thermal energy (<https://ww2.sig-ge.ch>).
 - b. The Loterie romande is a public utility company that organises and operates lottery and sports betting games in all six French-speaking cantons. It distributes all its profits to non-profit organisations (<https://www.romande-energie.ch/>).
3. Private : Romande Energie, Vaudoise, Loyco, Intuitive.
 - a. Romande Energie is a Swiss energy production, in the canton of Vaud, which distributes energy services.
 - b. La Vaudoise is an Swiss insurance company (<https://www.vaudoise.ch/fr>).
 - c. Loyco is a Swiss company offering expert administrative services for all types of organization (<https://www.loyco.ch/>).
 - d. Intuitive Surgical designs and manufactures medical robots. It is based in Sunnyvale, California. The organisation studied is a branch of this umbrella organisation, based in Morges, in French-speaking Switzerland (<https://www.intuitive.com/en-us>).

The choices made to split the different organization among sectors are based on two fundamental arguments. First, the distinction is made by the Swiss Federal Law. Second, this distinction is in line with the academic literature that studies sectoral differences.

The Swiss Federal law is quite complex on the definition of public, private and hybrid

organisations. However, distinctions should be made among those sectors. In order to distinguish public and private organisations, we based ourselves on the law distinction between “SA de droit privé” and “SA de droit public”. The distinction between these two sectors is quite clear-cut.

Concerning the distinction between the public and hybrid organisations, the law is precise, but a bit more complex. For example, the notion of *public service* in Switzerland is defined with two criteria : when “activities of general interest” and “services offered to individuals” (Tanquerel et al., 2018, p.9). The difference between public and hybrid organisations is the criteria of “attachment to the State In the case of public organisations, this public service is *directly* assumed by the state. In the case of hybrid organisations, this public service indirectly assumed to the State, as this latest can decide to grant it to a tierce organization (Tanquerel et al., 2018, p.13). This grant of the public service comes with obligations from the state towards the hybrid organization, therefore making this public service still under the responsibility of the state.

This distinction between public and hybrid organisations is also made by different authors in the management academic literature. For example, Lyons et al. (2006) differentiates between public administrators - people employed directly by government agencies- and employees in the hybrid sector - employees in the extended public service, including publicly funded education and health care organisations- and investigates differences between these groups. This thesis follows the academic literature which distinguishes between manufacturing and service organisations with a for-profit motive as private organisations, government organisations – providing public service by the state- as public organisations, and hybrid organisations containing both private and public elements – providing public service, with a control of the state, but that is delegated to an organization with a private form- as hybrid organisations.(Blom et al., 2020; Borst et al., 2020b).

Variables measurement

This section presents the main choices of operationalization of the main variables of this thesis. In the second survey, which contained a higher number of questions, more variables were included. The data were collected during winter 2021-2022. Table 5 summarizes succinctly the measurement scales and choices of the variables. However, Appendix 6 introduces all the variables measured and included in surveys one and two.

The questionnaires were built upon validated scales. For example, the education level is categorized as follows: elementary school (1), apprenticeship (2), vocational high school (3), high school (4), high vocational diploma (5), and university degree (6). Organizational tenure is measured according to five categories: below one year (1), from one year to less than three years (2), from three years to less than five years (3), from five years to less than ten years (4), and more than ten years (5).

Variable	Scales and items
Socio-demographic variables: Gender Age Organizational tenure Level of education Having kids	0 = male; 1 = female 5 categories Number of years in the organization According to the Swiss system (5 levels) Yes or no
Sector Public, hybrid and private	According to the Swiss Federal Law and following the academic management literature as explained above.
Perceived availability of NWW practices NWW1 (working independent of time) NWW2 (working independent of space) NWW3 (working with free access and use or organizational knowledge)	To measure NWW1, NWW2, NWW3 we will used facets 1, 3, and 5 tested by Gerards et al. (2018). Example of an item related to NWW2: « I am able to determine where I work ».

Table 5: Measurement scales

Sector

This variable has three categories. 1 for private organisations, 2 for public sector organisations and 3 for hybrid organisations. Organisations have been classified into these three sectors according to the origin of the law governing their operation. Organisations governed by public law are included in the public sector, while organisations governed by private law are included in the private sector. Hybrid organisations are either associations with legal personality but under state regulation, or autonomous institutions under public law with legal personality and under state supervision.

New Ways of Working

When it comes to measuring HR practices, there are several aspects to consider when choosing a measurement scale: what is measured, how it is measured and why these choices are made according to the bigger picture of the research design.

The first concerns what is being measured: policies or regulations in place, stakeholders' perception of these policies, actual use of HR practices, or perceived access to these practices. Scholars have been debating on this matter. For example, Paauwe and Boselie, (2005) argues that a distinction should be made between planned HRM processes, implemented HRM processes and perceived HRM processes. This research is following the line of the academic literature advocating for measuring perceptions of actors and argues that what is important for employees outcomes is either the fact of being able to use HR practices or their actual use (Voorde & Beijer, 2015). More specifically, authors made calls of the importance to make distinction between perceived availability and the uptake of flexible work arrangements (Eaton, 2003; Lott et al., 2022). On this matter, the academic literature made calls to be careful when operationalising flexible work arrangements, as the same concept is often measured differently across survey (Lott et al., 2022). Other issues of measurement are linked to Employer- versus employee-driven flexible work arrangements and uptake versus availability (Lott et al., 2022, p.8). This thesis measures the potential availability of NWW practices and attempts to make that clear every step of the way.

Not so many studies exist that consider NWW practices as a bundle, therefore scales representing this bundle are quite scarce (Gerards et al., 2018). For example, in their study, Brummelhuis et al. (2012) measure NWW practices as the amount of hours during five subsequent days spent, using remote access, working at home, and using emails and phone. These authors made the choice to assess the real use of NWW, and not only the availability of NWW practices. In a similar way, de Vries et al. (2018) used a methodology of daily measures. For example, working from home was measured using this strategy: “Daily working from home with two dummy variables to measure the extent to which respondents worked from home on a daily basis (“working fully from home” and “working partly from home”), with values based on the answer to the following survey question: “Today, did you work from home?” (no, partly, yes).”(de Vries et al., 2018, p.579). On another side, Block et al. (2012) investigated two aspects of NWW as the access/possibility to, named as work location control and the actual use of these practices. In their study, they developed a specific measurement tool, implying to measure these

aspects at two times in the organization: when NWW were implemented and six months later (Blok et al., 2012). This measure was not retained for this thesis as it would have needed two-time measurement. This choice was also made by Brummelhuis et al., (2012) who measure NWW practices as the amount of hours during five subsequent days spent, using remote access, working at home, and using emails and phone. Therefore this study attempted to measure the actual use of NWW practices (Brummelhuis et al., 2012).

In a similar way, van Steenbergen et al. (2017) developed their own measure of NWW while interviewing HR managers before handing out the questionnaires. They also had several measurement times. Their scale had several items such as “These items were (a) “I decide for myself where (office, home, elsewhere) and when I work,” (b) “I use information technology (e.g., smartphone, laptop), so I can work at any chosen location or time,” (c) “I regularly work remotely with my colleagues and partners,” (d) “In our office, I work in an ‘activity-related’ manner (e.g., using spaces for concentration, communication, meetings),” and (e) “I do not have my own personal desk (flex-desk concept)” (Van Steenbergen et al., 2017, p.746).

In the end, this thesis follows the research of Gerards et al. (2018) and their validated scale. The scale measures “NWW practices” with ten items have been selected by these authors, and they are all formulated in the same way, i.e. “I’m able to, I can, or I have the ability...”. These formulations try to measure an opportunity to behave, but not the real current behavior.

In this FNS project, the choice of measurement was made by the team of researchers considering the following elements: there was the COVID-19 pandemic and uncertainty, leading to abandon the idea of having two measurement times that would be comparable, in terms of participant organization and because everything changed too quickly. Secondly, following arguments of management scholars, the idea was to consider NWW as a bundle with different dimensions. This is in line with the literature which states that bundles of HR practices may have a stronger impact on employees outcomes than isolated HR practices (Gooderham et al., 2008; Gould-Williams, 2003; Wright & Boswell, 2002).

The bundle of NWW practices selected for this research is operationalized with the scale of Gerards (2008, 2012). This choice is also in line with what is present and which practices are unanimously mentioned in the academic literature: flexibility in place, time and the access of ICTs use. The idea behind the two questionnaires was to measure these dimensions:

- **NWW1:** Working independent of time (flexible schedules)
- **NWW2:** Working independent of space (including teleworking, satellite office, mobile working and activity-based office)
- **NWW3:** Working with free access and use of organizational knowledge on tablets, smartphones or computers, which facilitates communication with colleagues and managers.

However, because of the pandemic context during this thesis, dimensions of working independent of space such as satellite office and activity-based working were not used-included in the end, because of the social distancing measures which prevent such practices.

Survey 1

Two dimensions of NWW were included in survey one, which happened during the COVID-19 pandemic. All items came from the scale of Gerards (2018, 2021). It should be noted that the original items were in English, and that the research team translated them into French and then rechecked the translation in the other direction. The French items were then proofread by external people to ensure accuracy of language, grammar and wording.

1. Flexibility of time and place, with an example of item being ‘I am able to determine my own schedule.’
2. Access to colleagues, with an example of item being ‘I am able to reach colleagues within the team quickly.’

Appendix shows all the dimensions and corresponding items for this variable.

Survey 2

In the second survey, five dimensions of NWW were included. All come from validated scales of Gerards et al. (2018, 2021), and two last items were added by the team of researchers. Table 6 presents the eight items of NWW that were present in survey two. At the end, the dimension of activity-based space was not retained, because of the pandemic.

1. Flexibility of time and place, with an example of item being ‘I have the freedom to vary my work schedule.’
2. Flexibility of place, with an example of item being ‘I have the freedom to work wherever is best for me—either at home or at work.’

3. Access to colleagues, with an example of item being ‘I am able to reach colleagues within the team quickly’
4. ICTS use, with an example of item being ‘I can access all necessary information on my computer, smartphone, and/or tablet’
5. Adequation of the place of work, with an example of item being ‘Mon espace de travail à la maison est adéquat pour le télétravail’¹.

Appendix shows all the dimensions and corresponding items for this variable.

Well-being

The operationalisation of this variable is based on the theoretical choices and conceptualisation of the four dimensions presented in the literature review: hedonic, eudaimonic components with positive and negative aspects. In order to make it simple and make comparisons among studies possible, I chose scales that were already validated and quite common in the literature. The idea was to analyse the effect of NWW on these different dimensions. The aspect of social well-being does not appear here, as it is explained in the literature section. Since in my research design I used social support as an antecedent of work related well-being, I chose not to include social well-being as a component.

3.3. Ethical considerations

The data collection and storage process had to be methodologically and ethically sound. As this thesis was funded by the Swiss national fund, it had to respect their ethical charts, rules and norms. For example, the team of researchers had to submit their Data Management Plan (DTM) on the mySNF platform, as a condition to receive the funds. Therefore, this research is completely in line and respected the rules of the Swiss national fund on the data collection, management and so on. The DTM contained information's about: 1) data collection and documentation, (2) ethical, legal and security aspects, (3) data archiving and preservation, and (4) data sharing and reuse. This section briefly summarizes the main key points of this DTM and ethical considerations.

To this end, several precautions and stages were observed throughout the research. First, to pass on the different questionnaires, the team of researchers had to contact HR department employees, and get their approval at the different hierarchical levels. They had all the discretion

¹ This item is in French. It was written directly by the research team, in French.

in accepting and handling the survey. Hence, the questionnaires were reviewed by the HR department heads, who requested, most of the times, minor changes. These changes never impact the scales and the items that were in the questionnaire, but they made minor modifications to the e-mail or the information about the survey that accompanied the survey. Third, the questionnaires were sent as an Internet link to employees by their HR department. To ensure anonymity, responses were directly saved on a server belonging to the researchers' affiliated university. All computers used by the research team members are protected by unique passwords, and all offices cannot be accessed without a dedicated key. The data were saved in Excel sheets and other than sociodemographic characteristics did not contain information's about the different respondents. The various organisations therefore did not have access to the raw data from the different questionnaires.

All respondents were informed that their data will be managed anonymously. Concretely, this means that each respondent will be identified (in the excel-File, see below) with a single number and no personal information such as name, address or Email. Information related to their belonging organizational unit and organisation will also be anonymised. Employer of the respondents will only receive aggregated results in such a way that the identification of single respondent is not possible. The initial communication of the survey addressed to the potential respondents will mention all these precautions. Finally, the participation to the survey is of course not compulsory. The research team then produced statistical reports for each organization, in a completely anonymized and factual manner, to give them an overview and trends concerning the different variables.

Finally, there is no licence related to the collected data, which are the property of the employers' researchers (host institution: UNIL).

All quantitative data collected during this project are now made available to the research community. The team of researchers had them transferred to FORS (See: <http://forscenter.ch/en/about-us-2/contact-points/www-unil-ch/>), the Swiss Centre of Expertise in the Social Sciences, dedicated to this aim. The substructure "Data and research information services (DARIS)" is in charge of research data management.

3.4. Presentation of the scientific articles of the thesis

This thesis contains four scientific articles. Three have been already published and the last one is a working paper. The following section presents briefly the aim, the methodology, and the results of each paper. Table 6 gives an overview and summarizes key take outs of each paper.

Article 1 : Renard Karine, Cornu F., Emery Y., Giauque D., (2021). The Impact of New Ways of Working on Organizations and Employees: A Systematic Review of Literature. Administrative Sciences, 11 (2).

The first step was to identify what has been found by the research community on the concept of New Ways of Working and employees' well-being. The first article aimed to review the literature on New Ways of Working with a systematic literature review that selected 21 scientific articles between October and November 2019. The aim was to discuss the different definitions of the concept and to investigate whether the empirical evidence is in favour of the mutual gains or the conflicting outcomes theory – whether NWW is mutually beneficial to organisations and employees or if the effects are contradictory. The paper was written before the COVID-19 pandemic and sent for publications at the beginning of 2020.

The main outcomes of this article are the following:

- No consensus exists in the literature on the definition of NWW, making comparisons between studies difficult. Different dimensions of NWW are investigated in each study.
- However, scholars may agree that: the definition of NWW lies in the bigger circle of “flexible work arrangement”, but focuses only on flexible modalities at work, and does not include contractual flexibility for example.
- The empirical investigation of NWW on employees' well-being show contradictory results and is relatively scarce compared to performance outcomes.
- Studies show a lack of theoretical framework to depict the relationship between NWW and employees' outcomes and mediation variables seem of utmost importance.
- Most of the literature focuses on the private sector.

Article 2 : Giaque, D., Renard K., Cornu, F., & Emery, Y. (2022). Engagement, Exhaustion, and Perceived Performance of Public Employees Before and During the COVID-19 Crisis. Public Personnel Management.

Article 2 analyse data of one Public Administration in Switzerland that were collected during the semi-lockdown in May-June 2020. It focuses on the impact of NWW on employees' well-being before and during the pandemic.

The idea was to test the different antecedents of public servants' well-being, including NWW dimensions and job and organizational characteristics, in "normal" time and during the pandemic. Since there was not the possibility to go back time, we asked the same questions twice. In order to analyse the dataset, t-test were undertaken to assess the differences between the two periods:

- The results show that employees felt like there was more flexibility in terms of space and time, and more autonomy during the compulsory telework period.
- Reaching colleagues, supervisors and collaboration was more difficult during the lockdown.
- Public servants felt less tired during the compulsory telework period
- Work-life balance was perceived as better during the COVID-19 lockdown than before

Hierarchical regressions were then run to depict the antecedents of workers' well-being and to examine the link between NWW dimensions and workers' well-being.

The contributions of this paper are the following:

- Flexibility in terms of time and place is non significantly related to work engagement both before and during the COVID-19 lockdown.
- Easy access to colleagues and managers is positively and significantly related to work engagement only during the lockdown.
- Flexibility in terms of time and place and easy access to colleagues and managers are non-significantly related to work exhaustion before the pandemic.
- Flexibility in terms of time and place and Easy access to colleagues and managers are significantly negatively related to work exhaustion during the pandemic.
- Autonomy, social collaboration among colleagues, and work-life balance proves to be an important job resource both before and during the pandemic period.

Article 3: Renard K., (2023). Perceptions of Work–Life Balance and Coworker Support Promote Teleworker Well-Being: Survey of the Swiss Public Sector During COVID-19. 29 (77). RIPCO.

Article 3 investigates the relationship between NWW practices and work engagement and exhaustion, while adding mediation variables in the relationship. Using STATA, SPSS and process, the results confirm the presence of a partial mediation effect due to perceived co-workers' support and perceived favourable work-life environment in the relationship between NWW and workers' well-being.

The results show that:

- The results show that there existed no well-being trade-offs between work engagement and work exhaustion.
- The model supports that perceived favourable work-life environment partially mediates the relationship between flexibility of time and space and work engagement and exhaustion.
- The model supports that co-workers' support partially mediates the relationship between access to colleagues and superiors and work engagement and exhaustion.
- Out of the five control variables, being older was significant and had a positive relationship to work engagement. Additionally, being a manager was positively and significantly related to feeling more exhausted
- Out of the five control variables, having more tenure and being a manager were significant but were negatively related to work engagement. Women display higher of exhaustion.

Article 4: Renard K. HR Attribution influence workers Well-Being when flexibility is implemented: Comparisons between the Swiss Public and Private Sector. Working Paper.

Drawing on data collected during the winter 2021-2022 in private and public organisations, this paper investigates the link between different dimensions of NWW, HR attributions and employees well-being. Using hierarchical regressions in STATA software, the results show that:

- A positive and significant correlation between flexibility in terms of place and work engagement, reversely it diminishes exhaustion and stress at work for the private and the public sector.

- The same signs and relations were found for flexibility in terms of time and were significant for the public sector, but the coefficients were not significant for the private sector.
- HRATT well-being/productivity was positively and significantly linked with work engagement and seems to diminish exhaustion and stress for both sectors. HRATT cost reduction was negatively linked with well-being of employees, although the coefficients did not show any significance for the private sector, but they were significant for the public sector.

No.	Title	Type of publication	Published in	Type of Research	Results
1	The Impact of New Ways of Working on Organisations and Employees: A Systematic Review of Literature	Article	<i>Administrative Sciences</i> , 11(2), 38, 2021, https://doi.org/10.3390/admsci11020038 , pp.1-18.	Systematic Literature Review on New Ways of Working (n=21)	<ul style="list-style-type: none"> • Lack of common definition of NWW • Difficult to compare empirical evidence • Effects of NWW on job demands, job resources, and employees' well-being is scarce and ambiguous
2	Engagement, Exhaustion, and Perceived Performance of Public Employees Before and During the COVID-19 Crisis	Article	Public Personnel Management	Quantitative analysis of a survey before and during the COVID-19 May 2020 Lockdown in a Public Administration in Switzerland (n=1,373)	<ul style="list-style-type: none"> • Forced telework does not appear to have influenced our respondents' level of engagement • The level of exhaustion dropped sharply during the telework period • NWW negatively impact exhaustion, positively impact individual engagement, and contribute toward shaping a more favorable perception of self-performance during a forced teleworking period • <i>Antecedents of engagement before and during the forced telework period</i> : job characteristics (the ability to conduct a variety of activities, the use of a variety of skills, greater freedom to organize work, and the opportunity to take personal initiatives as well as collaborative and work-life balance climate) increase work engagement • <i>Antecedents of exhaustion before and during the forced telework period</i> : greater freedom to organize work, and the opportunity to take personal initiatives as well as collaborative and work-life balance climate decrease the level of exhaustion of public servants
3	Perceptions of Work-Life Balance and Coworker Support Promote Teleworker	Article	RIPCO	Quantitative analysis of a survey during the COVID-19 May 2020 Lockdown in a Public Administration in Switzerland (n=1,373)	<ul style="list-style-type: none"> • Mediation of work-life balance climate between NWW and public servants' well-being • Mediation of colleagues support between NWW and public servants' well-being

4	<p>Well-Being: Survey of the Swiss Public Sector During COVID-19</p> <p>HR Attribution influence workers Well-Being when flexibility is implemented: Comparisons between the Swiss Public and Private Sector</p>	Article	To be submitted		<p>Quantitative analysis of a survey during the winter 2021-2022 outside of a Lockdown in public and private organisations in Switzerland (n=2,646)</p>		<ul style="list-style-type: none"> • Flexibility in place and time influence positively well-being of employees in both sectors. • HR/ATT matters when explaining employees well-being when flexibility is implemented. • HR attribution related to well-being mediate the relationship between perceived flexibility of time and work engagement in the public sector.
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Table 6: Summary of the scientific articles of this thesis

4. Chapter IV: Additional Empirical Analysis

This last section presents some additional empirical investigation regarding the data of the 2nd survey in order to better comprehend differences or similarities across sectors. The organisations participants are briefly introduced as well as the analytical procedures. Then, the last section discusses the results.

4.1. Participants and methodology for the 2nd survey

In the end, the sample is made of four public organisations, two hybrid organisations and three private organisations.: a) Public: Two public administrations at the cantonal-level in the French part of Switzerland and two public administrations at the communal-level in the French part of Switzerland; b) Hybrid This results in 2,646 responses (Table 7). The table presents the repartition of respondents across sector. The public sector is the most represented in our sample, followed by the private, and the hybrid sector.

Secteur	Freq.	Percent
1	2,074	78.38
2	209	7.90
3	363	13.72
Total	2,646	100.00

Note : Secteur 1 = Public; Secteur 2= Hybrid; Secteur 3 = Private.

Table 7: Repartition of respondants per sectors

This thesis responds to the call from academics to also investigate the grey area, namely ‘hybrid organization’. This is done in order to overcome the traditional black and white difference between public and private organisations. This sector is the hybrid sector (Boukamel et al., 2021). Legally and politically, the existence of these hybrid organisations are also explained by Switzerland specific characteristics. For example, there exist in Switzerland a proximity of government to economy, leading the private sector to be involved in implementing government policies, with the concept of « neocorporatism » (Ladner et al., 2019, p.4). Specificities such as decentralization with the canton having a lot of power and authority in Switzerland or such as a relatively small public sector are important to understand the presence of hybrid organisations. In this regard, as stated by (Ladner et al., 2019, p.13) : “ tasks which elsewhere are the responsibility of the public sector have traditionally been provided in cooperation with private

actors. This goes along with the idea that government, economy, and society need not be antagonistic. Switzerland is often characterized as a liberal variant of the neo-corporatist model (Katzenstein 1985).”

In this regard, the Swiss law makes a lot of possibilities for providing public service according to: design, build, finance and operate or maintain. Then, the division of these tasks between one or more agents (public and/or private) determines the mode of supply (Ladner et al., 2019, p.188).

Measures and analytical procedure

The questionnaires' items of both questionnaires are presented in the Appendix. Respondents answered questions regarding how they perceived different job resources, job demands and work situations. The questionnaire items and their source associated with all the measures of the study are presented in the Appendix. Most items were measured using a five-point Likert-type scale, with 1 = strongly disagree and 5 = strongly agree. The data were self-reported.

STATA software was used for descriptive statistics, Pearson's correlation coefficients, factor analysis and regressions analysis. Following Carillo et al.(2021), to ensure convergent validity, the following criteria were established : 1) Cronbach's alpha is approximately 0.7 or higher, and 2) each item loading is significantly higher on its respective construct, with no item loadings below the cut-off value of 0.502 (Hulland, 1999; MacKenzie et al., 2011). All coefficients were above 0.7 and showed consistent constructs (loadings reported in the Appendix). Measurement models were also calculated in STATA software in order to control the construct of latent variables and are displayed in Appendix. Harman's single factor tests were performed for all models in which we loaded all items onto a single factor. Each of these one-factor model had significantly worse fits than the original measurement models, indicating that CMV is unlikely to be an issue. The analyses show firstly pairwise comparisons of marginal linear predictions with the ANOVA command in STATA software in order to test mean differences among the variables.

4.2. Sector comparison

Table 8 presents the descriptive statistics of the whole sample. Of all respondents, 50% were women, of whom 51% reported having dependent children at home. All dimensions of NWW practices are correlated significantly with the dependent variables – job satisfaction, work

engagement, work stress and exhaustion-. There are positively correlated with work engagement and satisfaction and negatively with health variables. Women perceived significantly less availability of flexibility of time and place compared to men. Age is negatively correlated with perceived flexible practices at work. Older employees report significantly less perceived availability of ICT use practices such as having access to organizational knowledge compared to younger employees. Finally, being a manager is significantly negatively correlated with perceived availability of flexibility at work.

Variables	Obs	Mean	Std. Dev.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) FLEXTI	2813	3.291	1.26	1.000												
(2) FLEXLOC	2796	2.727	1.193	0.484*	1.000											
(3) COLL	2798	4.197	.736	0.187*	0.208*	1.000										
(4) INFO	2815	4.057	.99	0.239*	0.303*	0.483*	1.000									
(5) HOME	2808	3.884	1.144	0.173*	0.170*	0.429*	0.489*	1.000								
(6) ENG	2799	3.745	.771	0.159*	0.196*	0.216*	0.157*	0.144*	1.000							
(7) STRESS	2808	2.581	.995	-0.156*	-0.127*	-0.250*	-0.152*	-0.128*	-0.289*	1.000						
(8) EXHAU	2801	2.455	.989	-0.155*	-0.125*	-0.262*	-0.151*	-0.137*	-0.309*	0.791*	1.000					
(9) SAT	2814	3.935	.911	0.205*	0.214*	0.265*	0.187*	0.182*	0.694*	-0.407*	-0.401*	1.000				
(10) GENDER	2751	.486	.5	-0.080*	-0.107*	0.026*	-0.071*	0.016*	-0.031*	0.001	-0.016*	-0.024*	1.000			
(11) AGE	2762	4.117	1.042	-0.004	-0.005	-0.096*	-0.019*	-0.012	0.056*	0.056*	0.049*	-0.010	-0.103*	1.000		
(12) TENURE	2760	2.861	1.339	-0.056*	-0.084*	-0.146*	-0.084*	-0.055*	-0.087*	0.140*	0.144*	-0.107*	-0.053*	0.473*	1.000	
(13) KIDS	2745	.51	.5	0.016*	-0.006	0.010	0.058*	0.008	0.054*	-0.005	-0.022*	0.031*	-0.020*	-0.014*	0.048*	1.000

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 8: Descriptive statistics and pairwise correlations for the three sectors

4.2.1. Differences in well-being between sectors

Table 9 presents the summary of the significant differences of dimensions of work related well-being across sectors. Employees working in private and hybrid organisation show similar level of job satisfaction, and work engagement, whereas public servants report significantly lower levels of well-being. However, employees working in the hybrid sector report higher levels of stress at work. For work exhaustion no significant differences were reported.

	Public	Hybrid	Private
Job satisfaction	-		
Work engagement	-		
Work stress		+	
Work exhaustion			

Note: When a (-) or (+) is put it means that the relation is significantly different from the other sector.

Table 9: Differences in well-being between sectors

Work engagement

Respondents working in public organisations reporting lower levels of work engagement, whereas private sector workers report much higher levels of work engagement, employees working in the hybrid sector, being, in an in-between position. The differences among sectors are significant between public and private sectors at 1%. The differences among employees working in the hybrid and public sector is significant at 5%. However, the difference between employees working in hybrid and private organisations is not significant.

Job satisfaction

Respondents working in public organisations report lower levels of job satisfaction, while those working in the private sector report much higher levels of job satisfaction - hybrid respondents are in an in-between position. The differences among sectors are significant between public and private sectors, between public and hybrid at 1%. However, the difference between hybrid and private is not significant.

Work stress

Respondents working in hybrid organisations report higher levels of stress, while those in the private sector report lower levels and those in the public sector fall in between. The differences between sectors are not significant.

Work Exhaustion

Respondents working in private and hybrid organisations report lower levels of exhaustion than those working in the public sector. The differences between sectors are not significant.

Synthesis of the results

These findings are in line with the academic literature. For example, Wright and David (2003) showed that work context may not only be important in distinguishing between public and private sector employment, but may also be at the root of any sectoral differences in job satisfaction. In a similar way, Borst et al. (2020) in a meta-analysis analyzed whether the effects of work engagement on several employee outcomes differ across the public, hybrid, and private sector. The results of the cross-sectoral meta-analysis of 130 studies showed that the most noticeable significant sectoral differences can be found in the mean work engagement and the effects of work engagement on the level of attitudinal outcomes and behavioral outcomes. Their findings show that engaged civil servants are significantly more satisfied with their jobs than hybrid and private sector employees, and more committed to the organisation than hybrid employees. Their study also shows that the average work engagement of hybrid employees is much higher than that of public and private employees. These findings are consistent with what we have found in our empirical analyses, where public employees report significantly lower levels of work engagement than hybrid and private employees. Concerning the hybrid sector, our results are in line with the study of Lyons et al. (2006) that demonstrate that the employees working in the hybrid sector –i.e. teachers and health care workers– value the purposefulness of their job even more than public employees.

Our empirical findings show that both types of time and place flexibility are important vectors of work engagement in the public sector, and therefore identify means by which public organisations can foster employee engagement.

4.2.2. Differences in perceived availability of NWW between sectors

To complete the analysis of differences between sectors, Table 10 shows the differences in the perceived availability of NWW between sectors. The empirical evidence from the second survey shows that employees in private and hybrid organisations perceive that they have more access to flexibility practices than employees in the public sector.

This adds to the knowledge of public and private sector comparisons in current research on NWW. These results show that the work environment of public sector employees may be different from that of private sector employees.

	Public	Hybrid	Private
Flexibility of time		+	+
Flexibility place of work		+	+
Reaching colleagues and superiors		+	+
Information access		+	+
Adequation place of home		+	+

Note: When a (-) or (+) is put it means that the relation is significantly different from the public sector.

Table 10 : NWW perceived availability differences

Flexibility in time

Respondents working in private and hybrid organisations report much higher levels of perceived availability of time flexibility than those working in the public sector. The differences between sectors are all significant at the 1% level.

Flexibility of place

Respondents working in private and hybrid organisations report much higher levels of perceived availability of workplace flexibility than those in the public sector. Employees in the private sector have the highest perceived flexibility. The differences between sectors are all significant at the 1% level.

Accessibility

Respondents working in private and hybrid organisations report much higher levels of easy access to their colleagues than those in the public sector. Employees in the private sector are the most accessible. The differences between the public and hybrid sectors are significant at 5%. The difference between the public and private sectors is significant at 1%. There is no significant difference between private and hybrid sector employees.

Access to organizational knowledge

Respondents working in private and hybrid organisations report much higher levels of access to organisational knowledge than those working in the public sector. The differences between the public and hybrid sectors are significant at 1%. The difference between the public and private sectors is significant at 1%. There is no significant difference between the private and hybrid sectors.

Ergonomics of the telework place

Respondents working in private and hybrid organisations report much higher levels of ergonomic workplace for teleworking than those working in the public sector. The differences between public and hybrid sector employees are significant at 1%. The difference between public and private sector employees is significant at 1%. There is no significant difference between employees in the private and hybrid sectors.

Synthesis and interpretation of the results

In general, employees in private and hybrid organisations report higher perceptions of NWW availability than public employees. The most striking difference is in the perceived flexibility of location. It seems that sector is a factor explaining the differences in perceptions of NWW availability in organisations.

In line with these findings, our final study shows that institutional and organisational characteristics of organisations in the three sectors can explain the degree of perceived availability of NWW (Giauque et al., 2023). Investigating data of the private, hybrid and public sector, the empirical analyses show that sector is positively and significantly associated with red tape, meaning that employees in the public sector report facing more red tape than their private sector counterparts. The variable of job autonomy is also reported as being significantly related to sector characteristics, as employees working in the private sector report more

autonomy in their work compared with employees the public sector. These results are in line with other empirical investigations. For example, Borst (2018) investigating the antecedents of work engagement in the public sector found that red tape was a job demand and autonomy a job resource for public servants.

These results are interesting as they highlight the differences between sectors in terms of perceived availability of NWW. These findings are in line with the literature that has compared sectoral differences. For example, these differences in perceived availability of NWW could be explained by sectoral and organisational characteristics, such as the presence of stricter regulation in the public sector (Lee, 2016; Perry et al., 2010; Perry & Hondeghem, 2008). More specifically, the study of Giauque et al. (2023) confirms that job characteristics differ across sectors such as employees' job autonomy (Blom et al., 2020; Borst et al., 2020a). In this respect, the findings support the existing literature that employees' perceptions, behaviours and attitudes need to be contextualised, as they are highly dependent on the institutional characteristics of the organisation to which they belong (Vandenabeele & Perry, 2008).

4.3. The effects of NWW dimensions on well-being in the public sector

Table 11 presents the descriptive statistics for public sector employees. Of all respondents, 50% were women, of whom 51% reported having dependent children at home. All dimensions of NWW practices are correlated significantly with the dependent variables – job satisfaction, work engagement, work stress and exhaustion–. There are positively correlated with work engagement and satisfaction and negatively with health variables. Women perceived significantly less availability of flexibility of time and place compared to men. However, they report higher accessibility compared to their male counterparts. Age is positively correlated with perceived flexible practices at work. However, older employees report significantly less perceived availability of ICT use practices such as having access to organizational knowledge compared to younger employees. Finally, having more tenure is significantly negatively correlated with perceived availability of flexibility at work.

Variables	Obs	Mean	Std. Dev.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) FLEXTI	2064	3.185	1.271	1.000												
(2) FLEXLOC	2045	2.193	.935	0.374*	1.000											
(3) COLL	2054	4.159	.76	0.186*	0.153*	1.000										
(4) INFO	2067	3.963	1.025	0.219*	0.246*	0.474*	1.000									
(5) HOME	2064	3.82	1.175	0.165*	0.145*	0.424*	0.492*	1.000								
(6) ENG	2053	3.705	.779	0.155*	0.150*	0.198*	0.136*	0.114*	1.000							
(7) STRESS	2061	2.583	1.001	-0.172*	-0.129*	-0.258*	-0.149*	-0.118*	-0.300*	1.000						
(8) EXHAU	2056	2.457	.996	-0.164*	-0.116*	-0.260*	-0.148*	-0.121*	-0.307*	0.797*	1.000					
(9) SAT	2067	3.881	.925	0.203*	0.168*	0.247*	0.163*	0.166*	0.686*	-0.416*	-0.402*	1.000				
(10) GENDER	2021	.499	.5	-0.083*	-0.132*	0.020*	-0.084*	-0.001	-0.035*	-0.005	-0.018*	-0.014	1.000			
(11) AGE	2030	4.167	1.04	0.016*	0.039*	-0.097*	-0.006	-0.023*	0.046*	0.083*	0.070*	-0.027*	-0.098*	1.000		
(12) TENURE	2027	2.901	1.316	-0.037*	-0.067*	-0.138*	-0.073*	-0.036*	-0.094*	0.174*	0.168*	-0.126*	-0.041*	0.475*	1.000	
(13) KIDS	2018	.514	.5	-0.001	-0.015*	0.004	0.054*	0.013	0.036*	0.005	-0.010	0.014	-0.020*	-0.029*	0.058*	1.000

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 11: Descriptive statistics and pairwise correlations in the public sector

Job satisfaction

The results show that job flexibility explains 10% of the variance of job satisfaction, implying that other antecedents of employee well-being should be included in the model (Table 12). All dimensions of NWW are positively and significantly related to employee satisfaction, with the exception of access to organisational knowledge. Finally, having more job tenure is negatively correlated with satisfaction.

SAT	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
FLEXTI	.091	.017	5.29	0	.057	.125	***
FLEXLOC	.078	.024	3.31	.001	.032	.124	***
COLL	.219	.031	6.98	0	.157	.28	***
INFO	.002	.024	0.09	.927	-.045	.05	
HOME	.039	.02	1.96	.05	0	.079	**
GENDER	.008	.041	0.20	.844	-.072	.088	
AGE	.025	.022	1.15	.25	-.018	.069	
TENURE	-.073	.017	-4.18	0	-.107	-.039	***
KIDS	.047	.04	1.17	.244	-.032	.126	
Constant	2.429	.155	15.65	0	2.125	2.733	***
Mean dependent var		3.883	SD dependent var			0.924	
R-squared		0.104	Number of obs			1933	
F-test		24.880	Prob > F			0.000	
Akaike crit. (AIC)		4986.218	Bayesian crit. (BIC)			5041.887	

Note: Flexi: time flexibility; Place location flexibility; Reach: reaching colleagues; Info: having access to organizational knowledge; Tele : adequate home place to work . *** $p < .01$, ** $p < .05$, * $p < .1$

Table 12 : The effects of NWW on job satisfaction in the public sector

Work engagement

The results show that job flexibility explains 7.6% of the variance of work engagement, implying that other antecedents of employee well-being should be included in the model (Table 13). All dimensions of NWW are positively and significantly related to employee engagement, with the exception of access to organisational knowledge and the ergonomics of the teleworking job. Finally, being older is associated with higher levels of engagement, as is having children at home. However, having more seniority is negatively correlated with engagement.

ENG	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
FLEXTI	.053	.015	3.60	0	.024	.082	***
FLEXLOC	.065	.02	3.20	.001	.025	.105	***
COLL	.154	.027	5.75	0	.101	.206	***
INFO	.01	.021	0.49	.626	-.03	.051	
HOME	.009	.017	0.51	.61	-.025	.043	
GENDER	-.017	.035	-0.50	.618	-.086	.051	
AGE	.084	.019	4.39	0	.046	.121	***
TENURE	-.07	.015	-4.64	0	-.099	-.04	***
KIDS	.077	.035	2.24	.025	.01	.145	**
Constant	2.504	.133	18.79	0	2.243	2.766	***

Mean dependent var	3.709	SD dependent var	0.780
R-squared	0.076	Number of obs	1922
F-test	17.453	Prob > F	0.000
Akaike crit. (AIC)	4368.035	Bayesian crit. (BIC)	4423.646

Note. Flexi: time flexibility; Place location flexibility; Reach: reaching colleagues; Info: having access to organizational knowledge; Tele : adequate home place to work . *** $p < .01$, ** $p < .05$, * $p < .1$.

Table 13 : The effects of NWW on work engagement in the public sector

Work stress

The results show that job flexibility explains 10% of the variance of job stress, which means that other antecedents of employee well-being should be included in the model. All dimensions of NWW are negatively and significantly related to employee stress, with the exception of access to organisational knowledge and the ergonomics of the teleworking job (Table 14). However, longer job tenure is positively correlated with stress.

STRESS	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
FLEXTI	-.085	.019	-4.58	0	-.122	-.049	***
FLEXLOC	-.056	.026	-2.18	.029	-.106	-.006	**
COLL	-.261	.034	-7.72	0	-.327	-.194	***
INFO	-.015	.026	-0.56	.576	-.066	.037	
HOME	.002	.022	0.11	.916	-.04	.045	
GENDER	-.036	.044	-0.82	.413	-.122	.05	
AGE	.008	.024	0.32	.751	-.039	.055	
TENURE	.1	.019	5.29	0	.063	.137	***
KIDS	-.005	.043	-0.11	.915	-.09	.081	
Constant	3.809	.167	22.74	0	3.481	4.138	***

Mean dependent var	2.582	SD dependent var	0.997
R-squared	0.101	Number of obs	1928
F-test	23.994	Prob > F	0.000
Akaike crit. (AIC)	5273.237	Bayesian crit. (BIC)	5328.880

Note. Flexi: time flexibility; Place location flexibility; Reach: reaching colleagues; Info: having access to organizational knowledge; Tele : adequate home place to work . *** $p < .01$, ** $p < .05$, * $p < .1$.

Table 14 : The effects of NWW on work stress in the public sector

Work exhaustion

The results show that job flexibility explains 10% of the variance in work exhaustion, which means that other antecedents of employee well-being should be included in the model (Table 15). Only time flexibility and accessibility are negatively and significantly related to employee exhaustion. Having more job tenure is positively correlated with exhaustion.

EXHAU	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
FLEXTI	-.085	.019	-4.57	0	-.122	-.049	***
FLEXLOC	-.041	.026	-1.59	.113	-.091	.01	
COLL	-.271	.034	-7.99	0	-.338	-.205	***
INFO	-.007	.026	-0.28	.778	-.059	.044	
HOME	.002	.022	0.08	.939	-.041	.044	
GENDER	-.054	.044	-1.23	.22	-.14	.032	
AGE	-.012	.024	-0.51	.609	-.059	.035	
TENURE	.106	.019	5.60	0	.069	.144	***
KIDS	-.044	.044	-1.00	.315	-.129	.042	
Constant	3.759	.168	22.32	0	3.429	4.089	***
Mean dependent var		2.453	SD dependent var			0.998	
R-squared		0.099	Number of obs			1925	
F-test		23.436	Prob > F			0.000	
Akaike crit. (AIC)		5273.142	Bayesian crit. (BIC)			5328.769	

Note. Flexi: time flexibility; Place location flexibility; Reach: reaching colleagues; Info : having access to organizational knowledge; Tele : adequate home place to work . *** $p < .01$, ** $p < .05$, * $p < .1$.

Table 15: The effects of NWW on work exhaustion in the public sector

4.4. The effects of NWW dimensions on well-being in the private sector

Table 16 presents the descriptive statistics of the whole sample. Of all respondents, 57% were women, of whom 48% reported having dependent children at home. All dimensions of NWW practices are correlated significantly with the dependent variables – job satisfaction, work engagement, work stress and exhaustion–. There are positively correlated with work engagement and satisfaction and negatively with health variables. Men perceived significantly more availability of flexibility of time compared to women. Age is negatively correlated with accessibility of colleagues and superiors at work. Finally, having more tenure is significantly negatively correlated with all dimensions of perceived availability of flexibility at work.

Variables	Obs	Mean	Std. Dev.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1.FLEXTI	363	3.75	1.12	1.00												
2.FLEXLO	361	3.99	.85	0.52*	1.00											
3.COLLL	362	4.36	.65	0.16*	0.29*	1.00										
4.INFO	362	4.41	.77	0.20*	0.27*	0.51*	1.00									
5.HOME	360	4.11	1.06	0.18*	0.15*	0.43*	0.48*	1.00								
6.ENG	361	3.91	.74	0.10*	0.16*	0.20*	0.15*	0.16*	1.00							
7.STRESS	363	2.56	.95	-0.20*	-0.24*	-0.21*	-0.12*	-0.12*	-0.18*	1.00						
8.EXHAU	362	2.45	.95	-0.21*	-0.27*	-0.29*	-0.13*	-0.15*	-0.23*	0.78*	1.00					
9.SAT	363	4.12	.84	0.14*	0.15*	0.22*	0.16*	0.16*	0.70*	-0.32*	-0.36*	1.00				
10.GENDER	350	.43	.49	-0.03	0.07*	0.19*	0.09*	0.14*	0.11*	0.02	-0.06*	0.01	1.00			
11.AGE	351	3.78	1.04	-0.02	0.02	-0.15*	0.01	0.02	0.09*	-0.03	-0.003	0.03	-0.19*	1.00		
12.TENURE	352	2.27	1.44	-0.06*	-0.05*	-0.19*	-0.11*	-0.12*	-0.07*	0.01	0.06*	-0.04*	-0.21*	0.43*	1.00	
13.KIDS	348	.483	.5	0.05*	0.05*	0.07*	0.12*	0.03	0.09*	-0.04*	-0.01	0.05*	0.02	-0.04*	-0.04*	1.000

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 16: Descriptive statistics and pairwise correlations in the private sector

Job satisfaction

Table 17 presents the results and show that flexibility at work explains 7% of the variance of job satisfaction meaning that other antecedents of workers well-being should be included in the model. Only accessibility is positively and significantly related with satisfaction of workers. No sociodemographic variables are significantly related.

SAT	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
FLEXTI	.062	.048	1.28	.2	-.033	.158	
FLEXLOC	.054	.066	0.83	.409	-.075	.184	
COLL	.255	.089	2.86	.004	.08	.429	***
INFO	-.008	.077	-0.11	.916	-.159	.143	
HOME	.052	.051	1.02	.309	-.048	.151	
GENDER	-.01	.096	-0.10	.917	-.199	.179	
AGE	.076	.049	1.54	.124	-.021	.174	
TENURE	-.023	.036	-0.64	.521	-.093	.047	
KIDS	.03	.091	0.33	.744	-.15	.209	
Constant	2.128	.428	4.97	0	1.286	2.969	***
Mean dependent var		4.122	SD dependent var			0.850	
R-squared		0.078	Number of obs			336	
F-test		3.065	Prob > F			0.002	
Akaike crit. (AIC)		835.961	Bayesian crit. (BIC)			874.133	

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 17 : The effects of NWW on job satisfaction in the private sector

Work engagement

Table 18 presents the results, which show that flexibility at work explains 10% of the variance of work engagement, meaning that other antecedents of workers well-being should be included in the model. Only accessibility is positively and significantly related with engagement of workers. Being a male is correlated significantly with engagement, as well as being older.

ENG	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
FLEXTI	.024	.042	0.56	.574	-.059	.107	
FLEXLOC	.086	.057	1.50	.134	-.027	.199	
COLL	.187	.078	2.41	.016	.034	.34	**
INFO	-.001	.067	-0.01	.988	-.133	.131	
HOME	.042	.044	0.95	.344	-.045	.129	
GENDER	.141	.084	1.67	.096	-.025	.306	*
AGE	.117	.043	2.71	.007	.032	.202	***
TENURE	-.029	.031	-0.94	.35	-.091	.032	
KIDS	.077	.08	0.97	.332	-.079	.234	
Constant	2.006	.374	5.37	0	1.271	2.741	***
Mean dependent var		3.907	SD dependent var			0.751	
R-squared		0.098	Number of obs			335	
F-test		3.937	Prob > F			0.000	
Akaike crit. (AIC)		742.732	Bayesian crit. (BIC)			780.874	

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 18 : The effects of NWW on work engagement in the private sector

Work stress

The results show that flexibility at work explains 10% of the variance of work stress, meaning that other antecedents of workers well-being should be included in the model (Table 19). Flexibility of place and accessibility seem to reduce stress. No control variables proved to be significant.

STRESS	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
FLEXTI	-.076	.054	-1.41	.161	-.181	.03	
FLEXLOC	-.19	.073	-2.60	.01	-.333	-.046	***
COLL	-.332	.099	-3.36	.001	-.526	-.138	***
INFO	.104	.085	1.22	.224	-.064	.271	
HOME	-.048	.056	-0.86	.391	-.159	.062	
GENDER	.124	.107	1.16	.248	-.087	.334	
AGE	-.033	.055	-0.59	.554	-.141	.076	
TENURE	-.004	.04	-0.09	.926	-.082	.074	
KIDS	-.024	.101	-0.24	.813	-.223	.175	
Constant	4.903	.475	10.32	0	3.968	5.837	***
Mean dependent var		2.568	SD dependent var			0.959	
R-squared		0.107	Number of obs			336	
F-test		4.341	Prob > F			0.000	
Akaike crit. (AIC)		906.316	Bayesian crit. (BIC)			944.487	

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 19 : The effects of NWW on work stress in the private sector

Work exhaustion

The results show that flexibility at work explains 13% of the variance of work stress, meaning that other antecedents of workers well-being should be included in the model (Table 20). Flexibility of place, and accessibility of colleagues seem to reduce exhaustion. On the other side, access to organizational knowledge seems to increase the fatigue of workers. None of the sociodemographic variables proved to be significant.

EXHAU	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
FLEXTI	-.085	.053	-1.61	.108	-.189	.019	
FLEXLOC	-.176	.072	-2.45	.015	-.317	-.035	**
COLL	-.396	.097	-4.09	0	-.587	-.206	***
INFO	.143	.084	1.71	.089	-.022	.308	*
HOME	-.059	.055	-1.07	.284	-.168	.049	
GENDER	-.009	.105	-0.08	.935	-.215	.198	
AGE	-.043	.054	-0.80	.427	-.149	.063	
TENURE	.027	.039	0.68	.498	-.05	.103	
KIDS	.053	.1	0.53	.595	-.143	.249	
Constant	4.911	.467	10.51	0	3.992	5.83	***
Mean dependent var		2.449	SD dependent var			0.955	
R-squared		0.131	Number of obs			335	
F-test		5.460	Prob > F			0.000	
Akaike crit. (AIC)		891.704	Bayesian crit. (BIC)			929.845	

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 20 : The effects of NWW on work exhaustion in the private sector

4.5. The effects of NWW dimensions on well-being in the Hybrid sector

Table 21 presents the descriptive statistics for the sample of employees working in hybrid organisations. Of all respondents, 53% were women, of whom 55% reported having dependent children at home. All dimensions of NWW practices are correlated significantly with the dependent variables – job satisfaction, work engagement, work stress and exhaustion–. There are positively correlated with work engagement and satisfaction and negatively with health variables. Women perceived significantly less availability of flexibility of time and place compared to men. Being older is positively correlated with more availability of flexibility of time and place. Finally, having more tenure is negatively correlated with all dimensions of perceived availability of flexibility at work, but the coefficients are not always significant.

Variables	Obs	Mean	Std. Dev.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) FLEXTI	208	3.433	1.257	1.000												
(2) FLEXLOC	209	3.456	1.224	0.704*	1.000											
(3) COLL	206	4.273	.664	0.078*	0.062*	1.000										
(4) INFO	209	4.356	.759	0.180*	0.225*	0.470*	1.000									
(5) HOME	209	4.048	.971	0.104*	0.053*	0.448*	0.370*	1.000								
(6) ENG	207	3.826	.693	0.180*	0.193*	0.255*	0.197*	0.218*	1.000							
(7) STRESS	206	2.618	1.016	0.032	0.133*	-0.205*	-0.232*	-0.212*	-0.244*	1.000						
(8) EXHAU	207	2.454	.996	-0.040	0.043	-0.295*	-0.247*	-0.229*	-0.323*	0.793*	1.000					
(9) SAT	206	4.068	.829	0.148*	0.128*	0.365*	0.313*	0.226*	0.707*	-0.390*	-0.408*	1.000				
(10) GENDER	204	.475	.501	-0.071*	-0.109*	-0.047	0.049*	0.109*	-0.082*	-0.056*	-0.033	-0.081*	1.000			
(11) AGE	206	4.257	.951	0.088*	0.071*	-0.035	0.015	0.083*	0.194*	0.017	0.041	0.159*	-0.142*	1.000		
(12) TENURE	206	3.427	1.096	-0.033	0.011	-0.147*	-0.006	-0.093*	0.107*	0.108*	0.156*	0.081*	0.024	0.423*	1.000	
(13) KIDS	206	.558	.498	0.119*	0.093*	-0.004	0.034	-0.062*	0.112*	-0.058*	-0.093*	0.153*	-0.074*	0.045	0.115*	1.000

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 21 : Descriptive statistics and pairwise correlations in the hybrid sector

Job satisfaction

The results show that flexibility at work explains 21% of the variance of satisfaction, meaning that other antecedents of workers well-being should be included in the model (Table 22). However, this is the highest explained variance reported in the models. Accessibility and the access to organizational knowledge are positively related with satisfaction. Having kids seem to be positively related with being satisfied with one's job.

SAT	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
FLEXTI	.023	.063	0.36	.716	-.102	.148	
FLEXLOC	.023	.064	0.35	.723	-.103	.149	
COLL	.359	.098	3.67	.000	.166	.552	***
INFO	.179	.085	2.10	.037	.011	.346	**
HOME	.011	.065	0.17	.869	-.118	.139	
GENDER	-.051	.111	-0.46	.648	-.269	.168	
AGE	.096	.064	1.50	.135	-.03	.223	
TENURE	.042	.055	0.76	.447	-.066	.15	
KIDS	.196	.109	1.79	.074	-.019	.411	*
Constant	.91	.489	1.86	.064	-.054	1.874	*
Mean dependent var		4.066	SD dependent var			0.821	
R-squared		0.211	Number of obs			197	
F-test		5.546	Prob > F			0.000	
Akaike crit. (AIC)		453.790	Bayesian crit. (BIC)			486.622	

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 22: The effects of NWW on job satisfaction in the hybrid sector

Work engagement

The results show that flexibility at work explains 16% of the variance of engagement, meaning that other antecedents of workers well-being should be included in the model (Table 23). Accessibility and flexibility of place are positively related with engagement. No sociodemographic variables is significantly related to the dependent variable.

ENG	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
FLEXTI	-.05	.054	-0.93	.354	-.156	.056	
FLEXLOC	.12	.054	2.22	.028	.013	.227	**
COLL	.225	.083	2.71	.007	.061	.388	***
INFO	.034	.071	0.48	.632	-.105	.173	
HOME	.066	.054	1.22	.225	-.041	.173	
GENDER	-.047	.093	-0.50	.617	-.231	.138	
AGE	.086	.054	1.59	.113	-.021	.192	
TENURE	.049	.047	1.05	.296	-.044	.142	
KIDS	.118	.092	1.28	.201	-.063	.3	
Constant	1.645	.408	4.03	.000	.84	2.45	***
Mean dependent var		3.837	SD dependent var			0.676	
R-squared		0.162	Number of obs			199	
F-test		4.068	Prob > F			0.000	
Akaike crit. (AIC)		392.847	Bayesian crit. (BIC)			425.780	

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 23 : The effects of NWW on work engagement in the hybrid sector

Work stress

The results show that flexibility at work explains 13% of the variance of stress, meaning that other antecedents of workers well-being should be included in the model. Flexibility of place is positively related to stress. Access to organizational knowledge is negatively related with stress. No sociodemographic variables are significantly related to the dependent variable.

STRESS	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
FLEXTI	-.087	.083	-1.06	.293	-.251	.076	
FLEXLOC	.22	.083	2.64	.009	.056	.384	***
COLL	-.115	.128	-0.90	.368	-.368	.137	
INFO	-.251	.109	-2.31	.022	-.465	-.036	**
HOME	-.103	.083	-1.24	.215	-.267	.061	
GENDER	-.083	.144	-0.58	.563	-.368	.201	
AGE	-.028	.083	-0.33	.74	-.191	.136	
TENURE	.106	.073	1.46	.145	-.037	.249	
KIDS	-.15	.142	-1.06	.292	-.431	.13	
Constant	4.03	.63	6.39	0	2.786	5.273	***
Mean dependent var		2.610	SD dependent var			1.019	
R-squared		0.129	Number of obs			197	
F-test		3.080	Prob > F			0.002	
Akaike crit. (AIC)		558.144	Bayesian crit. (BIC)			590.976	

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 24 : The effects of NWW on work stress in the hybrid sector

Work exhaustion

The results show that flexibility at work explains 15% of the variance of exhaustion, meaning that other antecedents of workers well-being should be included in the model (Table 25). Accessibility and access to organizational knowledge seem to reduce fatigue. Having more tenure is significantly positively related with feeling more exhausted.

EXHAU	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
FLEXTI	-.037	.08	-0.46	.649	-.195	.122	
FLEXLOC	.113	.081	1.41	.162	-.046	.272	
COLL	-.3	.125	-2.40	.017	-.547	-.053	**
INFO	-.181	.106	-1.71	.088	-.389	.027	*
HOME	-.073	.081	-0.90	.369	-.233	.087	
GENDER	-.072	.14	-0.52	.607	-.347	.203	
AGE	-.01	.081	-0.12	.901	-.17	.149	
TENURE	.124	.069	1.80	.074	-.012	.26	*
KIDS	-.213	.137	-1.55	.123	-.484	.058	
Constant	4.309	.608	7.08	0	3.109	5.509	***
Mean dependent var		2.436	SD dependent var			1.001	
R-squared		0.150	Number of obs			198	
F-test		3.699	Prob > F			0.000	
Akaike crit. (AIC)		548.974	Bayesian crit. (BIC)			581.856	

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 25 : The effects of NWW on work exhaustion in the hybrid sector

5. Chapter V: Discussion and perspectives

This last chapter discusses the results and contributions of this thesis. It attempts to produce a global vision of the state of knowledge brought about by this work and reflections for the future of the research. Therefore, it concludes with a proposed agenda for future research, as well as practical recommendation for organisations.

5.1. Discussion of the contributions of the thesis

This section aims to examine how the four scientific articles part of this thesis, and the additional empirical analysis of Chapter 4 contribute to the general research questions introduced in the problematic section. It is a meta-discussion that encompasses multiple angles and is not intended to be exhaustive.

5.1.1. Contributions on NWW and employee well-being

To recall the main research question of this thesis was: How do NWW practices affect employee well-being? In order to answer this question, the following tables and figures summarize the different findings of this research project.

During COVID-19 and compulsory telework

Figure 8 presents an overview of the main findings. The results of the first survey show that the perception of time/place flexibility contributes significantly to reducing fatigue during compulsory telework for civil servants. The other practice, the ability to reach colleagues and supervisors, is important for work engagement during compulsory telework. The results are in line with the literature showing that flexitime is associated with lower levels of stress or fatigue (Halpern, 2005; Lunde et al., 2022). These findings show that when teleworking is implemented, NWW practices are important for the well-being of civil servants. Civil servants' perceptions of time flexibility during closure could act as a job resource, helping them to manage their work-life roles. The literature on telework and well-being shows that a disadvantage could be the blurring of the boundaries between work and private life and the increase in work-life conflict (Fletcher et al., 2020; Lunde et al., 2022). This effect can be reduced by allowing teleworkers to work flexible hours. Finally, the relationships between the NWW dimensions and employee well-being before the COVID-19 pandemic were found to be insignificant. It should be noted here that this research focuses on *perceived flexibility of time and place* and does not measure telework use or frequency. The curvilinear effect of telework

on well-being had not been investigated in this dissertation but should be addressed by further research as some studies already displayed an inverse U-shaped relationship between telework and well-being and performance outcomes (Golden & al., 2008; Golden & al., 2005). Longitudinal studies should also be carried out to investigate the long-term effects of teleworking.

Further analysis should question the connectivity of employees and whether organisations have rules about a schedule or period when employees must be available or how much they are expected to answer their emails. Indeed, other empirical evidence points to the importance of recovery time and the potential dangers of surveillance through the use of ICT (Sonnentag et al., 2010).

This research contributes to the public administration literature related to the JD-R model by investigating different antecedents of public servants' well-being during compulsory telework. Job resources and job characteristics, known before COVID-19 as antecedents of employee well-being, are still found to be important in times of compulsory telework. Employees need autonomy at work and social support when teleworking.

These findings are consistent with the empirical literature. For example, in a study conducted in China, (Wang et al., 2021) found that autonomy and social support serve as a buffer to remote work challenges. By mixing flexible work arrangements and job characteristics as antecedents of employee well-being, this study contributes to the gap addressed by scholars investigating multiple antecedents of employee well-being (Peccei, 2004).

In addition, relationships at work and an environment that supports work-life balance are of paramount importance in predicting employee engagement and reducing exhaustion. These findings are entirely consistent with what has been found in the academic literature. For example, a study conducted in Canada during the period of compulsory teleworking also found that work-life balance improved during this period (Saba & Cachat-Rosset, 2020).

The variable *task variety*, part of the job characteristics model, was positively and significantly correlated with exhaustion during lockdown (Figure 8). This could be explained by two processes. First, it may be that during the period of compulsory telework, the performance of different and varied tasks became a job requirement for employees. Recent empirical evidence

has found that ICTs have led to intensive multitasking for employees (Loup et al. 2020), which had been identified as a job demand. Other empirical evidence had shown that American managers were solicited every 3 or 4 minutes by ICT (email, SMS...) to perform various tasks (Klein & Govaere, 2012), which resulted in higher stress.








	Work Engagement	Fatigue
Job resources and NWW Before COVID-19	Task diversity Autonomy Coworkers support 	Flexibility of time Task diversity Autonomy Coworkers support Work-life balance 
Job resource and NWW during COVID-19 and compulsory telework	Autonomy Coworkers support Work-life balance 	Flexibility of time  Reach Autonomy Work-life balance 
Job demands Before COVID-19		Task diversity 
Job demands during COVID-19		Task diversity 

Figure 8 : Survey 1 synthesis of results

In summary, the study during compulsory teleworking shows that the resources identified in the pre-Covid-19 literature are just as important during a period of compulsory teleworking. This is a point to bear in mind when people are working in a 'hybrid mode'. Social support is crucial as an antecedent of well-being at work and organisations and managers need to bear this in mind when implementing hybrid working.

Another interesting point is the lack of a significant relationship between NWW practices and well-being at work before the period of compulsory teleworking. There are several possible explanations for this. Given that the study was conducted in a public organisation, the question arises as to whether these flexible working practices were in place in time and place before the pandemic. Unfortunately, we did not have access to any information on this, apart from the respondents, more than two thirds of whom stated that they did not have access to teleworking before the pandemic (Renard, 2023). This may also be related to the sectoral differences identified in our study 2, which shows that public sector employees perceive significantly less availability of NWW practices compared to private and hybrid employees (Giauque et al., 2023).

Although this particular study was carried out in a very specific COVID-19 context, the results show that perceptions of flexibility, social support and an environment conducive to work-life balance are important for the well-being of civil servants.

5.1.2. Contributions on well-being at work

This dissertation fills several gaps in the literature. First, it defines well-being as a multidimensional concept and empirically analyses different dimensions of well-being. This allows us to test the trade-off hypothesis and to focus on health variables. Second, this dissertation examines the different antecedents of work-related well-being and proposes a synthesis of what is important in organisations for the well-being of employees for the different dimensions and different sectors. Additional empirical analysis also compares levels of well-being across sectors to explore potential differences. Thirdly, socio-demographic variables are examined and discussed as determinants of employee well-being.

Concept and Well-being trade-offs

This dissertation provides a comprehensive review of the concept of work-related well-being and proposes a conceptualisation that encompasses a broad understanding and holistic view. It

also suggests the importance of examining multiple dimensions of work-related well-being when examining HR practices and their impact. The concept of well-being at work has recently gained interest among scholars and practitioners. Philosophically, a current trend is to explore the responsibility of individuals in organisational settings for their own well-being (Elraz & McCabe, 2023). This approach takes roots in positive psychology (Seligman & Csikszentmihalyi, 2000). However, critics are beginning to emerge and call for this to be re-examined (Kentt  & Virtaharju, 2023; Watson et al., 2023). This dissertation investigated well-being at work and the organisational resources that could promote it when new ways of working are implemented. Philosophically, this research represents the importance of the organisational context, the structure in which individuals operate.

With regard to the study during the COVID-19 pandemic, the variance explained by NWW practices for employees' well-being is quite low. For example, the results of the regressions including socio-demographic variables and NWW dimensions account for 10% of the variance explained in the well-being of public sector employees. Similarly, for the private sector, 8-10% of the variance of the different dimensions of well-being is explained by these practices. For the hybrid sector, the proportion of variance explained is between 12% and 21%. These results show that additional factors should be included to explain the well-being of employees in the different sectors. Some differences between the different dimensions - work engagement, exhaustion, stress and satisfaction - call for different determinants of these outcomes.

The recent academic literature also supports the claim that NWW dimensions are related with higher well-being, especially during compulsory teleworking (Parent-Lamarche & Boulet, 2021; Taser et al., 2022). For example, the study by Andrulli and Gerards (2023), conducted in a Dutch organisation, found that NWW was positively related to employees' well-being.

Although this research does not provide support for well-being trade-offs between the different dimensions examined, I would still suggest that the different dimensions of well-being should be examined. Even though the different types of flexibility do not seem to have a negative impact on health variables, I would still include positive and negative aspects of well-being when investigating job characteristics, job demands, job resources or HR practices. The results suggest that the different dimensions of flexibility do not have a similar impact on each dimension of well-being at work. Furthermore, if we look at the R-squared of our regressions, they are quite different from one dimension of well-being to the other.

The way in which NWW practices are measured and conceptualised in this research may explain these findings. Perceived access to HR practices leads to perceived job autonomy, which is a relatively scarce job resource for civil servants (Borst et al., 2019; Steijn & Giaque, 2012). The results do not show that different NWW practices could improve one dimension of work-related wellbeing and be detrimental to another, which is an interesting finding. However, the results presented in Figure 8 show that different flexible practices are significantly or not significantly correlated with work engagement and work exhaustion. For example, the ability to reach colleagues and superiors is important for all dimensions of civil servants' well-being. In addition, the R-squares of the regressions for work engagement and work exhaustion are not quite similar. Looking at the variance explained, the R-squared increases when job demands and job resources are included in the equation. For work engagement during lockdown, 43% of the variance is explained by socio-demographic variables, NWW practices and job characteristics. On the other hand, the R-squared for the dependent variable work exhaustion is only 13%. This shows that the model is quite strong in predicting the work engagement of civil servants, but other variables are missing to explain the variation in exhaustion. Similarly, in the study focusing on support from colleagues and a perceived favourable work-life environment, the R-squared of work engagement increased from 20% to 31% when these two types of support were included. For work exhaustion, the increase was only from 8.6% to 11%. This shows that when studying the determinants of work engagement or work exhaustion, some specificities need to be taken into account.

Antecedents of work-related well-being and analyses across sectors

This dissertation provides a comprehensive review of the determinants of work-related well-being in terms of: individual characteristics, job characteristics, organisational characteristics, HR practices and external factors. Overall, the antecedents of employee well-being can be summarised as follows: individual characteristics - i.e. self-efficacy; job characteristics - i.e. workload, time pressure, autonomy, role ambiguity and role conflict; organisational characteristics - i.e. supportive management and family-friendly practices; HR practices - i.e. pay, career development; external factors - i.e. downsizing and restructuring. These could be seen as the main determinants of employee well-being in all organisations. These determinants are the same in all organisational contexts.

Looking at differences across sectors, hybrid and public organisations have specific occupational, organisational and external characteristics. In public settings, the most cited and

studied in the empirical literature are bureaucracy, autonomy, goal clarity frequent changes in political leadership and motivations to work as a public servant (PSM) (Giauque et al., 2023; Steijn & Giauque, 2012.). As far as hybrid organisations are concerned, they are a kind of intermediate stage between private and public organisations. However, the institutional and organisational characteristics generally attributed to public and hybrid organisations in the academic literature are more rigid, structured and bureaucratic than those of private organisations (Blom et al., 2020) . For example, in the study that investigates sectors differences, Giauque et al. (2023) found that sector was not significantly correlated with goal clarity, but positively correlated with bureaucracy and negatively correlated with autonomy. Their study shows that public and hybrid employees have more or less the same perceptions on these variables and are different from the perceptions of private employees. (Giauque et al., 2023). It is interesting to note that in the case of the public sector, employees perceived greater autonomy during the compulsory teleworking situation compared to the prevailing situation. (Giauque et al., 2022). In terms of a climate conducive to work-life balance, the results are similar. On the other side, collaboration among colleagues dropped during the forced telework period.

These results show the importance of maintaining social cooperation and relationships in a teleworking context. Even though these results are based on a compulsory teleworking period, they underline the importance of key job and organisational resources that need to be maintained in a hybrid working mode.

Interestingly, a key job characteristic, the variety of skills and tasks, known in the job characteristics model as a key driver of employee well-being, appeared to be a job requirement when telework was compulsory. This finding represents a watershed in terms of new empirical evidence. In the first survey, civil servants reported higher levels of exhaustion when they had to perform a variety of skills and tasks. This result could point to some differences between working in the office and working only at a distance. In the second mode, civil servants may need less variety in their tasks.

In summary, the empirical findings across the scientific articles point to the importance of human relationships, social support and organisational contexts for employee well-being. In general, job and organisational resources that were important for workers' well-being before the pandemic remain drivers of work engagement and reduce work exhaustion.

Notwithstanding the skills and task variety that emerged as a job requirement during the COVID-19 compulsory teleworking period.

Different levels of well-being across sectors

In the public organisations, the results show that work engagement did not differ from the situation before the compulsory telework period and during the crisis. However, contrary to some intuitions, the level of work exhaustion was higher before the COVID-19 period. This can be explained by a number of factors. First, the study took place just after the first period of semi-closure in Switzerland. This period was very stressful compared to the COVID-19 pandemic because people had no idea what was happening.

In terms of work organisation, commuting and some other activities stopped. This was the beginning of teleworking and there wasn't the fatigue of zoom meetings and virtual work as shown by other studies that took place later (Amponsah et al., 2022).

In this respect, the second study, which took place in autumn-winter 2021, shows some interesting results regarding the level of well-being in the different sectors. The empirical analyses in Chapter 4 show that levels of work engagement are lower in the public sector than in the private and hybrid sectors. The results show the same patterns for job satisfaction.

These findings are in line with previous empirical evidence on levels of engagement in work and levels of job satisfaction. For example, there is empirical evidence that public sector employees are less satisfied with their jobs than their counterparts in the private sector (Falcone, 1991). In the same paper, there is evidence to suggest that the satisfaction of hybrid workers is somewhere in the middle.

Empirical research into the determinants of work engagement in the public sector is still in its infancy. These findings call for more research in this area to better understand these differences and what might promote engagement and job satisfaction among public and hybrid workers.

This dissertation has provided some answers to this question by highlighting the importance of time and location flexibility for civil servants. The results of both surveys are consistent and robust.

Finally, the results show that hybrid workers are more stressed than private and public sector workers. The hybrid sector is a bit special as it lies somewhere in the middle. This finding seems logical, as hybrid organisations have organisational characteristics of both the private and public sectors (Blom et al., 2020; Borst et al., 2020a).

Sociodemographic characteristics: what matter when examining well-being at work

As some sociodemographic characteristics were included in the analyses, the results display what matter when studying antecedents of workers well-being. For example, being a manager is negatively correlated with well-being dimensions during the COVID-19 lockdown. Managers report higher levels of exhaustion and lower levels of engagements compared with employees. The difference is significant. This result is interesting and needs some attention for practitioners. Even if the period of confinement was very particular, with compulsory teleworking and therefore the management of remote teams, this demonstrates a point of attention for managers of organisations. Indeed, managing remote or face-to-face teams is not the same work nor the same role. Attention must therefore be paid to managers, particularly in organisations that have subsequently introduced 100% teleworking or hybrid teleworking. These results indicate an alert.

On the other hand, having more tenure in public organization is related to lower level of engagement at work. In the second survey, sociodemographic variables proved not to be significantly related with well-being dimensions of private and hybrid employees. However, having more tenure in the public sector is related to having significantly lower levels of well-being. This result is not necessary in line with empirical evidence of other countries. For example, a study which examines work engagement in the Indian context found that tenure was linked with emotional engagement (Kumar & Sia, 2012). The same findings were found in a study handed out in Ghana(Agyemang & Ofei, 2013). However, when looking at studies anchored in European contexts, tenure is linked with lower engagement. For example, a study in government in Ireland shows that having more tenure is significantly reducing work engagement (Conway et al., 2016). These results are in line with our other empirical evidence in Switzerland. For example, in the study comparing before and during the COVID-19 compulsory telework, public employees with higher tenure reported less engagement (Giauque et al., 2022). On the other side, results differ concerning health variables. In the COVID-19 study, the results show that respondents with shorter tenure reported higher levels of exhaustion in the public organization (Giauque et al., 2022). These results show different

socio-demographic determinants according to different dimensions of well-being. Public organisations are often characterised with long-term employees, if they are less engaged with time, it might be an issue for them, as well as for the organization. These results are interesting and would need further investigation on why this relation is observed.

Finally, women tend to report higher engagement before and during the COVID-19 pandemic, and higher level of fatigue during the compulsory telework period. This last result is in line with other empirical evidence during the COVID-19 lockdown (Escudero-Castillo et al., 2021), but also with previous studies on telework (Charalampoulos et al. 2019). The perception of flexibility and the use of teleworking appear to have a gender bias.

5.1.3. Contribution to the sectoral comparison

Post-compulsory telework: NWW across sectors

To recall the main research question of this thesis was:

How do NWW practices affect employee well-being across sectors?

In order to answer this question, the following tables and figures summarize the different findings.

Table 26 summarizes the results of the empirical analyses of Chapter 4. When arrows are displayed it means that significant relationships were found among the variables. For example, flexibility of time proves to be an antecedent of all dimensions of well-being for public servants. However, it does not seem to be significant for private or hybrid employees. The next subsections discuss each component of NWW and how it influences workers well-being in each sector.

	Public sector				Hybrid sector				Private sector			
	Sat	Eng	Exhau	Stress	Sat	Eng	Exhau	Stress	Sat	Eng	Exhau	Stress
Flexibility of time	↗	↗	↗	↗		↗						
Flexibility of place	↗	↗		↗		↗		↖				↗
Reaching colleagues and superiors	↗	↗	↗	↗	↗	↗	↗		↗	↖		↗
Information access					↗			↗				
Adequation place of home	↗											

Note : SAT= 'Satisfaction', ENG = 'Work engagement', Exhau = 'Exhaustion', Stress= 'Stress'

Table 26 : Synthesis effects of NWW on well-being dimensions from a sectoral perspective

The importance of accessibility: a job resource

The most striking result of the effects of NWW practices on workers well-being across sectors is the significant and always benefiting effect of the capacity to reach one's colleagues and supervisors for employee well-being. To our knowledge this variable had not been given much attention up to date. This is line with empirical analysis during the COVID-19 lockdown. Such communication is related to the availability of ICTs, which is a dimension that proved to improve employees well-being in some studies (Loup, 2016; Nande et al., 2022). This result proves the importance of communication, when teleworking or when at the office. This result identified a new job resource that needs to be included in the JD-R model.

However, there also exists downsides to the use of ICTs. For example, one qualitative study reported that the use of emails to communicate led to an increase of demand of reactivity, thus leading to an increase of stress at work (Loup et al., 2020). In their empirical investigation, Loup et al. (2020) demonstrate both sides of the use of ICTs. On one side it acts as a job resource by providing accessibility, flexibility, autonomy and reactivity. On the other side, people who were interviewed reported immediacy and pressure to respond immediately, increase workload, blurring frontiers between work and private life, as well as information overload to process and synthesize. Their results show that the use of ICTs can act as a job resource or job demand, relatively to these different aspects.

Flexibility of place and time determinants of public servants' well-being

Table 26 presents the results that show the importance of both types of flexibility for all dimensions of well-being for public servants. This is also in line with the results of the first survey during the COVID-19 pandemic. Our empirical investigations demonstrate the potential of perceived flexibility in time and place as job resources of public servants. This is partially in line with other empirical studies. The results display striking differences among sectors. For example, flexibility of place seems to reduce stress for private employees but increase this outcome for hybrid employees. This suggests the importance to investigate potential mediation variables in these relationships for further research.

ICTs use and home working

The access of organizational knowledge is positively and significantly related with well-being of hybrid employees. However, this variable is not significant for other sectors.

In the early literature on telework, some scholars emphasized the importance of the “home/work interface” that allowed teleworkers to work from home (Baruch, 2001). Empirical studies during the COVID-19 lockdown highlighted as well the importance of having a functional work space at home during telework (Carillo et al., 2021). However, the empirical analysis for the different sectors do not show a significant relationship between the “adequation of the place of home” nor the access to organizational knowledge through the use of ICTs as determinants of workers well-being in the private nor the public sector. The latter dimension seems only important for employees in the hybrid sector. On the other side, one study demonstrated empirically that the physical environment partially mediates the relationship between NWW facets and work engagement in Brazil (Duque et al., 2020), calling for more research on this matter.

Public management scholars argue that the public–private distinctions involve important differences in organizational environments. For example, they argue that differences in management of the different of organisations is different (Fottler, 1981). Studies show that due to the public scrutiny and accountability of public organisations, this sector is known for formalization, administrative routines, and hierarchical control (Borst et al., 2020a). Public organisations are often considered in the literature as less flexible, more formalized, more procedural, more hierarchical than private or hybrid organisations. The existence of specific job demands such as red tape is one example of such differences (Borst & Knies, 2021). As a result, public employees have less latitude, freedom and autonomy at work and are much more constrained by strict rules. The rise of the ‘New Public Management’ (NPM) ideology in the 1980s brought about a general feeling that adopting business-like practices in the public sector would increase organizational efficiency and effectiveness (Blom et al., 2020; Borst et al., 2019). The idea of NPM is that ‘public organisations should import managerial processes and behaviour from the private sector’ (Box, 1999; Boyne, 2002).

Motivations to work as a private or a public employee might also differ. For example, Wright and David (2003) argues that “work context may not only be important in distinguishing between employment sectors but also may be at the root of any sector differences in job satisfaction” (Wright & Davis, 2003, p.70).

Lots of empirical evidence confirm that differences exist between sectors (Lyons et al., 2006; Steijn & Giauque, 2021b; Wright, 2001). For example, focusing on differences of job

satisfaction among public and non-profit sector, one study's findings suggest that non-profit organisations should establish clear definitions of employees' tasks and roles and allow employees more autonomy to increase their job satisfaction (Lee, 2016).

Sector differences and similarities

In summary, the results show that the perceptions of the availability of NWW practices differ among sectors. For example, public employees perceive less availability of flexible working arrangements compared to employees working in hybrid and private organisations. In the academic literature, a few points might be interesting to point out and explain these differences. Authors showed that example, hybrid organisations appear to be more similar to private organisations in terms of flexibility and perceptions of the presence of unnecessary rules (Blom et al., 2020). Similarly, academic literature shows that public managers have less autonomy to manage their employees than their counterparts in private organisations (Coursey & Rainey, 1990; Rainey, 2012). Other studies also showed that public employees had less autonomy, freedom and flexibility compared with employees from private organisations (Fernandez & Rainey, 2006).

Looking at the perceptions of actors on “why” these practices are implemented in the different organisational contexts, differences are found. For example, if we look at the variables related to HR attribution, some interesting empirical findings can be made. We observe negative and significant correlations between sector and well-being attribution as well as productivity attributions. Employees in the private sector are more likely than those in the public sector to believe that new flexible working arrangements are designed to promote employee well-being and increase productivity (Giauque et al., 2023). The analysis of the data in this dissertation points to interesting findings on sectoral differences, although further research should examine the reasons for these differences.

5.1.4. Contributions to the work-life balance environment and interpretations behind the implementation process

Another question risen by the literature review was to understand how NWW practices influence workers well-being. The inclusion of mediation variables aimed to answer that question.

Mediating variable: POS and Perceived favourable work-life balance environment

Concerning the first survey, the results display two mediation models. The results support the presence of mediating effects between NWW and work related well-being. All indirect effects prove to be statistically significant. These results are in line with the literature (Gerards et al., 2021; Sardeshmukh et al., 2012). For example, Andrulli et Gerards (2023) demonstrate how the relationships between NWW and work engagement are indirect and are mediated by reduced technostress and need for recovery. In this dissertation, the first one depicts the mediation of perceived favourable work-life environment between flexibility in time and workers well-being, and the second one shows a mediation effect of coworkers support between the capacity to reach one's colleagues and workers well-being. This answers a call from scholars who argue that flexible work practices may be related to HR outcomes through the effect of psychological climate (Lewis 2003:15). These results are in line with previous research on the importance of creating supportive environment and social support (Allen, 2001; Lewis, 2003; Timms et al., 2015).

These results are in line with the theory of organizational and social support and argue for the importance of a measure of perceived organizational family support (POFS) developed by Thompson et al. (1999). By creating favourable work-life balance environment, organisations and managers help employees to cope with demands from multiple domains of their lives, thus sending a signal to the employee that the organization values and cares about employee well-being (Rhoades & Eisenberger, 2002).

In one of the articles of this dissertation, the accessibility of one's colleagues proves to influence positively workers well-being through its impact on coworkers support. This is an important finding for the academic community and the professionals, as determinants of social support are not well known. For example, authors mention the following arrangements that could foster social support at work : Flexible hours, technology for working at home, the expectation of less face time at work, paid parental leaves, and sick care arrangements (Taylor, 2008). However, studies of antecedents of perceived organizational support are lacking (Pack, 2005). One thesis of Pack (2005) showed that for the administrators of the NCAA, participation in decision making as well as procedural, distributive, and interactional justice account for a large proportion of the variance explained of POS. Another study, in the sport industry, show the importance of feedback as determinant of POS (Kim et al., 2005). In our study, NWW practices and sociodemographic variables account for 17.4% of the variance explained of coworkers

support. Among the NWW practices, only “Reach” is significantly correlated with coworkers support.

Few researches have used this concept before, and our empirical findings prove its relevance when studying both flexible work practices and employees well-being. Finally, the results are in line with previous empirical evidence (Shockley & Allen, 2007). For example, a survey demonstrated that supervisor support acted as a job resource to buffer the negative effects of telework in France (Laborie & Abord de Chatillon, 2022). However, the results did not support the hypothesis of a moderation effect of supervisor support between workload or mental load and burnout for teleworkers. However, the results display the significant effect of moderation for on-site workers.

HR attribution and the interpretation of the reason behind

Finally, analysing data of the 2nd survey, the last scientific article shows a new addition of variable as “HR attribution”. This model includes the interpretation made by employees on the “why” these NWW practices were implemented and how it influences their well-being. Research has shown that HR attributions have a role in the relationship between HR practices and HR results. Authors tend to differentiate between employees-focus –attribution and organisations-focus. The first ones contained HR-performance attributions, and HR-well-being attributions. As demonstrated by van de Voorde et al. (2012), every HR practice may hypothetically induce both types of attributions, which in turn may influence both types of HR results. The last scientific article examines the relationship between employees-focus attributions and well-being in the public and the private sectors. It also examines the links between perceived availability of flexibility practices and those attributions. The results support the state of the art research on HR attribution (Nishii et al., 2008) and show that they matter for employee well-being in both sectors. These results are in line with the very emerging literature on the links between HR attribution and employees well-being (Shantz et al., 2016). Finally, to bring some nuance to these results, it should be mentioned that the increase in variance of the R-squared when these attributions are added is not even 10% for well-being.

In a way, these results can be mirrored with process legitimization studies aimed at NWW implementation (Jemine et al., 2019, 2020, 2021). These results question the reasons behind implementation of flexibility in organisations and the motives of management behind them.

These results answer a call from scholars to extend theories on HR management and organisational behaviour by incorporating aspects of transformative process (Alfes et al., 2022).

Theoretically, these results are aligned with the fact that employees make inferences about the intentions of the organization by interpreting its practices (Boselie, 2010) and based on these interpretations, employees react with changed in behaviours. If they interpret positively the reasons behind such practices, according to SET theory, they will feel the obligation to reciprocate with positive work attitudes (Chen & Wang, 2014; Wang & Walumbwa, 2007). Flexible work practices that are aimed to enhance employees' abilities, motivation, and opportunities are thought to be viewed as beneficial by employees (Allen et al., 2003).

5.2. General conclusion

This section concludes the thesis. It begins with a general conclusion and reflection on the concept of NWW in the post-pandemic world. The limitations of this research are then broadly summarised and presented. Practical implications and guidelines for 'good practice' to improve well-being at work are presented, as well as avenues for further research on this topic.

5.2.1. Flexibility in organisations: from NWW to flexwork

Since the COVID-19 pandemic, scholars are already calling for developing new concepts that reflect the “new workplace” (Lott et al., 2022). The new paradigm is the one of hybrid working (Lott et al., 2022). However, the concept of ‘hybrid working’ refers mostly to the possibility to telework part-time or full time. The concept of NWW, that I will now call “flexwork” is larger, as it acknowledges the sudden change of the use of ICTs in organisations. The following figures and schemas attempt to show the particularity of flexwork.

In the end, I would argue that NWW are part of a change in the working conditions and the work environment. The debate about the definition and the different dimensions that are part of NWW is still up among scholars (Duque et al., 2020). Figure 9 presents the characteristics of the ‘old’ working environment with fixed place, time and the beginning of ICTs use in the workplace with the flexwork environment with flexibility regarding time, place and increase and intensive use of the ICTs.

Classical/Old working environment	Flexwork Environment
Fixed schedule 5-9	Flexible schedule variation
Fixed workplace The Office One’s own Bureau	Flexible place Office Telework Office with Activity based workplace Open space
ICTs use Beginning Phones Emails	Intensive ICTs use Technology Accessibility of organizational knowledge Videoconferences Virtual work Adoption of Artificial Intelligence

Figure 9: Classical work environment vs. flexwork

The question of including management in flexwork concept is a matter of debate. Some studies evoke management by output or participative management in their definition (Duque et al., 2020; Zienkowski et al., 2019). However, as some studies show, adopting flexibility practices in organisations is not necessary causing a change in management for now. As I tend to be as close as possible to the pragmatic life of organisations, I would argue that when implementing flexibility in organisations, the potential consequences for management and the role of managers go in both ways : either it can induce a more flexible governance or it can result in higher control (Taskin et al., 2019). For example, a qualitative study in Britain, before the pandemic, demonstrated that when distance between teleworkers and managers increased with the use of telework, employees felt that they had to work harder to demonstrate their trustworthiness (Richardson & McKenna, 2014). Another study conducted a survey among employees of a financial services institution, of whom 69% were teleworkers. The results are in line with the theory stating that that reduced possibility of monitoring employee behaviour may be compensated by an increased emphasis on output controls (Groen et al., 2018). This raises the question of “Which type of management when employees are teleworking is beneficial for employees and the organization?”. Another question would be: “Which role for the manager at distance and which competences matter when managing workers at distance?”. I would argue that this is matter for further research.

Finally, I would draw attention from scholars and practitioners to the global context in which flexwork is implemented. It is easy to lose sight of the bigger picture when looking at these issues. However, external factors also put pressure on the world of work, the way people work and their well-being. When examining the antecedents of well-being in this dissertation, the literature review shows the importance of external forces such as policy changes in the case of the public sector or restructuring in the case of the private sector. The literature review gives insight that one should consider different levels when introducing flexwork in organisations: the individual-level, the team-level, the organisational-level, and the context-level. Further research should also take these factors into account when investigating employee well-being. Finally, I would argue that the position of managers is crucial and research into their role in this evolving world needs to be addressed. A recent prospective study in Belgium concludes that the role of managers is changing towards more of a ‘coach’ or a ‘facilitator’ (Ridder et al., 2019). Organisations need to accompany the changes taking place in HRM as well as in universities and schools.

5.2.2. Methodology considerations and limitations of the study

The data collected in this thesis was based on two different questionnaires. The first was created in a state of emergency to investigate the effects of forced teleworking during a semi-closed period in Switzerland due to the COVID-19 crisis. The questionnaire was created with validated scales on dimensions of well-being, job characteristics and allowed to test the recent and original scales of the NWW from the Netherlands. It allows to have some understanding of the well-being of civil servants during the lockdown and to contribute to the scientific knowledge about this unique event. The second questionnaire allowed the inclusion of more variables. As the sample was larger, it allowed an in-depth statistical analysis with a robust sample for public organisations and to compare some results with the private and hybrid samples.

The results of measurements test and analysis contribute to the knowledge on NWW, and on the measurement of flexibility in the workplace. In line with the review of Lott et al. (2022) this dissertation argues to develop new instruments- surveys that reflect the ‘new workplace’ (Lott et al., 2022).

The operationalisation we chose had several advantages. First, it refers to respondents' perceptions of whether they were able to make use of flexibility in terms of time, space, access to organisational knowledge, and the ability to reach colleagues and supervisors quickly. Therefore, the perceived availability of flexibility was analysed, rather than the policies that had been put in place, in response to a call from academics (Van Beurden et al., 2021). In the HRM literature, they had been a call from scholars to analyse these practices with such angle (Bowen & Ostroff, 2004; Kossek & Michel, 2011; Paauwe & Boselie, 2005). Other authors also made calls to explore informal policies rather than the formal one (Lewis, 2003), since the growing consensus that the availability of formal flexible work practices is not necessarily indicative of their use in practice (Eaton, 2003).

Secondly, this operationalisation allowed us to test different components of flexibility rather than just one dimension. This allows us to have a better understanding of what matters when implementing flexibility and to consider aspects related to the use of ICT and communication with colleagues.

In conclusion, this dissertation contributes to the reflection on the transformation process in the world of work and to the debate on the definition of NWW and, more generally, on the flexibility implemented in organisations.

Limits

This study has several limitations. Firstly, the quantitative methodology, which is cross-sectional, does not allow us to draw conclusions about causality. It would be really beneficial for researchers to study the impact of flexwork on employees' well-being with a longitudinal framework. Secondly, the questionnaires were mostly based on validated scales. However, the New Ways of Working scale needed to be validated for the Swiss context. Exploratory factor analyses showed that some items were not sufficiently correlated and had to be removed from the scale. This is a step forward for research and at the same time, given the current changes in the field of telework, measurement tools and new scales should be developed. This should be done with prior interviews to understand the different contexts of flexwork. Due to the organisational limitations of COVID-19, this research could not address the issues of activity-based work and open workplace. Further research needs to address these issues and the relationships between these working practices and employees' well-being at work.

In addition, the questionnaire contained some scales that were based on only one item. This was the case for the job satisfaction scale and an item on HR attributions. This is a limitation of the methodological part. However, other empirical studies have relied on only one item for the concept of job satisfaction (Lee, 2016). Specific socio-demographic characteristics of our sample do not allow us to generalise the findings. Therefore, caution should be exercised in generalising the findings to other industries or countries.

Thirdly, the original idea behind the FNS project was to use a mixed methods approach, which could not be implemented due to the pandemic outbreak. However, qualitative methods such as interviews with employees, managers or focus groups would be of interest to gain a better understanding of the challenges posed by flexwork. Qualitative methods would be useful to understand the different degrees of flexwork implemented in different organisations, as well as the experiences of intensive use of ICT for home workers, for example.

Fourthly, the effects of long-term telework are not explored in this dissertation, but should be addressed by the academic community. This research does not take into account the frequency

of telework - from one day to all days - and its impact on employee fatigue, isolation and engagement. The process of implementing flexwork is also not covered by this research project. Further research could examine how flexwork is implemented and whether this has an impact on the use of such practices and on employees' well-being. Finally, although studies are beginning to demonstrate the links between well-being and performance, this research focuses exclusively on well-being at work.

5.2.3. Practical implications and guidelines to improve well-being in the workplace

Based on the general concepts of work-related well-being and its antecedents, as well as the empirical findings based on the two surveys, this section presents some practical guidelines for organisations and practitioners to improve well-being at work in different contexts.

First, general job and organisational characteristics and HR practices that are not sector-specific and outside the context of telework or compulsory telework are presented. Then, some specificities for the different organisational contexts are highlighted. Secondly, specific guidelines for the hybrid mode of working are outlined.

	Individual characteristics *	Job characteristics	Organizational characteristics	HR Practices	External Factors (Social, Political, Legal, Economic)
Determinants of Job satisfaction Work engagement and Health For all sectors	Self efficacy Self esteem Optimism ...	Workload Time pressure Task and skill variety Autonomy Feedback Control Role ambiguity and role conflict Work-family conflict (-)	Family-friendly practices Environment that cares for employees well-being Participation in decision making and voice Supportive management Cooperation and belongings	Salary Career development : including training Equal opportunities Security Zero tolerance for harassment	Downsizing and restructuring ...
Determinants of Work engagement for the public sector		Job demands considered as challenging (+)	Red tape, frequent changes of political leadership, and the motivations to work as a public servant (PSM)**		Changes in politics **

Table 27: Antecedents of work-related well-being

Table 27 presents the summary of the literature review on the antecedents of work-related well-being. This table is useful in a number of ways. First, it provides a framework for thinking about well-being at work from a global and multidimensional perspective. For example, it is useful

to consider the different levels shown: the individual, the job or task level, the organisational level, which includes the collective, and factors external to the organisation. All these dimensions need to be considered when improving well-being at work. A second implication of this framework is that most of the antecedents of well-being at work are the same for improving the different dimensions - work engagement, health - of well-being. This means that practitioners can improve all dimensions by focusing on the same practices or antecedents. This is reflected in the second row of Table 27. For example, the literature emphasises the importance of workload, role conflict, autonomy, work-life balance, a sense of cooperation and belonging, and a sense of belonging.

The third row then presents the specific antecedents of employee well-being, in particular work engagement for public organisations. This is quite useful as our empirical data suggests that employees in this sector are less engaged at work than in the hybrid and private sectors.

For example, in such organisational contexts, attention needs to be paid to changes in leadership and how this affects employees and teams, as well as bureaucracy.

For organisations and managers, this table represents a series of points of interest:

1. Analyse and address the situation with an integrative approach

Managers and organisations need to take a multidimensional perspective when preventing, addressing or improving well-being at work. Measures and actions need to be considered at the individual-level, the team-level, the organisational-level, the management-level, and external context and changes need to be taken into account.

2. Identify priority measures

Managers and organisations need to identify which HR practices, job or organisational characteristics are similar to prevent or improve all dimensions of well-being at work. For example, workload, time pressure and autonomy at work are key determinants of all dimensions of work-related well-being. In this respect, in difficult and urgent situations, managers can identify and prioritise which aspects of the job can be addressed, such as reducing workload or clarifying the role, to address well-being issues.

3. Take a step back at the situation

This table underlines the importance of organizational characteristics for employees well-being. The role of managers is crucial to implement organizational values, and culture. However, there is a need to look at the bigger picture and determine what key drivers are in place that influence employee well-being. In this case, external factors are often dismissed when attempting to prevent well-being at work. However, for example, downsizing, can have a direct effect on employee's workload, if or when organizational vision and strategies are not redesigned accordingly.

4. Take organizational context into account

Context matters for HR practitioners. Specific organisational characteristics are key drivers of work-related wellbeing. In the public sector, for example, issues such as bureaucracy, red tape or political leadership are key concerns for HR managers and strategists. Leadership change is a key challenge for such organisations.

In case of 100% telework or part-time telework

The following guidelines present key take-outs for organisations and managers, when telework practices are implemented.

1. Perceptions of flexible practices availability matter for workers well-being

Policies are often not enough to make teleworking or flexible working a reality. Organisations, and in particular managers, need to have an attitude that is conducive to the use of such practices in everyday office life. There is a need to reflect on the link between policy and practice, availability or effective use in organisations when implementing such policies. It is important for the well-being of employees that they can actually make use of such flexible working arrangements. Another interesting point about providing flexibility at work for well-being is that managers and organisations need to consider and provide flexibility in relation to the demands of work-life balance issues faced by employees today. It also suggests that HR policies can be ineffective without supportive management.

This highlights the importance of informal signals to employees: the attitudes of managers at different levels of the organisation.

If these flexible working arrangements are offered to employees to reduce organisational costs, they may feel that the organisation is not supportive and these flexible practices may actually have the opposite effect. Organisations as a whole need to create supportive workplaces and a collaborative atmosphere in teams. Virtual tools can actually be supportive in creating tools that facilitate easy access to colleagues and superiors. However, policies on the use of such tools need to be considered and thought through from a global perspective.

When implementing telework, organisations and HR professionals must therefore pay attention to the well-being of managers in organisations. This change has been so sudden and intense that specific training needs to be developed for managers and employees to reflect on the benefits and risks of these virtual ways of working, so that together we can find concrete solutions for their implementation.

2. Take care of the implementation process of flexibility

Employees interpret signals from managers and organisations as to why this or that HR practice is available to them. In this respect, when introducing flexibility, but more globally, change in HR strategy, practices, the implementation process and the way it is communicated is of paramount importance. This communication needs to address several challenges. First, there is the challenge of transparency. Employees may perceive differently whether they are allowed to use this or that HR practice, depending on the signals sent by managers and organisations. Secondly, there is the challenge of congruency. Employees interpret the reason why the HR practice is being introduced. Employees may feel that the organisation is trying to get the best out of them. If this is their interpretation, it would have a negative impact on their well-being. Organisations need to care truly for their employees.

3. Provide and monitor resources at the job-level: give autonomy and monitor skill and tasks variety

When implementing telework, resources at the job and organisational level proved to be important for improving employees' well-being. Firstly, job autonomy seems to be crucial to increase work engagement and reduce work exhaustion in organisations. People need to have control over how they manage their work tasks. Managers can give the main directions and set the goals together with employees, but how the work is done needs to be defined by the employees themselves. These job resources and job characteristics are well known in the human

management literature and in psychology. This dissertation underlines the importance of such autonomy in the context of telework.

On the other hand, another job characteristic that usually improves employees' well-being turned out to be a job demand in the case of compulsory telework: task and skill variety. This is a surprising element that needs to be taken into account when working in a hybrid mode. Employees who telework need to be monitored in terms of the amount of different tasks and skills they use. In the context of virtual work, this level, if too high, can exhaust employees.

4. Provide resources at the organizational-level: favour social relations, collaboration and provide environment-spaces where work-life balance is considered as an important aspect of employee's life

At the level of management and organisations, resources that tend to improve the well-being of workers in a non-telework context are still important in the new world of work. Particular attention needs to be paid to social relations and cooperation at work. The COVID-19 time showed that this level of cooperation decreased for the public organisation. In a context of virtual work, reflection, specific face-to-face meetings, discussions with employees on this issue are of paramount importance. Managers are the ones who have to take care of this by providing spaces to maintain social relations.

Similarly, this dissertation underlined the importance of a favourable work-life balance environment. Employees perceive whether or not their organisation and their managers care about their work-life balance issues. As the world of work has changed with regard to this issue - women in the labour market - this issue is crucial today. If organisations want to retain their workforce and maintain good health at work, they cannot ignore this aspect. Managers need to care and talk to employees about their needs and make some compromises between the organisation's objectives, deadlines, office hours and the need for employees to balance their work and personal lives. Managers need to open the dialogue on this issue.

5. Specifically in public organisations

The Swiss public sector need to implement all dimensions of flexibility to improve the well-being of employees. Employees need to be able to work from home and manage their own schedules. During the pandemic, public sector employees felt they had a better work-life balance. This aspect can be improved during a non-pandemic period by providing teleworking opportunities.

Civil servants perceive less flexibility compared to employees in other sectors. Managers and public administrations need to consider mechanisms to improve and provide more flexibility to their employees.

In parallel, autonomy at work is a key determinant of work-related well-being. Public organisations need to explore how they can give employees more autonomy in the way they do their work, and how managers need to give up control over certain aspects of work - for example, not 'micromanage'.

In addition, public organisations need to improve the ICT tools that would facilitate access to colleagues and supervisors. Public administrations are sometimes slower to adopt and manage ICT tools than private enterprises. The main reasons are legal. However, as the working environment is changing so rapidly, public administrations need to invest time and resources in this area of their departments. Especially if and when flexibility practices are implemented, employees need to have access to operational ICT tools.

6. Specifically in hybrid organisations

This dissertation shows that in hybrid organisations they need to provide and monitor access to colleagues and access to organisational knowledge through the tools of ICT for the well-being of employees.

5.2.4. Avenue for future research

This section presents some of the research questions raised by this thesis. Because of the pandemic's disruption of the way people and organisations work, this is an area where academic research is most needed. I suggest these avenues for further research.

1) Concept and Theory

New Ways of Working remains a phenomenon-driven field of research. Theoretically, the research questions associated with this concept are not sufficiently grounded in specific theories. The concept itself of NWW needs to be re-defined. I suggest the terminology of flexwork or virtual work, with gradual intensity of the use or availability of flexible work practices and the use of ICTs. Further research should define, with qualitative studies, what are these new post-COVID19 'hybrid work' arrangements. Questions such as:

- Can we establish categories of hybrid mode work - 100% telework, majority telework, majority face-to-face -? What dimensions do they include?
- Different types of "teleworkers" – Part time or full time– and implications in terms of social relations at work, work-life conflict, well-being and work produced, creativity, social interactions and collaborative climate and long-term effects need to be investigated.
- What is the effect of long-term telework on blurring frontiers private and work-life?
- Because of telework: more coworking and office sharing, reducing costs and environment-space and density in cities: influence on employees' well-being in coworking places, open spaces, etc.

2) Effect of this flexwork modalities on employee well-being

- In this context, are the resources identified so far still useful when studying well-being and health at work? Do we need to create, imagine and implement new collective, organizational and social resources in this new context?
- Explore the person-environment interaction: how work is organised (access to flexwork as well as norms and policies), managerial culture, psychosocial resources and effective use of these practices.
- How does seniority affect this type of work organisation?
- How did the organisation communicate to justify the new way of organising work?

- As the work environment changes from office presence to virtual work, what kind of social support would be a resource for employees? Will we see a shift from peer support to family, social and friend support?
- How will these flexible working arrangements, offered to some but not all employees, affect perceptions of 'fairness'? How would organisations manage these differences and would they need to offer compensation packages to restore fairness?
- How will trust in organisation and in management be influenced by virtual work ?

3) Technology

- Extensive use of technology: what are the effects on work being produced , the concentration of employees, and the quality of the work ?
- How do this use affect managers well-being ?
- Extensive use of technology: How do ZOOM meeting and conference calls affect the feeling of collaboration, production and well-being ?

4) Invent and create new measurement tools

As other authors have pointed out, some measurement tools are outdated or new ones need to be created to measure and figure out what are these forms of hybrid work. Academic research needs to further investigate what matter for employees well-being in terms of: policies put in place, practices, perceptions of practices, effective use of these practices.

5) The effect of flexwork on management

The question of the management and leadership in these work contexts need to be addressed. How is it to manage a team at distance? Which skills does this require? How do these work modes redefine our relationship with the hierarchy, our colleagues, our work environments?

- What are the roles of line managers when implementing flexibility at work?
- What kind of organizational support can organisations give managers to facilitate and accompany them when their team is teleworking?
- For NWWs to be beneficial to employee well-being, do they need to be accompanied by a specific management style?
- How will tomorrow's managers be able to build and manage a team in face-to-face, remote, or hybrid mode?

- And finally, should we imagine and develop current theories and models of occupational health? For example, shouldn't the model of resources and constraints at work also take into account these new work configurations and where will they fit in this perspective?

6) Investigate sector comparisons

This dissertation has provided some insights into the differences and similarities between different organisational contexts. This provides some information and statistics, but the mechanisms in place need to be further explored.

- How do we explain differences between public, hybrid, and private organisations?
- Why these flexibility practices are less present in public organisations? What are the leverages that could be put in place to favour such practices for the well-being of employees?

To illustrate all these research questions, I would like to propose a new theoretical framework to investigate flexwork in the context of post-pandemic. Figure 12 displays a modified version of the JD-R framework that includes specific job demands and job resources that are appearing as a consequences of the organizational context of flexwork. Examples of such job resources are the ones identified in this dissertation: flexibility in time and place, accessibility to colleagues and supervisors. Job demands that can now appeared in this context could be linked with the extensive use of ICTs such as over connectivity, the pressure to respond to mails and calls (Loup, 2016). It would be very interesting to interview workers in this context and then measure these job resources and demands and investigate this framework quantitatively.

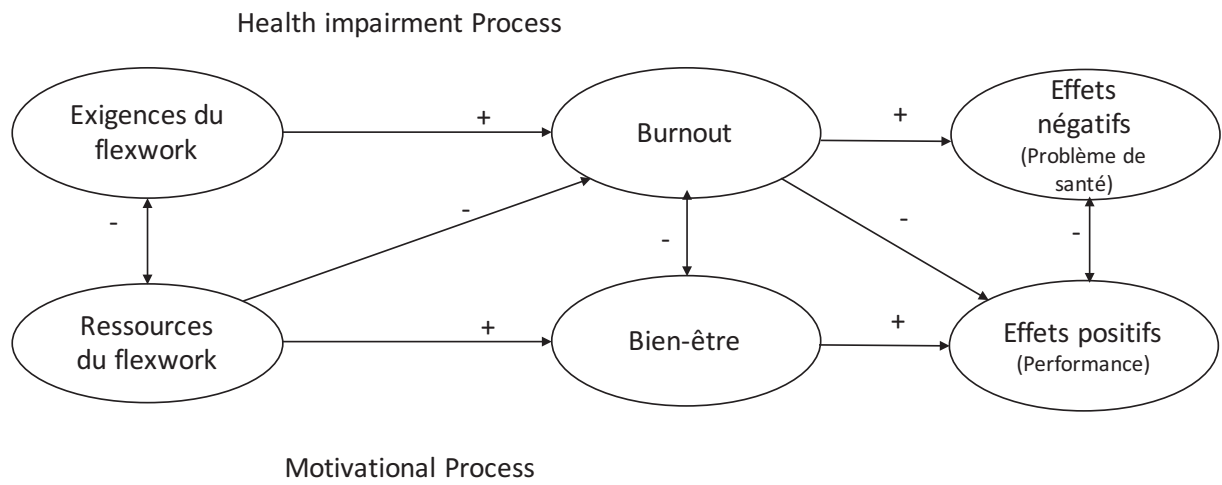


Figure 10: Modified JD-R model with flexwork resources and demands

Research Plan

In order to answer the different questions mentioned above, here is a list of examples of research projects and their methodology, briefly presented, that would be interesting to launch on these topics:

- 1) Examine the new configurations and modalities of work in different sectors and see if categories emerge. Rethink the concepts of "flexibility at work", "teleworking" and update them in this perspective. Examine the dimensions involved in these work arrangements: for example, the use of information and communication technologies, the ergonomics of the workplace at home or in a café, etc. This should be done through exploratory interviews. Examine the impact of these flexible arrangements on the well-being and health of workers, to understand their implications. Identify organizational resources to support employee well-being and health, depending on the context and sector, in this new context.
- 2) Question and perhaps redevelop theories of conservation of resources, job demands and job resources at work to adapt them to this new reality.
- 2) To develop a genuine international perspective on these issues, particularly in the French-speaking world, in order to promote comparisons between sectors and at international level. This is in order to share and disseminate this academic knowledge in the different professional worlds. In the long term, it may even be the whole of HRM and its teaching that needs to be rethought, with, for example, remote selection processes, integration of the person in hybrid mode, etc.

5.3. Conclusion

This dissertation investigated the effect of flexible work practices on workers well-being. By analysing two sets of data – one survey that took place during the COVID-19 lockdown and compulsory telework in Switzerland – and the second set of data analysing surveys across three sectors that took place outside of the compulsory telework period –, this dissertation shed light on the relationship between flexibility of time and place, with the use of ICTs on employees well-being in different sectors.

In summary, the results of different analyses prove that the main determinant of workers well-being, across sectors, is the capacity of reaching one's colleagues and supervisors with the use of ICTs both when teleworking full-time or part-time. Globally, the different flexibility put in place have a positive impact on workers' engagement, satisfaction, and tend to diminish stress and exhaustion. The explanations of such relations lie partly in the mediation effects of coworkers' support generated by the capacity to reach one's colleagues and the positive and favourable work-life balance environment that is created when flexibility is implemented. For these practices to be beneficial, they need to be implemented by managers that care for employee well-being, that listen the needs of their employees regarding their work-life roles and that create support in their team, even remotely. Job resources identified in the academic literature are also important for employee well-being, such as autonomy and tasks variety. Finally, employees are sensitive to the reasons behind the implementation of flexibility and when the management values, cares and respects employees, their well-being tends to increase. With these empirical analyses, this dissertation bridges several gaps identified in the literature review. First, the literature review examined how perceptions of flexibility and its impact on employee well-being. By examining the perceptions of the actors, these studies highlight the importance of workers' perceptions and what they can use, rather than just the policies per se. It also shows that communication with colleagues and supervisors through the use of ICTs can increase employee support, and flexibility in time and place can increase employees' perceptions that the organisation is supportive of their work-life balance challenges. Finally, difference across sectors exist. Public sector employees feel like they have less opportunity to use flexible work practices compared with employees working in private and hybrid organisations.

More generally, flexibility at work proved to be an antecedent of employee well-being in all sectors, as none of the dimensions studied seemed to have a negative impact on employees. This research recommends that organisations offer flexibility at work to their employees, while also looking at management and the role of the manager in this context. However, this thesis raises a question at the level of the organisation, but also as a society as a whole. These flexible working practices, the introduction of teleworking, create a change in the spatio-temporal structure of organisations (Aroles et al. 2019 :6).

Our relationship with time and space has changed as remote working offers the possibility of separating work into a defined space and time. Our relationship with time has been completely transformed by the use of ICT and the immediacy it creates, as well as its ever-increasing connectivity. In this respect, further research should consider workplace flexibility and remote working as a continuum rather than a dichotomy (Hill 2008, p.52).

Finally, I would argue that remote working and its intensity are not something imposed on organisations or people, but are possibilities or opportunities due to the development of ICT. However, the use, extent and what we do with and about it are choices made by people in organisations and in the world. I think the implications of this virtuality need to be explored and studied in order to make the right choices with the new possibilities. Questions such as the importance of being together in "real" life in the same time and space and its consequences for human relationships, cooperation, communication, sense of loneliness, sense of support, sense of belonging, which are the most common human needs, are crucial to be examined in order to perhaps regain control over what has happened since the COVID-19 pandemic. As a society, the question of how we want to work, how we want to work together and what aspects are fundamental to us as human beings, despite the possibilities created by the virtual tool, needs to be addressed, reflected upon and chosen.

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7. Appendix

7.1. Appendix 1: Measurement analysis 1st survey

Exploratory factorial analysis

In order to assess the validity of the scale of NWW, which was developed in the Netherlands, exploratory factorial analysis was done with the STATA software.

Some methodological indications concerning the factor analyses:

- The logic was to respect as much as possible the measures identified in the literature, even if some of them display low factor loadings and/or Cronbach's alpha.
- To be part of a factor, the different variables must have loadings equal to or greater than 0.50 (Hair et al., 2010).
- The reliability of the measures was assessed by Cronbach's alpha. Although it is recommended that it be equal to or greater than 0.70, I nevertheless allowed in some cases an alpha between 0.60 and 0.70 (Hair et al., 2010). This choice is explained by a desire to stick as closely as possible to measures identified and used in the scientific literature.

Table 28 : NWW Measurement for the 1st survey

Variable name	Reference	Code		Items	Scale	Cronbach Alpha	Comments
Flexibilité en temps de travail	Gerards, R., de Grip, A., & Baudewijns, C. (2018). Do new ways of working increase work engagement? <i>Personnel Review</i> , 47(2), 517- 534. https://doi.org/10.1108/PR-02-2017-0050 .	FLEX	NWW 1	Je suis libre de déterminer mon propre horaire de travail	5-points Lickert's Scale	0.67	
			NWW 2	Je suis libre de déterminer où je travaille			
Accès aux collègues	Gerards, R., de Grip, A., & Baudewijns, C. (2018). Do new ways of working increase work engagement? <i>Personnel Review</i> , 47(2), 517- 534. https://doi.org/10.1108/PR-02-2017-0050 . Gerards, R., van Wetten, S., & van Sambeek, C. (2021). New ways of working and intrapreneurial behaviour : The mediating role of transformational leadership	COLL	NWW 4	je peux atteindre rapidement les collègues de mon équipe	5-points Lickert's Scale	0.84	
			NWW 5	je peux atteindre rapidement mes responsables hiérarchiques			

<p>and social interaction. <i>Review of Managerial Science</i>, 15, 2075- 2110. https://doi.org/10.1007/s11846-020-00412-1</p>		NWW 6	je peux atteindre rapidement les collègues qui ne font pas partie de mon équipe			
		NWW 3	Je trouvais toutes les informations nécessaires à mon travail sur mon ordinateur, smartphone et/ou tablette		--	Cet item a été retiré de l'échelle de mesure car ses <i>facteurs loadings</i> sont inférieurs à 0.40
<p>Gerards, R., de Grip, A., & Baudewijns, C. (2018). Do new ways of working increase work engagement? <i>Personnel Review</i>, 47(2), 517- 534. https://doi.org/10.1108/PR-02-2017-0050.</p>	TELE	NWW 7	J'ai la possibilité de télétravailler	5- points Lickert s Scale		Ces items n'ont pas été utilisés l'échelle de mesure car ses <i>facteurs loadings</i> sont inférieurs à 0.50
NWW 8	Mon espace de travail à la maison est adéquat					

Table 29: Variables measurement for the 1st survey

Variable name	Reference	Code	Items	Scale	Cronbach Alpha
Engagement au travail	Short version of Utrecht scale engagement scale: Schaufeli, W. B., Salanova, M., González-Roma, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. <i>Journal of Happiness Studies</i> , 3, 71–92.	WB1	Je déborde d'énergie pour mon travail	5-points Likert Scale	0.90
		WB2	Je suis passionné·e par mon travail		
		WB3	Lorsque je me lève, j'ai envie d'aller travailler		
		WB4	Je suis fier·ère du travail que je fais		
Fatigue au travail	Maslach, C., Jackson, S. E., & Leiter, M. P. (1997). Maslach burnout inventory: Third edition. In C. P. Zalaquett & R. J. Wood (Eds.), <i>Evaluating stress: A book of resources</i> (pp. 191–218). Scarecrow Education..	WB9	Je me sens émotionnellement « vidé·e » à cause de mon travail	5-points Likert Scale	0.87
		WB10	Je me sens épuisé·e par mon travail		
		WB11	Comme mon travail est très exigeant, je dois faire un effort physique pour que la journée se passe bien		
Satisfaction au travail	Fields, D. L. (2002). <i>Taking the measure of work: A guide to validated scales for organizational research and diagnosis</i> . Sage Publications.	SAT	Globalement je suis très satisfait·e de mon travail	-	-
Autonomie	Kim, S. (2016). Job characteristics, Public Service Motivation, and work performance in Korea. <i>Gestion et management public, Volume 5 / n° 1(3)</i> , 7-24.	LIB1	Mon travail me donne beaucoup d'indépendance et de liberté dans la façon de le réaliser	5-points Likert Scale	0.80
		LIB2	Mon travail me permet d'utiliser des initiatives personnelles		
Variété des tâches	Kim, S. (2016). Job characteristics, Public Service Motivation, and work performance in Korea.	SKILL1	Le poste que j'occupe exige		0.82

Variable name	Reference	Code	Items	Scale	Cronbach Alpha
et des compétences	<i>Gestion et management public, Volume 5 / n° 1(3), 7-24.</i>		des compétences variées	5-points Lickerts Scale	
		SKILL 2	Mon travail exige une grande diversité		

Soutien des collègues	Eurofound. (2015). <i>Sixth European working conditions survey: 2015.</i> [Data set]. Eurofound. https://www.eurofound.europa.eu/surveys/european-working-conditions-surveys/sixth-european-working-conditions-survey-2015	COLL1	Mes collègues m'aident et me soutiennent	5-points Lickerts Scale	0.84
		COLL2	Il y a une bonne coopération entre les collègues		
		COLL3	Je m'entends généralement bien avec mes collègues		
Environnement favorable à la conciliation vie privée-vie professionnelle	Thompson CA, Beauvais LL, Lyness KS. When work–family benefits are not enough: The influence of work–family climate on benefit utilization, organizational attachment, and work–family conflict. <i>Journal of Vocational Behavior</i> 1999;54:392–415.	OC13	La direction se montre favorable à des mesures permettant une bonne conciliation vie privée-vie professionnelle	5-points Lickerts Scale	0.82
		Oc14	Les employé.e-s peuvent facilement concilier vie privée-vie professionnelle		

7.2. Appendix 2: Measurement analysis 2nd survey

It was decided to run the factor analysis for each sub-sample: private, public, and hybrid sectors separately. Some methodological indications concerning the factor analyses:

- The logic was to respect as much as possible the measures identified in the literature, even if some of them display low factor loadings and/or Cronbach's alpha.
- To be part of a factor, the different variables must have loadings equal to or greater than 0.50 (Hair et al., 2010).
- The reliability of the measures was assessed by Cronbach's alpha. Although it is recommended that it be equal to or greater than 0.70, I nevertheless allowed in some cases an alpha between 0.60 and 0.70 (Hair et al., 2010). This choice is explained by a desire to stick as closely as possible to measures identified and used in the scientific literature.

Table 30: Variables measurement for the 2nd survey

Variable name	Reference	Code		Items	Scale	Alpha private	Cronbach Alpha public	Alpha hybrid	Comments
Flexibilité en temps de travail	Gerards, R., de Grip, A., & Baudewijns, C. (2018). Do new ways of working increase work engagement? <i>Personnel Review</i> , 47(2), 517- 534. https://doi.org/10.1108/PR-02-2017-0050 . Gerards, R., van Wetten, S., & van Sambeek, C. (2021). New ways of working and intrapreneurial behaviour : The mediating role of transformational leadership and social interaction. <i>Review of Managerial Science</i> , 15, 2075- 2110. https://doi.org/10.1007/s11846-020-00412-1	FLEXIM	NWW 1	Je suis libre de déterminer mon propre horaire de travail	5-point Likerts Scale	0.90	0.86	0.86	
			NWW 2	Je suis libre de changer mes horaires pour choisir quand je commence et quand je finis mon travail					
Flexibilité en lieu de travail	Gerards, R., de Grip, A., & Baudewijns, C. (2018). Do new ways of working increase work engagement? <i>Personnel Review</i> , 47(2), 517- 534. https://doi.org/10.1108/PR-02-2017-0050 . Gerards, R., van Wetten, S., & van Sambeek, C.	FLEXLOC	NWW 3	Je suis libre de déterminer où je travaille, à mon domicile ou à mon travail	5-point Likerts Scale	0.74	0.67	0.82	
			NWW 4	Je suis libre de changer d'endroit où je travaille					

Variable name	Reference	Code		Items	Scale	Alph a priv ate	Cronb ach Alpha public	Alph a hybr id	Comme nts
	(2021). New ways of working and intrapreneurial behaviour : The mediating role of transformational leadership and social interaction. <i>Review of Managerial Science</i> , 15, 2075- 2110. https://doi.org/10.1007/s11846-020-00412-1		NWW 5	Au travail, je suis libre de choisir ma place en fonction des tâches à réaliser					
			NWW 6	Au travail, je n'ai pas de place fixe attribuée		--	--	--	Cet item a été retiré de l'échelle de mesure car ses <i>facteurs loadings</i> sont inférieurs à 0.40
Accès aux collègues	Gerards, R., de Grip, A., & Baudewijns, C. (2018). Do new ways of working increase work engagement? <i>Personnel Review</i> , 47(2), 517- 534. https://doi.org/10.1108/PR-02-2017-0050 . Gerards, R., van Wetten, S., & van Sambeek, C. (2021). New ways of working and intrapreneurial behaviour : The mediating role of transformational leadership and social interaction. <i>Review of Managerial Science</i> , 15, 2075- 2110. https://doi.org/10.1007/s11846-020-00412-1	COLL	NWW 7	Je peux atteindre rapidement les collègues de mon équipe	5- point s Licke rts Scale	0.72	0.76	0.81	
			NWW 8	Je peux atteindre rapidement mes responsables hiérarchiques					
			NWW 9	Je peux atteindre rapidement les collègues qui ne font pas partie de mon équipe					
Accès à l'information	Gerards, R., de Grip, A., & Baudewijns, C. (2018). Do new ways of working increase work engagement? <i>Personnel Review</i> ,	INFO	NWW 10	Je trouve toutes les informations nécessaires à mon travail sur mon	5- point s Licke rts Scale	0.79	0.78	0.82	

Variable name	Reference	Code		Items	Scale	Alph a priv ate	Cronb ach Alpha public	Alph a hybr id	Comme nts
	47(2), 517- 534. https://doi.org/10.1108/PR-02-2017-0050 . Gerards, R., van Wetten, S., & van Sambeek, C. (2021). New ways of working and intrapreneurial behaviour : The mediating role of transformational leadership and social interaction. <i>Review of Managerial Science</i> , 15, 2075- 2110. https://doi.org/10.1007/s11846-020-00412-1		NWW 11	ordinateur, smartphone et/ou tablette J'ai accès à toutes les informations nécessaires à mon travail partout et à tout moment					
Ergonomie de la place de travail	Items développés par l'équipe du projet NWW	HOME	NWW 12	Mon espace de travail à la maison est adéquat pour le télétravail	5- point s Licke rts Scale	0.81	0.81	0.80	
			NWW 13	Les équipements techniques dont je dispose à la maison sont adéquats pour le télétravail					
Engagement au travail	Short version of Utrecht scale engagement scale: Ibi 1 st survey.	WB	WB1	Je déborde d'énergie pour mon travail	5- point s Licke rts Scale	0.84	0.84	0.82	
			WB2	Je suis passionné·e par mon travail					
			WB3	Lorsque je me lève, j'ai envie d'aller travailler					
			WB4	Je suis fier·ère du travail que je fais					
Stress au travail	Fields, D. L. (2002). <i>Taking the measure of work: A guide to validated scales for organizational</i>		WB5	Mon travail a tendance à affecter ma santé	5- point s Licke rts Scale	0.87	0.90	0.94	

Variable name	Reference	Code		Items	Scale	Alpha private	Cronbach Alpha public	Alpha hybrid	Comments
	<i>research and diagnosis</i> . Sage Publications.		WB6	Je travaille sous forte pression					
			WB7	Mon travail me rend nerveux·euse et/ou agité·e					
			WB8	Des problèmes au travail me créent des insomnies					
Fatigue au travail	Kim, S. (2005). "Factors Affecting State Government Information Technology Employee Turnover Intentions." <u>The American Review of Public Administration</u> 35(2): 137-156.		WB9	Je me sens émotionnellement « vidé·e » à cause de mon travail	5-point Likerts Scale	0.85	0.87	0.90	
			WB10	Je me sens épuisé·e par mon travail					
			WB11	Comme mon travail est très exigeant, je dois faire un effort physique pour que la journée se passe bien					
Satisfaction	Fields, D. L. (2002). Taking the measure of work: A guide to validated scales for organizational research and diagnosis. Sage Publications.		SAT	Globalement je suis très satisfait·e de mon travail	-	-	-	-	

Additional empirical analysis

Table 31: Differences in work engagement across sectors

ENG	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
: base 1	0	.	.	.	.	.
2	.121	.056	2.16	.031	.011	.23	**
3	.205	.044	4.67	0	.119	.29	***
Constant	3.705	.017	218.84	0	3.672	3.739	***
Mean dependent var		3.743	SD dependent var			0.770	
R-squared		0.009	Number of obs			2621	
F-test		12.226	Prob > F			0.000	
Akaike crit. (AIC)		6051.761	Bayesian crit. (BIC)			6069.375	

*** $p < .01$, ** $p < .05$, * $p < .1$

	Contrast	Std.	err.	t	P>t
sector					
2 vs 1	.120		.055	2.16	0.031
3 vs 1	.204		.043	4.67	0.000
3 vs 2	.083		.066	1.25	0.210

Note: (1 = public; 2 = hybrid sector; 3 = private sector)

Table 32: Differences in job satisfaction across sectors

SAT	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
: base 1	0	.	.	.	.	.
2	.187	.066	2.83	.005	.057	.317	***
3	.243	.052	4.71	0	.142	.345	***
Constant	3.881	.02	194.43	0	3.841	3.92	***
Mean dependent var		3.929	SD dependent var			0.912	
R-squared		0.010	Number of obs			2636	
F-test		13.747	Prob > F			0.000	
Akaike crit. (AIC)		6971.362	Bayesian crit. (BIC)			6988.993	

*** $p < .01$, ** $p < .05$, * $p < .1$

	Contrast	Std.Err.	t	P>t
SECTEUR				
2 vs 1	0.187	0.066	2.830	0.005
3 vs 1	0.243	0.052	4.710	0.000
3 vs 2	0.056	0.079	0.710	0.479

Note: (1 = public; 2 = hybrid sector; 3 = private sector)

Table 33: Differences in work stress across sectors

STRESS	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
: base 1	0	.	.	.	.	.
2	.034	.073	0.47	.638	-.109	.177	
3	-.015	.057	-0.26	.797	-.126	.097	
Constant	2.583	.022	117.71	0	2.54	2.626	***
Mean dependent var		2.584	SD dependent var			0.996	
R-squared		0.000	Number of obs			2630	
F-test		0.160	Prob > F			0.852	
Akaike crit. (AIC)		7447.531	Bayesian crit. (BIC)			7465.155	

*** $p < .01$, ** $p < .05$, * $p < .1$

	Contrast	Std.Err.	t	P>t
SECTEUR				
2 vs 1	0.034	0.073	0.470	0.638
3 vs 1	-0.015	0.057	-0.260	0.797
3 vs 2	-0.049	0.087	-0.560	0.574

Note: (1 = public; 2 = hybrid sector; 3 = private sector)

Table 34: Differences in work exhaustion across sectors

EXHAU	Coef.	St.Err.	t-value	p-value	[95% Conf Interval]	Sig
: base 1	0	.	.	.	.	.
2	-.003	.072	-0.05	.964	-.145 .138	
3	-.003	.056	-0.06	.952	-.114 .107	
Constant	2.457	.022	112.44	0	2.415 2.5	***
Mean dependent var		2.457	SD dependent var			0.991
R-squared		0.000	Number of obs			2625
F-test		0.003	Prob > F			0.997
Akaike crit. (AIC)		7404.807	Bayesian crit. (BIC)			7422.425

*** $p < .01$, ** $p < .05$, * $p < .1$

	Contrast	Std.Err.	t	P>t
SECTEUR				
2 vs 1	-0.003	0.072	-0.050	0.964
3 vs 1	-0.003	0.056	-0.060	0.952
3 vs 2	-0.000	0.086	0.000	0.999

Note: (1 = public; 2 = hybrid sector; 3 = private sector)

Table 35 : Differences in flexibility in time across sectors

FLEXTI	Coef.	St.Err.	t-value	p-value	[95% Conf Interval]	Sig
: base 1	0	.	.	.	.	.
2	.248	.091	2.72	.006	.069 .426	***
3	.574	.071	8.06	0	.435 .714	***
Constant	3.185	.028	115.68	0	3.131 3.239	***
Mean dependent var		3.283	SD dependent var			1.266
R-squared		0.025	Number of obs			2635
F-test		34.129	Prob > F			0.000
Akaike crit. (AIC)		8659.942	Bayesian crit. (BIC)			8677.571

*** $p < .01$, ** $p < .05$, * $p < .1$

	Contrast	Std.Err.	t	P>t
SECTEUR				
2 vs 1	0.248	0.091	2.720	0.006
3 vs 1	0.574	0.071	8.060	0.000
3 vs 2	0.326	0.109	3.000	0.003

Note: (1 = public; 2 = hybrid sector; 3 = private sector)

Table 36 : Differences in flexibility in place across sectors

FLEXLOC	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
: base 1	0	.	.	.	.	.	.
2	1.046	.077	13.60	0	.895	1.197	***
3	1.506	.06	24.91	0	1.388	1.625	***
Constant	2.41	.023	103.06	0	2.364	2.456	***
Mean dependent var		2.701	SD dependent var			1.198	
R-squared		0.219	Number of obs			2622	
F-test		368.119	Prob > F			0.000	
Akaike crit. (AIC)		7745.631	Bayesian crit. (BIC)			7763.246	

*** $p < .01$, ** $p < .05$, * $p < .1$

	Contrast	Std.Err.	t	P>t
SECTEUR				
2 vs 1	1.046	0.077	13.600	0.000
3 vs 1	1.506	0.060	24.910	0.000
3 vs 2	0.460	0.092	4.990	0.000

Note: (1 = public; 2 = hybrid sector; 3 = private sector)

Table 37: Differences in accessibility across sectors

COLL	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
: base 1	0	.	.	.	.	.	.
2	.115	.054	2.13	.033	.009	.221	**
3	.206	.042	4.89	0	.123	.289	***
Constant	4.159	.016	255.07	0	4.127	4.191	***
Mean dependent var		4.196	SD dependent var			0.742	
R-squared		0.010	Number of obs			2622	
F-test		13.198	Prob > F			0.000	
Akaike crit. (AIC)		5857.179	Bayesian crit. (BIC)			5874.794	

*** $p < .01$, ** $p < .05$, * $p < .1$

	Contrast	Std.Err.	t	P>t
SECTEUR				
2 vs 1	0.115	0.054	2.130	0.033
3 vs 1	0.206	0.042	4.890	0.000
3 vs 2	0.091	0.064	1.410	0.158

Note: (1 = public; 2 = hybrid sector; 3 = private sector)

Table 38: Differences in access to organizational knowledge across sectors

INFO	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
: base 1	0	.	.	.	.	.	.
2	.394	.071	5.56	0	.255	.533	***
3	.454	.056	8.18	0	.345	.563	***
Constant	3.963	.021	184.73	0	3.921	4.005	***
Mean dependent var		4.056	SD dependent var			0.991	
R-squared		0.032	Number of obs			2638	
F-test		44.183	Prob > F			0.000	
Akaike crit. (AIC)		7357.260	Bayesian crit. (BIC)			7374.893	

*** $p < .01$, ** $p < .05$, * $p < .1$

	Contrast	Std.Err.	t	P>t
SECTEUR				
2 vs 1	0.394	0.071	5.560	0.000
3 vs 1	0.454	0.056	8.180	0.000
3 vs 2	0.061	0.085	0.720	0.474

Note: (1 = public; 2 = hybrid sector; 3 = private sector)

Table 39: Differences in ergonomics of telework place across sectors

HOME	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
: base 1	0	.	.	.	.	.	.
2	.228	.083	2.74	.006	.065	.391	***
3	.292	.065	4.47	0	.164	.421	***
Constant	3.82	.025	151.57	0	3.771	3.869	***
Mean dependent var		3.878	SD dependent var			1.150	
R-squared		0.009	Number of obs			2633	
F-test		12.496	Prob > F			0.000	
Akaike crit. (AIC)		8188.248	Bayesian crit. (BIC)			8205.876	

*** $p < .01$, ** $p < .05$, * $p < .1$

	Contrast	Std.Err.	t	P>t
SECTEUR				
2 vs 1	0.228	0.083	2.740	0.006
3 vs 1	0.292	0.065	4.470	0.000
3 vs 2	0.065	0.100	0.650	0.516

Note: (1 = public; 2 = hybrid sector; 3 = private sector)

Measurement model fit for the 2nd survey

Additional measurement fits were calculated for the regression models displays in section 3.3. All models yielded a better fit to the data than any other parsimonious model. The three measurement models (one for each regression model) are presented in the tables below. The results show that the models have a good fit with the data.

Table 40: Fit Statistics of measurement models in the public sector

	chi2_ms	CFI	TLI	RMSEA	SRMR
Model 1 : Work engagement, Flexi Place Reach Info Tele	(104) 469.900	.970	.961	.042	.033
Model 2 : Stress, Flexi Place Reach Info Tele	(104) 420.261	.974	.966	.039	.032
Model 3 : Exhaustion, Flexi Place Reach Info Tele	(89) 390.524	.973	.964	.041	.033

Note. Model calculated for the public sample. CFI=comparative fit index; RMSEA=root mean square error of approximation; TLI=Tucker-Lewis index. Flexi: time flexibility; Place: location flexibility;

Table 41: Fit Statistics of measurement models for the private sector

	chi2_ms	CFI	TLI	RMSEA	SRMR
Model 1 : Work engagement, Flexi Place Reach Info Tele	(104) 207.463	.957	.943	.053	.045
Model 2 : Stress, Flexi Place Reach Info Tele	(104) 164.803	.973	.965	.040	.040
Model 3 : Exhaustion, Flexi Place Reach Info Tele	(89) 150.373	.971	.961	.044	.040

Note. Model calculated for the public sample. CFI=comparative fit index; RMSEA=root mean square error of approximation; TLI=Tucker-Lewis index. Flexi: time flexibility; Place: location flexibility;

Table 42: Fit Statistics of measurement models for the hybrid sector

	chi2_ms	CFI	TLI	RMSEA	SRMR
Model 1 : Work engagement, Flexi Place Reach Info Tele	(104) 147.891	.974	.965	.046	.051
Model 2 : Stress, Flexi Place Reach Info Tele	(104) 164.803	.973	.965	.040	.040
Model 3 : Exhaustion, Flexi Place Reach Info Tele	(89) 150.373	.971	.961	.044	.040

Note. Model calculated for the public sample. CFI=comparative fit index; RMSEA=root mean square error of approximation; TLI=Tucker-Lewis index. Flexi: time flexibility; Place: location flexibility;

7.3. Appendix 3: Contributions

Scientific Articles : Contributions of Karine Renard

Article 1: Renard Karine, Cornu Frederic, Emery Yves, Giaouque David, (2021). The Impact of New Ways of Working on Organisations and Employees: A Systematic Review of Literature . *Administrative Sciences*, 11 (2) p. 38.

As the first article concerned the main independent variable “NWW”, that was used in both of our thesis, the review required collaboration among us.

I participated to design the research question and the original idea of the article, alongside with Frédéric Cornu and the professors of the FNS project.

In partnership with Frederic Cornu we conducted the systematic literature review, designed the methodology, chose the keywords, the criteria, and tackled the methodological issues together. We screened all the papers and checked with one another which ones we included or not. We discussed each choice with each other and made the decisions together.

We read, summarised and discussed all the papers that were retained for the review, analysed them and wrote the synthesis.

After conducting the review, I created and wrote the outline of the paper. I mainly wrote the first draft of the paper.

We had talks with the whole group, me, Frédéric Cornu and the professors to make the important decisions of perspectives, structures of the paper. We made important decisions all four of us.

After each talk and decisions we made, the writing was split among the four of us. Since I wrote and had a lot of ideas at the beginning of the process, we agree as a team on the order of authors on the paper. Since then, it was clear that I had the lead on this paper and therefore I made the main contributions to it. I was also in charge of the reviewing process.

Everyone participates to the writing of the abstract, introduction and discussion. Part 3 and 4 were mainly conceptualized and written by Frédéric Cornu and myself. We divided the writing according our dependent variable.

I conceptualize and did the research, and write part 5.1. Part 5.2, as well as part 5.4 was written by Frédéric Cornu and myself.

I contributed to answer the majority of the reviewers' comments: the introduction, the methodology, the results and discussion sections. I made the changes that were required. However, the entire team participated in the proofreading of the paper and the important choices were decided as a research team.

Article 2 : Giauque, David., **Renard Karine**, Cornu, Frédéric, & Emery, Y. (2022). Engagement, Exhaustion, and Perceived Performance of Public Employees Before and During the COVID-19 Crisis .*Public Personnel Management*.

1. Have made a substantial contribution to the concept or design of the article; or the acquisition, analysis, or interpretation of data for the article;

Karine Renard made contributions to the design of the article, the acquisition, design of the survey, data collections, the choices of variables that were included in the survey, choice of items and scales for the measured variables.

2. AND 2. Drafted the article or revised it critically for important intellectual content;

Karine Renard was part of conceptualizing, drafting and writing the original version of the article. When major revisions were required, she participated actively to integrate the reviewers' comments. Particularly, she contributed by conducting a review of the literature on the main concepts retained for the article.

3. AND 3. Approved the version to be published;

Karine Renard participated in the last reading and approval of the article.

4. AND 4. Agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Article 3: Renard Karine, (2023). Favourable supportive work-life balance environment and co-workers' social support matter for teleworkers' well-being: Survey of the Swiss Public Sector During COVID-19. 29 (77). RIPCO.

I conducted all the research and the work, and I wrote it by myself. I handled all the revision process with the review by myself.

Article 4: Renard Karine (2023). HR Attribution influence workers Well-Being when flexibility is implemented: Comparisons between the Swiss Public and Private Sector. Article in progress.

I conducted all the research and the work, and I wrote it by myself.

Article n°1: The Impact of New
Ways of Working on
Organisations and Employees: A
Systematic Review of Literature

Article

The Impact of New Ways of Working on Organizations and Employees: A Systematic Review of Literature

Karine Renard, Frederic Cornu, Yves Emery and David Giauque * 

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Abstract: A new research stream emerged in the 2000s dedicated to flexible work arrangements in public and private organizations, called “new ways of working” (NWW). This article aims to examine NWW from both a theoretical and empirical perspective, focusing on definitional issues as well as on HR outcomes of this new concept. Current definitions of NWW are manifold and based on rather vague theoretical foundations. As NWW outcomes may be both positive and/or negative, we mobilize the “mutual gains” vs. “conflicting outcomes” theoretical debate to discuss the results of our literature review. This review is based on 21 articles (out of 90 initially selected for eligibility) dealing with NWW as a concept or as a bundle of practices. Findings demonstrate that NWW definitions are diverse and somewhat imprecise, lacking theoretical foundations and leading to fragmented research designs and findings. Findings also highlight the current lack of empirical data, which therefore does not allow any real conclusions on NWW’s effects on employees’ and organizations’ well-being and performance.

Keywords: new ways of working; flexible work arrangements; activity-based offices; flextime; telework; knowledge workers



Citation: Renard, Karine, Frederic Cornu, Yves Emery, and David Giauque. 2021. The Impact of New Ways of Working on Organizations and Employees: A Systematic Review of Literature. *Administrative Sciences* 11: 38. <https://doi.org/10.3390/admsci11020038>

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1. Introduction

During the past 30 years, a wave of technological, economical, societal, demographic, and environmental changes has occurred, which has pushed public and private organizations to find solutions to remain innovative, responsive, flexible, and more efficient and effective (Palvalin 2017; Taskin et al. 2017; Van Steenbergen et al. 2017). With various concepts emerging in the international literature on the new world of work (Kelliher and Richardson 2012; Wessels et al. 2019), this article aims to shed light on new ways of working (in this article, we use NWW and NWoW interchangeably for “new ways of working”), a human resources (HR) approach introduced into many organizations worldwide and facilitated by mobile devices and internet facilities (Blok et al. 2011; de Leede and Nijland 2017; Bijl and Gray 2011). NWW’s most common definition is that it constitutes forms of work that allow workers to choose when and where they work using information and communication technologies (ICT) to be available anywhere, anytime (Nijp et al. 2016; ten Brummelhuis et al. 2012).

NWW is seen as a viable answer to incompatibilities between people’s professional and personal lives stemming from major societal issues, being boosted by current COVID-19 pandemic issues (Mitev et al. 2021). NWW can also positively address professional life challenges like women’s labor market access, work–life balance and well-being at work, and young workers’ (millennials) new expectations (Brandl et al. 2019; van Meel 2011).

Finally, the green imperative has also played a role in NWW implementation because NWW potentially diminish the amount of carbon monoxide produced via commuter reduction, which has been clearly demonstrated during the COVID-19 crisis. For instance, air quality as measured by carbon monoxide has notably improved during the COVID-19

crisis (please see the referenced research for more details) (Ruostela et al. 2015; Taskin et al. 2017).

Because of NWW's rapid increase in organizations, its relevance and outcomes on organizations and employees are important to determine, for both research and practice. As NWW practices promise to give employees better control over their work time and more autonomy, what are the real effects of such HR practices for employee well-being and performance? As stated by Cvenkel (2020, p. 68): "Well-being has become one of the most important issues of the twenty-first century world of work—a challenge not just for individuals, in terms of their mental and physical health, but for employers and governments who have started to assess its social and financial implications."

Regarding NWW-related academic research, much research has been published in recent years, dealing with NWW as a broader change of the world of work: see, for example, Kelliher and Richardson (2012); Aroles et al. (2021); and Mitev et al. (2021). With a few exceptions, almost no research deals specifically with NWW outcomes. One literature review focuses on NWW's psychological outcomes (Kotera and Correa Vione 2020) and includes seven studies assessing mental demands like workload autonomy, blurred work–family psychological borders, fatigue, and work engagement. However, the results are inconclusive, and the authors do not investigate whether NWW is mutually beneficial to organizations and employees or contribute to contradictory effects. Another literature review made by Ajzen et al. (2015) analyzes the organizational motives behind the implementation of NWW, offering a broader perspective of the «new ways of organizing work», but without focusing more precisely on NWW outcomes. In order to improve the current state of knowledge, this article aims to answer the following research question:

Does empirical evidence exist regarding either mutual gains from NWW (i.e., positive effects for both organizations and their employees) or contradictory/conflicting effects (i.e., beneficial organizational effects but negative employee effects, or vice versa)?

This question is essential for further academic research as well as management practices because it remains unclear how NWW can be implemented to optimize both employees' performance and well-being, representing the two main outcomes researched in the HR literature (see, for example, Van De Voorde et al. 2012). Therefore, the main objectives of this article are the following:

- To discuss definitional issues of NWW, in order to strengthen this new field of research and systematize the analysis of NWW's outcomes;
- to discuss NWW-related empirical outcomes thus far using the HR Performance-Link framework and the related discussion about mutual gains–conflicting outcomes; and
- to suggest further research avenues by highlighting theoretical issues that should be clarified when analyzing NWW's effects on employees and organizational outcomes.

The methodology is based on a systematic literature review including articles explicitly referring to NWW as a concept or as a bundle of practices, leading to 21 of initially 90 selected articles.

The article is divided into four sections: The first explains the theoretical perspective adopted in this literature review. The second is devoted to methodological aspects. The third presents the main empirical results. The final section discusses these results and propose new avenues for future research.

2. A Mutual Gains–Conflicting Outcomes Theoretical Approach

NWW is clearly a field where practice precedes theory. Although individual HR practices being part of NWW (such as flexitime) have started to be implemented during the seventies in many countries (see for example Ajzen et al. 2015), the NWW concept as such originated mainly in the Netherlands (Jemine et al. 2019; van der Voordt 2003; Vos and Van der Voordt 2001) and began to be used in the 1990s (Kingma 2019). Academics contribute from various fields, including organizational psychology (Peters et al. 2014),

management (Assarlind et al. 2013), HR management (Peters et al. 2014), and architecture (Gorgievski et al. 2010).

According to Blok et al. (2016), “there is no clear theory which provides a foundation for NWW and the scientific proof for the effectiveness of NWW so far is very limited” (p. 157). Following Nijp et al. (2016, p. 616), neither the “sunny” nor “gloomy” perspective on NWW has been clearly confirmed. The current literature on NWW outcomes is scarce and in the vast majority focus only on one or two practices being part of NWW (like flexitime or activity-based offices). In this regard, the research done by Taskin et al. (Taskin 2012; Taskin et al. 2019), which highlights the de-humanization of activity-based offices, is emblematic. Looking at the results of the literature dealing with NWW is rather disappointing because the results are contradictory. Like other HR practices, NWW-related practices may generate positive outcomes like increased motivation, job involvement, task autonomy, and better work–life balance, which in turn positively impact employees’ performance. However, these practices may also decrease job motivation by generating a feeling of isolation, lack of social interaction and organizational support, and uncontrolled working time, which can lead to stress and burnout.

In order to systematically analyze the outcomes of NWW, it is useful as a theoretical foundation to refer to the HR–Performance Link framework, and the related discussion about the mutual gains vs. conflicting outcomes for both employees and employers (Paauwe 2009; Van De Voorde et al. 2012). Moreover, this for at least three reasons: First, because this framework gives a well-recognized classification of HR outcomes by making a distinction between performance and well-being issues, it will help us to classify and analyze NWW outcomes (see methodological part). Second, research made on the HR–Performance link also demonstrate that bundles of HR practices generate greater outcomes on performance and well-being than individual HR practices do (Gooderham et al. 2008; Gould-Williams 2003; Guest et al. 2004; Min Toh and Campion 2008; Subramony 2009; Wright and Boswell 2002). The “bundle” argument is based on the fact that horizontally integrated and synergistically interacting HR practices are supposed to have a stronger impact than isolated practices (Barrette 2005). As we will show in the discussion about the definitional issues of NWW, NWW are made of several practices which are inherently linked and should be implemented as a bundle in order to generate positive outcomes. Third, because HR outcomes demonstrated by empirical research on NWW impact both employees and employers, and they may be positive or detrimental for employees and for employers. This discussion has started several years ago and is frequently referred as the “mutual gains vs. conflicting outcomes” discussion.

Consequently, our literature review refers to the HR–Performance Link framework and the associated discussion about the mutual gains vs. conflicting outcomes of HR practices, commonly used in the HR-management literature (Ho and Kuvaas 2020; Peccei and van de Voorde 2019; Van De Voorde et al. 2012).

2.1. The Mutual Gains Approach

The mutual gains perspective constitutes an optimistic view of HR management practices’ impact on organizational performance and employees’ well-being (Guest 2011; Ogbonnaya and Messersmith 2019). This mutual positive effect is supported by several theories. Social exchange theory (Blau 1964; Colquitt et al. 2014; Lawler et al. 2008) explains that employees will perceive good HR management practices as their organizations’ efforts to support them, which is associated with employees’ willingness to become more committed to their organization, leading to higher overall organizational performance. Moreover, according to the ability–motivation–opportunity (AMO) model (Appelbaum et al. 2000), adopting certain HR management practices will enable employee development of skills and abilities, increase their opportunities for organizational participation, and also increase their motivation and commitment level, thus positively impacting organizational performance.

2.2. The Conflicting Outcomes Perspective

A more pessimistic version of the relationships between management practices, employee well-being, and organizational performance exists: the conflicting outcomes perspective. This approach criticizes the so-called unitarist employee perspective, which indicates that anything beneficial for the employee benefits the employer, and vice versa. Its basic argument is that pursuing organizational goals may negatively influence employees' well-being by increasing stress and fatigue and decreasing employees' control over their own activities (Peccei and van de Voorde 2019). This argument has been frequently used in relation to high-performance work systems, which promise a higher level of performance to the detriment of employees' well-being (Jensen and Van De Voorde 2016; Spector 2016).

The conflicting outcomes approach is based on the idea that organizational performance and employee well-being are parallel phenomena that may never meet (Boxall et al. 2016; Boxall and Macky 2016). Consequently, management practices can negatively impact employee well-being (by generating stress, burnout, or demotivation) without impacting organizational performance, positively impact organizational performance without impacting employee well-being, or positively affect organizational performance while negatively affecting employee well-being. In this case, management practices constrain employees, leading them to redouble their efforts to achieve organizational goals. This critical perspective comes from labor process theory in particular (Godard and Delaney 2000; Ramsay et al. 2000), stressing that organizations prioritize economic and financial profitability objectives, so management tools and practices, including HR management, are developed to pressure employees, leading to their deteriorating well-being.

The common thread running through our literature review is this confrontation of perspectives, mutual gains vs. conflicting outcomes, to identify whether empirical results currently exist to test these two perspectives.

3. Methodology

We conducted a systematic literature review between October and November 2019 using Web of Science, ScienceDirect, SAGE, and Emerald. These databases were selected to ensure a broad search across disciplines, including management, HR management, business, social sciences, and psychology. The search results were collated in Zotero.

The searched terms were chosen to identify articles that specifically address NWW in a work context. As NWW can also be a generic term used in various sectors, initial searches returned a high number of irrelevant articles. Therefore, we identified the most common keywords using additional search terms in our review: "new ways of working", "NWW", "NWOW", and "NewWoW". As the aim of our review is to define the concept of NWW, we included only papers that specifically used this terminology. Only peer-reviewed English articles published from 1993 (when NWW was first mentioned) to 2019 were selected (Brunia et al. 2016; Kingma 2019). Two researchers separately searched all databases, allowing a double check of articles; they then compared the selected articles and deleted duplicates. We retained only articles containing the words "new ways of working" in the title, abstract, or keywords, which restricted our review to articles related to NWW as a specific bundle of HR practices. Two researchers screened the bibliography of each selected article to find additional references to include in our literature review.

Through this process, we collected 100 references in our database, excluding 10 duplicates. Then, we defined inclusion and exclusion criteria to apply to the remaining 90 studies.

Included studies:

- examined NWW practices as a bundle, which means studies that include several practices of NWW such as telework and flexitime. The bundle of NWW practices selected for this research is inspired by the definition of de Leede: NWW as "practices in which employees are able to work independent of time, place, and organization, supported by a flexible work environment which is facilitated by information technologies" (de Leede 2017, p. xiii) or

- referred explicitly to the notion of NWW and examined one of its components, such as IT use, activity-based working, and schedule or place flexibility.

Excluded studies:

- did not mention NWW; this review focuses on NWW's emergence as a concept and considers only articles that specifically refer to this;
- focused on self-employed workers only, as our review attempts to understand NWW as part of the broader change of world of work and organizational structures; and
- used NWW (or other selected keywords) without referring to related scientific literature, such as using NWW in everyday language.

As shown in the figure below, seventy-two articles did not meet the criteria and were removed from our sample. The final corpus comprised 21 articles.

Figure 1 presents the PRISMA flow diagram.

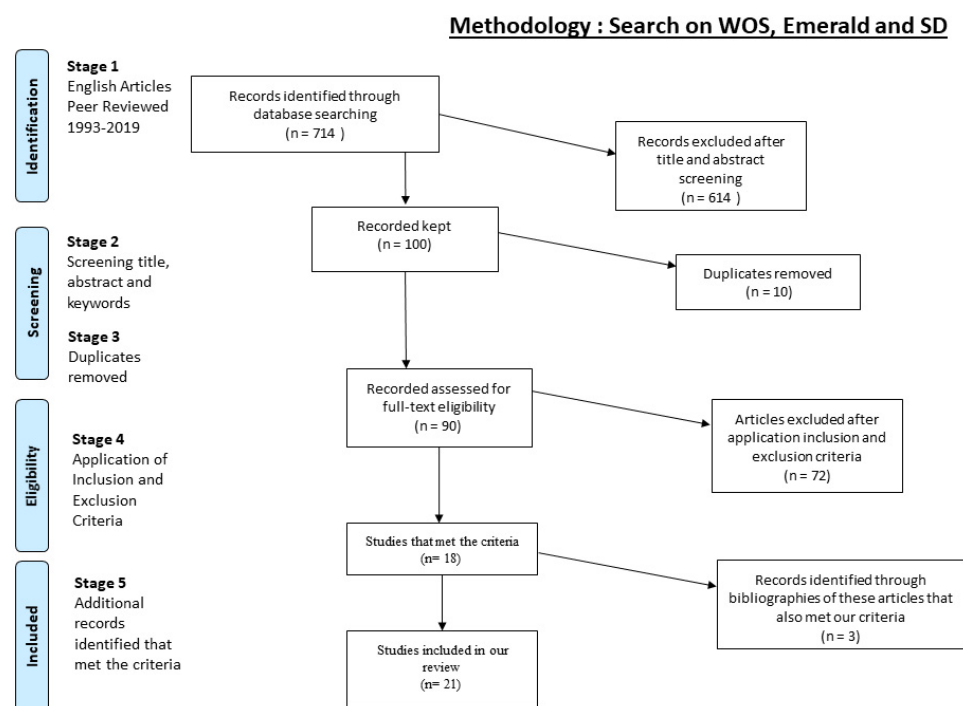


Figure 1. Literature review methodology.

Furthermore, the 21 articles are listed in Table 1 below.

4. Results

4.1. Preliminary Observations

Table 1 summarizes key information for all 21 articles regarding NWW-associated practices, theoretical framework, and performance- and well-being-related results.

First, we observed all articles were published after 2010 except for [van der Voordt \(2003\)](#) and [Vos and Van der Voordt \(2001\)](#). Because NWW, to our knowledge, was first used in a management context in the early 1990s, it is notable the concept spread to the academic field some 10 years afterward.

Table 1. Variables in new ways of working (NWW) studies.

Author(s)	Methodology	Theoretical Framework	NWW Facet(s)	Dependent Variable(s)	Interaction Variable(s)	Outcomes	Mutual Gains/Conflicting Outcomes
(Baek and Cha 2019)	Two sets of experiments Trilateralation-based BLE	-	Information and communication technology (ICT) Flexible workspace	-	-	-	-
(Blok et al. 2012)	Case study	-	Teleworking Flexible workspace Flexible working hours ICT	Work behavior Collaboration Employee satisfaction Knowledge-sharing	-	No changes on employees' satisfaction or collaboration Decrease in knowledge-sharing	"One-sided" study, focused only on employees' well-being No change in well-being
(Brandl et al. 2019)	Ethnographic fiction science	Economics of convention	Flexibility Teleworking Flexible workspace Flexible working hours Flexibility in working relations	-	-	-	-
(Brunia et al. 2016)	Questionnaire and interviews descriptive/explorative	-	Flexible workplaces	Employee satisfaction	-	Employees' satisfaction linked to work environment's physical characteristics	-
(Gerards et al. 2018b)	Survey data from representative panel of Dutch households collected by RMI	Job demands-resources (J-DR model)	Time- and location-independent work Output management Access to organizational knowledge Flexibility in working relations Freely accessible open workplace	Work engagement	Workplace social interaction Transformational leadership	Output management positively affects work engagement Access to organizational knowledge fully mediated by interaction variables Flexible workplace positively affects work engagement, fully mediated by interaction variables	"One-sided" study, focused only on employees' well-being. Unilateral gain + well-being
(Gorgievski et al. 2010)	Survey interviews with decision-makers, document analysis, personal observations	-	-	-	-	-	-
(Jemine et al. 2019)	Longitudinal qualitative study: interviews and observations	Institutional work and sociology of translation	Physical environment (especially based on space and buildings)	-	-	-	-
(Kingma 2019)	Case study with diverse sources. Longitudinal—before and after implementation	Production of space	Flexible Workspace Teleworking ICT	Employees' perceptions on NWW introduction	-	Difficulties for some employees to work without fixed workspace; disturbances from noise; Decrease in work engagement and social cohesion	"One-sided" study, focused on employees' well-being. Unilateral well-being loss

Table 1. Cont.

Author(s)	Methodology	Theoretical Framework	NWW Facet(s)	Dependent Variable(s)	Interaction Variable(s)	Outcomes	Mutual Gains/Conflicting Outcomes
(Laihonen et al. 2012)	Literature review	-	-	Knowledge worker productivity	-	-	-
(Nijp et al. 2016)	Comparison between reference and intervention group quasi-experimental design within large company	-	Flexible workspace Flexible working hours ICT	Control over work time and place; working hours; work location Work–nonwork balance, stress, fatigue, and general health In-role and extra-role performance Organizational commitment and job satisfaction	-	Employees work more hours at home, general working hours pattern remains the same, i.e., during weekdays and daytime no effect on work–nonwork balance Non-significant change on performance and health	No significant change on employees’ outcomes. No mutual gains No well-being change No performance change
(Palvalin 2016)	Scale’s development to measure knowledge workers’ performance	-	Teleworking Flexible workplace ICT	Knowledge work performance	-	-	-
(Palvalin et al. 2015)	Scale’s development to measure knowledge workers’ performance	-	Teleworking Flexible workplace ICT	Knowledge work performance	-	-	-
(Palvalin 2017)	Scale’s development to measure knowledge workers’ performance	-	Teleworking Flexible workplace ICT	Knowledge work performance	-	-	-
(Peters et al. 2014)	Survey data	HRM-process model and JD-R	Employee empowerment, home-working, trust-based relationships	Absorption, work enjoyment, and intrinsic work motivation	-	Positive effects on employees’ outcomes	“One-sided” study focused on employee well-being. Unilateral gain + well-being
(Ruostela et al. 2015)	Two case studies	-	Flexible workspace Flexible working hours ICT	Knowledge work productivity	-	Organizational performance Improvement	-
(Schmoll and Süß 2019)	Experimental study: paper-and-pencil survey randomized vignette-based experiment	Signaling theory	Flexible workspace Flexible working hours	-	-	Temporal flexibility and spatial flexibility positively affect organizational attraction	-
(ten Brummelhuis et al. 2012)	Five-day diary study: questionnaire in large telecom company	JD-R	Flexible workspace Flexible working hours ICT	Work engagement and exhaustion	Communication quality	NWW positively related to daily engagement and negatively to daily exhaustion	“One-sided” study focused on employees’ perceptions of well-being. Unilateral gains and loss: + engagement—health
(van der Voordt 2003)	-	-	Flexible workspace	Employee satisfaction Productivity	-	Decrease of productivity Mixed effect on employee satisfaction	Conflicting outcomes—gains and loss: – organizational performance (productivity) + well-being

Table 1. Cont.

Author(s)	Methodology	Theoretical Framework	NWW Facet(s)	Dependent Variable(s)	Interaction Variable(s)	Outcomes	Mutual Gains/Conflicting Outcomes
(van Meel 2011)	Historical description based on literature, documents, handbooks, movies, etc.	-	-	-	-	-	-
(Van Steenbergen et al. 2017)	Three waves (one before and two after transition). Data collected via online surveys	JD-R	Flexible workspace Flexible working hours ICT	Work engagement Burnout	Job demands and job resources	Mixed effects on employees' outcomes Burnout and work engagement remained stable	"One-sided" on employee well-being. No significant change.
(Vos and Van der Voordt 2001)	-	-	Teleworking Flexible workspace	Satisfaction about NWW	-	-	-

NWW-interested authors are from diverse disciplines, which makes comparison difficult, but also means a richer, more robust corpus for analysis. Dutch scholars are dominant, having written all but three studies (Austrian (Brandl et al. 2019), Belgian (Jemine et al. 2019), and American (ten Brummelhuis et al. 2012)). Consequently, NWW has been studied in Dutch organizations.

Theme diversity can be divided into three categories:

1. Three conceptual articles focused on retracing NWW terminology's origins (Brandl et al. 2019; Jemine et al. 2019; van Meel 2011).
2. Three empirical studies with a case study approach (Blok et al. 2012; De Bruyne and Beijer 2015; Kingma 2019).
3. Empirical research on NWW outcomes, further subdivided into three subcategories:
 - five articles on NWW's impact on employees' outcomes, like work engagement or well-being (Gerards et al. 2018b; Nijp et al. 2016; Peters et al. 2014; ten Brummelhuis et al. 2012; Van Steenbergen et al. 2017);
 - six articles on NWW's impact on productivity or organizational outcomes (Laihonen et al. 2012; Palvalin 2016, 2017; Palvalin et al. 2015; Ruostela et al. 2015; Schmoll and Süß 2019); and
 - five articles on one NWW component's effect, like activity-based working or aspects of private territory on concentration or employee satisfaction (Baek and Cha 2019; Brunia et al. 2016; Gorgievski et al. 2010; van der Voordt 2003; Vos and Van der Voordt 2001).

4.2. NWW Definitions

Before analyzing NWW outcomes, the lack of coherence among the authors' definitions should be noted. Though NWW has been defined during the past two decades in many ways, the term is still used as an "umbrella term", and a comprehensive definition is still lacking. As shown in Table 1, authors who investigated NWW issues differ in their use of the terms "NWW", "flexible working", "flexible work practices" (Kingma 2019), and "flexible work arrangements" (Blok et al. 2012; Brandl et al. 2019; Schmoll and Süß 2019; Van Steenbergen et al. 2017). An examination of these definitions demonstrated their diversity, commonalities, and differences. For example, there are definitional differences between the notions of flexible work arrangements, telecommuting/telework, and new ways of working (see Table 2 for details of these differences).

As Ruostela et al. (2015) stated, NWW consists of "a set of approaches and a philosophy for questioning the dominant ways of organizing work practices" (p. 283), implicitly referring to "old ways of working", in other words, all employees working together in the same office at the same time. NWW concerns "working smarter, not harder" to achieve

better communication among employees, improve creativity and innovation, share knowledge more efficiently, increase autonomy, and utilize office space more efficiently (Ruostela et al. 2015, p. 384).

The most common definition was the following: NWW allows workers to choose when and where they work while using ICT to be available anywhere and anytime (Laihonen et al. 2012; Nijp et al. 2016; ten Brummelhuis et al. 2012; Van Steenbergen et al. 2017). Authors agree unanimously on two components: anytime and anywhere and ICT availability. The former component, corresponding to spatial/temporal flexibility, enables employees to work independently with, for example, annualized hours or flexible schedules through teleworking, satellite offices, or mobile working. They may also use freely accessible workspaces, such as activity-based offices or non-territorial offices (Brunia et al. 2016). The latter component provides free access to and use of organizational knowledge on tablets, smartphones, or computers so employees can easily contact and collaborate with colleagues and managers through videoconferences and chats.

Authors have also linked NWW practices to autonomy (Palvalin 2017; Schmoll and Süß 2019; van der Voordt 2003; van Meel 2011). For example, ten Brummelhuis et al. (2012) stated that “it is important to emphasize that the overarching theme of NWW is providing employees autonomy by giving them control over their work content, time, location and communication” (p. 383).

Authors have disagreed on the following, management-style elements. Some studies include “output management” style (Laihonen et al. 2012) in the NWW definition, whereas others do not (Nijp et al. 2016). The question then arises as to whether transactional management style (Gerards et al. 2018a; Jemine et al. 2019) is part of NWW or is a fundamental (pre-)condition for NWW. Others (Blok et al. 2012; Jemine et al. 2019) include trust-based management, despite other scholars considering these to be “conditions for success” rather than constituents of NWW. Moreover, the literature is divided on whether flexibility in working relations (Gerards et al. 2018b) is part of NWW (Laihonen et al. 2012; Nijp et al. 2016; ten Brummelhuis et al. 2012).

As we show below, these author discrepancies are at least partially due to an under-theorization of NWW. In the 21 reviewed articles, only eight anchor NWW in an existing theoretical framework (see Table 1), including the job demands–resources model (Gerards et al. 2018b; Peters et al. 2014; Van Steenbergen et al. 2017), HR-management process model (Peters et al. 2014), economics of conventions (Brandl et al. 2019), sociology of translation (Jemine et al. 2019), Lefebvre’s theory on production of space (Kingma 2019), and signaling theory (Schmoll and Süß 2019). These theoretical perspectives are as varied as they are difficult to compare. While the J-DR model is well known in the field of organizational commitment and well-being studies, the same cannot be said of signaling theory, which aims to focus more strongly on the communication processes within organizations. As for the economics of conventions, inspired by the central work of Boltanski and Thévenot (1991), it questions the existence of common “superior worlds or principles” influencing individual behaviors and competing in each organization. The legitimacy of NWWs can in fact be apprehended in very different ways depending on the values or principles on the basis of which the evaluation of professional activities is carried out. The sociology of translation, or Actor–Network Theory (Callon and Latour 1981), states that organizations should not be read in terms of social groups, but as networks in which objects and “techniques” or technologies should be seen as real actors. What makes the organization or the social are the relationships and mediations between humans and non-humans in organizations and the analysis should focus on these associations. Lefebvre’s Marxist-inspired theory emphasizes that space is a product, built by human societies, and that once constructed this geographical space has an impact on society. This theory therefore invites us to consider the NWW as a production of space and its impact on work collectives. As can be seen, these different theories do not all share the same ontological and epistemological foundations and do not necessarily contribute to the production of comparable empirical

results. The cumulativeness of knowledge is therefore not yet favored, despite the diversity of perspectives deployed.

4.3. NWW Outcomes

This lack of a common definition directly affects the interpretation of empirical evidence using mutual gains vs. conflicting outcomes. The evidence regarding NWW practices' outcomes illustrates three key points (Table 1): First, the selected studies analyzed different components of NWW practices, such as teleworking, flexitime, and flexible workspaces, or analyzed different bundles of these; for example, [Gerards et al. \(2018b\)](#) focused on different types of flexibility, including flexible working relations, and [Van Steenbergen et al. \(2017\)](#) included three NWW types while excluding flexible working relations. This makes comparison between studies difficult. Second, methodologically, many articles were single case studies from various organizational contexts, mostly in the Netherlands, which complicates generalization. Third, the studied outcomes differ among articles, falling predominantly into two categories: employees' health/well-being and employees' performance. Only one study focused on organizational performance.

Eight articles undertook empirical analysis. Employee well-being was measured using job satisfaction, work engagement, absorption, work enjoyment, intrinsic work motivation, fatigue, exhaustion, and burnout. Six studies focus specifically on well-being, and the effects of NWW on employees' well-being are not straightforward. Whereas [Gerards et al. \(2018b\)](#) founded a positive impact of NWW on work engagement, [Van Steenbergen et al. \(2017\)](#) found no significant effect of NWW practices on work engagement or burnout. However, these authors found specific relationships between NWW practices and job demands or job resources. Their findings indicate that NWW can be either beneficial (i.e., lead to a decrease in mental demands and workload) or detrimental (i.e., lead to a decrease in autonomy and in professional development opportunities) for employees. Using Absorption, work enjoyment, and intrinsic work motivation as main dimensions for measuring well-being, [Peters et al. \(2014\)](#) found a positive association between NWW practices and well-being. [ten Brummelhuis et al. \(2012\)](#) examined the effects of NWW practices on work engagement and exhaustion. They investigated whether communication quality may mediate these relationships. They found a positive effect of daily use of NWW practices on daily work engagement and a negative effect of the use of NWW practices on daily exhaustion. The study of [Kingma \(2019\)](#), using a longitudinal research strategy—before and after implementation—based on ethnographic fieldwork, found that the use of NWW practices can lead to a decrease in social cohesion. Contradictory results are also available, specifically with respect to the relatedness dimension of well-being. NWW practices have been found to positively influence social interaction ([Gorgievski et al. 2010](#); [ten Brummelhuis et al. 2012](#)), but they have also been found to be negatively related to negative collective consequences, such as reduce social cohesion ([Kingma 2019](#)). These studies demonstrate that it is of great relevance to study the effects of NWW on multiple dimensions of well-being, namely, on health issues, work engagement, and thriving at work, but also on the social dimension of organizations.

Regarding employee performance, studies either found no or a negative effect of NWW ([Nijp et al. 2016](#); [van der Voordt 2003](#)). Employees' performance has been less studied than well-being, although NWW is supposed to positively influence many aspects of, at least, in-role performance.

Furthermore, interaction variables, like management style or trust, appeared to partially mediate relationships between NWW and employees' outcomes, for example, work engagement ([Gerards et al. 2018b](#)). However, only three studies used interaction variables, although these have been proven to be of utmost importance in HR-management research ([Ho and Kuvaas 2020](#)).

To summarize, NWW's impact on employees' outcomes has been found to be either neutral, one-sided positive or negative, and contradictory (only in two articles) according to the conflicting outcomes perspective.

5. Discussion

As shown in Table 1, current research on NWW effects provides little useful information for supporting either the mutual gains or conflicting outcomes perspective. In our opinion, this is because of the weakness of theoretical foundations on which NWW research is based, and a lack of systematic research design regarding NWW outcomes and interaction variables. In this section, we will discuss four main findings:

- The definitional issue of NWW, leading to our own definition of NWW;
- the current under-theorization of NWW studies and this stream of research’s real novelty;
- the lack of systematic thinking regarding outcomes and interaction variables; and
- the lack of reflection on such practices’ mutual gains or conflicting outcomes.

We link these different points to a query regarding current research gaps and potential new avenues.

5.1. The NWW Definition Issue

Authors having contributed to NWW literature used the terminology of flexible work arrangements (FWA) or NWW indifferently (Brandl et al. 2019; Schmoll and Süß 2019; Van Steenbergen et al. 2017). The literature on flexible work arrangements seems more consistent as different authors provide similar definitions (Brandl et al. 2019). The covered literature mainly agrees that FWA include a large amount of different practices, all being geared toward more flexibility for the employee regarding his work. Literature dedicated to FWA includes several core practices, some of them also included in the NWW literature (flexible working hours; alternative workplaces or remote offices) some others not included (compressed working time; annualized working hours; flexibility in employment relationships; job-sharing; career breaks; family-related leaves and other professional leaves).

Table 2 below summarizes three different concepts, which are currently very popular, and underlines what they include or not. Flexible work arrangements are all practices that offer some work flexibility to employees and a large variety of work arrangements. On the other hand, telework or telecommuting (de Vries et al. 2019; Caillier 2012) include both time and space flexibility, in relation with the use of different ICTs. This bundle of practices is specific in its purpose because they focus on the aim for workers to gain geographic and time flexibility, while using ICTs outside of the employer’s premises. Last, NWW focus on a specific bundle of practices including both time and space flexibility which go along with an extensive use of information and communication technology aiming at more flexibility for employees, regardless of the underlying purposes.

Table 2. Comparison of various concepts: flexible work arrangements, telework or telecommuting, and NWW.

Concepts:	Contents:	Main Focus:	Main Purpose:	Necessary Conditions:
Flexible work arrangements	Consist of practices, including both time and space flexibility, as well career breaks and family-related leaves	Work delivery and employer–employee relations	Increased flexibility for both employer and employee	Contractual flexibility over time
Telework or telecommuting	Focus on working outside of the employer’s premises with the support of ICTs. It can be carried out in different places, not necessarily only at home, and with the support of different technologies (smartphones, computers, tablets, etc.).	A primary interest in the workplace and the technologies used. Flexibility in working time is also mentioned.	Allow greater flexibility in work, greater individual autonomy. More flexible working hours to cope with the vagaries of life.	New communication technologies are essential, as is a new management philosophy.
New ways of working	Offer the possibility to choose where (inside or outside the office place) and at what time to work. The NWW are also interested in new forms of work that allow for greater flexibility and autonomy in work.	Work delivery (time and location)	Flexibility of work delivery (flexible work execution)	Knowledge workers only. Extensive use of ICT. Empowerment of workers.

According to [Jemine \(2021\)](#), there are five different ways (both theoretically and methodologically) of understanding the concept of New Ways of Working. It can be conceived as a management fashion, as a set of discourses, as practices of organizational change, as material workspaces, or as emerging work practices. Finally, these five dimensions would constitute the most recent, the most complete, but also the most accomplished definition of NWW. That said, such a definition, however comprehensive, is difficult to transfer to empirical research. There is little doubt that the five dimensions mentioned above are all very important, but for the purposes of empirical research and comparison, a more operational definition seems more appropriate. On the basis of the comparison proposed in [Table 2](#), and with respect to the relative vagueness of the definition of NWW, we propose the following definition as a synthesis of the current thinking in the literature on NWW:

As part of a broader transformation of the world of work and organizations, NWW are made of practices, supported by ICT, intended to increase the flexibility, autonomy, work performance, as well as well-being of knowledge workers in their delivery of daily work, letting them choose when and where to work.

Therefore, in general, the difference between NWW concepts and other related concepts is that the notion of NWW is broader and includes a wider reflection on the future of work and organizations. Our definition of NWW is close to the one proposed by [Mitev et al. \(2021, p. 3\)](#): “NWW can be regarded as part and parcel of the wider trend of workspace differentiation and flexibilization. This transformation encompasses the flexible use of home workspaces in terms of ‘teleworking’; the flexibilization of office spaces under the form of ‘hot desking’, ‘coworking’, or ‘nomadic working’; as well as ‘mobile working’ (i.e., ‘third space’) between all of these workspaces”. In this sense, it is also more philosophical and rhetorical to refer to some of the dimensions of the concept proposed by [Jemine \(2021\)](#). The notion of telework and flexible work arrangements focus more closely on the temporal, spatial, and technical dimensions of work, thus neglecting the more global aspects of the evolution of the economic environment, organizations, and work.

5.2. Under-Theorization of NWW and Novelty

Thinking concerning NWW is nascent, which likely explains why our literature review contains few scientific articles. However, the reviewed articles are strikingly oriented toward empirical or practical considerations (approximately 50%). Most authors’ main concern was the development of tools and managerial advice for NWW implementation ([Baek and Cha 2019](#); [Palvalin 2017](#)). Our literature review demonstrates that NWW research is not based on very structured theoretical foundations. There is significant fragmentation of theoretical references, which complicates comparison and knowledge accumulation, starting with the fact that no clear definition is accepted among scholars. NWW definitions from the 21 selected articles are multiple, not always convergent, and overlap with other related concepts’ definitions, like flexible working arrangements, flexitime, and activity-based work. There is a clear lack of agreement on what this concept means as well as what it represents in terms of managerial/HR practices and tools. Without a more stable definition of the NWW phenomenon, it will be problematic to contribute substantially to reflection on the contemporary world of work and its characteristics.

Related to NWW under-theorization is the question of its genuine novelty. An investigation of new working forms and ways is a rather banal subject from a management perspective. This issue is actually as old as any foundational managerial concern ([Adler 2009](#)). For decades, countless studies and publications concerning isolated HR practices constituting NWW have been available on such topics as office configurations ([Brunia et al. 2016](#); [Gorgievski et al. 2010](#); [Ruostela et al. 2015](#)), time management flexibility and teleworking ([Blok et al. 2012](#); [de Vries et al. 2019](#)), and organizational knowledge use (in relation to knowledge-sharing and organizational learning) ([Gerards et al. 2018a](#)). Therefore, NWW’s newness may lie in the bundle argument defined in HR literature, which claims bundles of HR practices impact people more than isolated HR practices ([Wright](#)

and Boswell 2002), particularly horizontally integrated and synergistically interacting HR practices (Barrette 2005). In this regard, NWW research should systematically include all related practices as independent variables, not one or two selected practices, to produce scientifically robust results.

The ultimate question is whether this concept can contribute to changing our perspectives on organization functioning and working conditions. The literature review shows the novelty may lie in the “relative” professional nomadism implied by the NWW notion, and, in particular, that employees are given more autonomy regarding working time and workplace. Freeing oneself from time/place constraints is, it seems to us, this concept’s originality, which is rooted in a contemporary reality related to the COVID-19 crisis, which has led to telework’s near generalization for knowledge workers. Undoubtedly, the “remote” organizational measures that were quickly implemented will have a lasting effect on how we think about our relationship to work and how we organize it. To date, the procedural, organizational, and human conditions necessary for the development of these NWW are not yet fully known. Necessity, at least in the case of the COVID-19 crisis, is probably an essential condition, but other factors still must be identified and tested through rigorous research designs. As things stand though, many NWW-dedicated articles are based more on managerial wishes and potentialities than on proven, concrete empirical findings.

5.3. Lack of a Systematic Research Model

The selected articles highlight why NWW have developed rapidly in recent years by stressing the importance of different factors favoring NWW’s emergence, development, and implementation. According to these authors, NWW represent an adequate response to economic, social, and environmental changes, but their claims are based on insufficient empirical foundations.

State-of-the-art research on HR practices like NWW should include a full range of HR results and interacting variables to be reliable and valid. The 21 selected studies investigated so few outcomes that most of them can be regarded as incomplete. These outcomes include employee satisfaction, work commitment, interorganizational knowledge-sharing, innovative behavior, stress, professional fatigue, burnout, in-role and extra-role performance, and productivity. Scant studies are interested in explaining these same variables; therefore, it is still challenging to draw sound conclusions about NWW’s impact on these different outcomes. Furthermore, future studies must consider many unexplored variables, such as work motivation, relatedness well-being, or attachment to an organization. The frequently used typology of HR results (i.e., employees’ performance—in-role and extra-role variables—and employees’ well-being—happiness, health, and relatedness variables) (Van De Voorde et al. 2012) may help to systematically analyze NWW outcomes.

Furthermore, important interactional variables have been largely ignored. Referring to the set theory for example, perceived organizational support and trust in organizations (both trust between employees and between employees and management) (Alfes et al. 2012; Cho and Ringquist 2011; Destler 2017), which appear central to NWW work configurations, should be included. It would also be of great interest to assess the importance of organizational climate (Clarke 2006; Gould-Williams 2007) or organizational culture (Alvesson 2002; Su et al. 2009; Taylor 2014) as interacting variables between NWW and various work outcomes. Other important variables are frequently used in HR-management studies, including leadership (Alimo-Metcalfe et al. 2008); and HR attributes (Van Beurden et al. 2020), both of which may moderate or mediate the NWW and work outcomes relationship. Finally, sectoral differences (e.g., between private and public organizations) may be of interest, as HR results frequently differ between them (Perry and Hondeghem 2008). Thus, there is strong potential for new research by increasing and diversifying work outcomes and making research models more complex by integrating interacting variables, the effects of which other HR-management studies have demonstrated.

5.4. Mutual Gains or Conflicting Outcomes

Based on our literature review, we cannot address the dilemma concerning conflicting outcomes vs. mutual gains perspectives, not only because the results do not show any definitive trend, but also because the number of empirical studies and their external validity are insufficient. Interestingly, besides our questions related to NWW impacts on employees' well-being and performance, a third question arises considering the nomadism argument developed above:

Are NWW more beneficial for employees than employers because the former may use and even abuse their newly gained freedom?

Most certainly the answer is related to the diverse representations and experiences of employees utilizing these different NWW practices (Mackey 2016; Nishii et al. 2008; Van De Voorde and Beijer 2015). Depending on the constraints (or demands) on employees and available resources, positive or negative perceptions/attributions may be formed. The contrasting empirical results regarding the mutual gains–conflicting outcomes issue suggest that further research is necessary to identify whether NWW practices can mutually benefit employees and employers as well as under which conditions (i.e., interacting variables) this ideal situation may occur.

Furthermore, NWW should generate positive outcomes by changing employees' behavior so they return the organizational efforts made to give them more favorable organizational conditions to their employer. This issue is not addressed by current NWW research. In fact, NWW introduces more flexibility for employees, but flexibility does not, per se, change behavior (Blok et al. 2012). Pure availability of NWW practices (e.g., freely accessible workspaces) is insufficient, in our opinion, to evaluate NWW's impact on employees. To test its real impacts, longitudinal studies are needed, which are currently rare (Jemine et al. 2019; Kingma 2019; Nijp et al. 2016; ten Brummelhuis et al. 2012; Van Steenbergen et al. 2017).

6. Strengths and Limitations

The present review has several strengths. To our knowledge, it is the first review on NWW aiming to understand their effects on employees' well-being and job performance. As we mentioned earlier, a first attempt was made by Kotera and Correa Vione (2020), but it mainly focuses on NWW's psychological outcomes. We also included studies from various fields, namely, historical social research, architecture, HRM, management, and psychology, with the goal of gaining a multidisciplinary perspective of NWW's constituent elements. Furthermore, our article questions the lack of theoretical foundations for NWW, which seems to be regarded as unimportant by researchers. Indeed, most studies try to assess these practices' effects without clearly understanding what they are and by ignoring the motivations underlying their introduction in organizations. Finally, our article proposes a new definition of NWW, which includes a broader vision of the new world of work, where employees benefit from an increased autonomy and flexibility to self-organize their daily work.

The review has some limitations as well. By focusing on peer-reviewed articles, we did not consider other sources that could have deepened our NWW knowledge. Particularly, the book edited by de Leede (2017) should be mentioned, as it aims to have a critical positioning about NWW's content and to assess their effects on both job performance and psychological outcomes. We also discarded work such as PhD theses (e.g., Palvalin 2019) and reports (e.g., Medik and Stettina 2014) which contained interesting NWW insights. We also disregarded non-English publications, for example, those in French (Ajzen et al. 2015; Taskin and Raone 2014).

7. Conclusions

This article contributes to reflection on NWW through the first systematic review focused both on well-being and performance issues. It highlights existing definitions' plurality and NWW's different effects on HR and organizational outcomes, highlighting

that current research results are not convergent and insufficiently theoretically anchored. Our literature review demonstrates that a major effort is needed to define NWW and provide a sound theoretical foundation to account for more subtleties in the organizational and social mechanisms that empirical studies demonstrate.

The multiplication, or even replication, of field investigations based on the same research design is essential to better understand NWW's positive and negative effects on organizations and employees. Researchers should use more sophisticated research designs related particularly to interacting variables and HR outcomes.

Finally, a more interdisciplinary approach and perhaps slightly more critical reading would help broaden the NWW discussion, which, currently, is frequently confined to techniques or technology employed. Consequently, such discussions tend to underestimate human and organizational variables. It seems clear future NWW discussions cannot avoid questioning both the phenomenon's material and contingent aspects (the progress of technical and technological infrastructures) and the factors related to organizational governance (the legitimacy of changes in terms of structures, procedures, and rules) that are fundamentally linked to the human dimensions of management and organizations. This leads us to plead for an interdisciplinary perspective that would allow a richer view of the NWW phenomenon than the managerial or technical perspective, which still dominates the literature.

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Article n°2: Engagement,
Exhaustion, and Perceived
Performance of Public
Employees Before and During
the COVID-19 Crisis

Engagement, Exhaustion, and Perceived Performance of Public Employees Before and During the COVID-19 Crisis

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Abstract

At the outset of the COVID-19 pandemic, the Swiss federal government implemented a lockdown that prompted a majority of private and public organizations to implement teleworking solutions for their employees. This study aimed to examine the impact of work modalities, job-related, relational, and organizational climate variables on employees' engagement, exhaustion, and perceived performance both before and during the forced teleworking period. Based on the job demands-resources framework, a survey was conducted ($N = 1,373$) in a Swiss Cantonal public administration. Results show that while the forced telework period positively influenced employees' work autonomy and work-life balance, it negatively influenced their degree of collaboration and perceived job strain but did not affect their engagement levels. The freedom to organize ones' own work and collaboration with colleagues were identified as the main resources that positively influence employees' engagement and perceived performance while limiting exhaustion.

Keywords

new ways of working, forced teleworking, well-being, perceived performance, engagement

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The COVID-19 crisis led governments around the world to impose restrictions to contain the spread of the coronavirus. These restrictions included recommendations or injunctions made to public and private organizations to introduce new ways of working (NWW) and, more specifically, in the Swiss context, to favor remote working or teleworking. In Switzerland, a democratic and federalist system (see Kriesi & Trechsel, 2008), the Swiss Federal Council made the decision on March 16, 2020, to close schools, restaurants, shops, bars, and nightclubs. Federal political authorities decreed that telework was mandatory for all public and private organizations that had the capacity for remote work. These extreme measures, undertaken at the federal level, meant that all Cantons (the 26 regional political entities that exist in Switzerland, and are the institutional equivalent of the states in the United States) were forced to follow these rules until mid-May 2020. However, citizens still had some freedom to leave their homes.

These federalist measures aiming to compel organizations to introduce teleworking led to a shift in working conditions as well as a change in work design and execution. In the case of public organizations, these changes led public servants to work mostly remotely. Teleworking is one component of NWW, which refers to a set of practices that comprise flexibility in working hours, flexibility in the place of work (teleworking, satellite offices, or mobile working), use of new technology networks and collaborative tools, and greater access to knowledge. Teleworking implies that employees work outside their professional office spaces while keeping in touch with colleagues and managers by way of new information and communication technologies (Beauregard et al., 2019).

Therefore, this study aimed to understand the impact on public servants resulting from changes in working conditions owing to teleworking. To do so, this study used the job demands-resources (JD-R) model, which assumes that the job characteristics, namely, job demands and job resources, are important predictors of employee outcomes, such as exhaustion, work engagement, or even perceived performance, in various occupational settings (Bakker & Demerouti, 2017). So far, the empirical evidence regarding the effects of NWW on employee outcomes such as performance, work engagement, satisfaction and health, is mixed and no consensus exists on whether NWW practices have a positive impact on employees' performance and well-being (Renard et al., 2021). Moreover, to date, in the context of the COVID-19 crisis, there are no empirical data available to assess whether NWW practices exert an influence—positive or negative—on work engagement, work exhaustion, and self-perceived individual performance. To bridge this gap, this study examines public agents' perceptions of how forced teleworking has impacted their day-to-day activities, work engagement, exhaustion, and perceived performance, while taking into account working conditions before and during the forced teleworking period due to the COVID-19 crisis. To the best of our knowledge, this is the first study that discusses the implications of forced teleworking specifically for public sector employees in the context of the COVID-19 crisis. Accordingly, the main research questions were as follows:

Research Question 1: What were the key resources, before and during the forced teleworking period, that positively impacted public sector employees' engagement and perceived performance while also acting as a buffer against the adverse effects of exhaustion?

Research Question 2: What were the constraints (or demands), before and during the forced teleworking period, that negatively impacted public sector employees' engagement and perceived performance while causing exhaustion?

We attempted to answer these questions using a survey of a sample of 1,367 public sector (response rate: 42.6%) employees working in a Swiss Cantonal administration. This survey allowed us to collect data on public servants' perceptions of their modalities of work, their job-related characteristics, their work climate (relational aspects and work–life balance) both *before* and *during* the forced teleworking period.

The current study makes multiple contributions to the public administration literature. First, it enhances our understanding of how NWW practices influence employee's well-being and perceived performance. Second, there has been a call to conduct research to ascertain the influence that organizational- and team-level variables such as organizational culture, organizational climate, and team climate exert on employee engagement. In this respect, the present empirical study takes into consideration two dimensions of work climate and explores their effects on employee outcomes. Third, it helps in identifying the most important antecedents of engagement, exhaustion, and perceived performance of public servants before and during the forced teleworking period. Fourth, by identifying which job demands and job resources positively or negatively influenced employees' outcomes before and during the period of forced teleworking, this study provides some insights on what organizations should focus on when implementing teleworking practices.

Theoretical Framework, Literature Review, and Hypotheses

Theoretical Framework: The JD-R Model

This study's theoretical framework is based on the JD-R model. It is worth mentioning that the JD-R model draws from several theories, especially job design and job characteristics models of work motivation (Hackman & Oldham, 1976; Karasek, 1979; Wood et al., 2012). Indeed, the JD-R model helps to identify the job characteristics that contribute toward employees' motivational process or health impairment process. This theoretical perspective is very popular in scientific literature and is relevant for identifying factors that can affect employees' work engagement, exhaustion, and performance. The advantage of such a theoretical model is that it is adaptable and can include variables that function as resources or demands for the actors. It has been used in various work settings, producing empirically sound results (Bakker & Demerouti, 2007).

The JD-R model categorizes work environments based on two central concepts—job demands and job resources (Bakker et al., 2014). Job demands refer to the physical, social, emotional, cognitive, and organizational dimensions of work that incur physical or psychological costs, while resources include aspects that enable individuals to achieve work objectives, reduce demands and their costs, and engage in personal learning and development. These demands and resources can comprise factors that are

work-related (e.g., decision-making latitude, work autonomy, social support, and career opportunities), organization-related (e.g., reorganization and participation in decision-making), or individual-related (e.g., sense of self-efficacy, self-esteem, and optimism).

Job demands and resources lead to two different processes. Job demands are at the root of processes (health impairment processes) that affect the health of employees and can be considered the best predictors of occupational health problems. A central assumption of the JD-R model is that high job demands erode resources of personal energy, leading to emotional exhaustion and job fatigue or exhaustion (Demerouti et al., 2001; Schaufeli & Bakker, 2004). According to empirical studies using the JD-R model to understand the health issues in organizations, work overload, red tape, emotional demands, work-home conflict, and interpersonal conflict are the demand dimensions that lead to stress if they exceed employees' resources for managing tasks (Giauque et al., 2013; Van den Broeck et al., 2008). However, resources enhance the understanding of motivational processes, which increase job satisfaction, work engagement, and motivation. Work engagement refers to a positive, fulfilling, work-centric state of mind that is characterized by vigor (i.e., high levels of energy and mental resilience while working), dedication (i.e., a sense of significance, enthusiasm, and challenge), and absorption (i.e., being focused and happily engrossed in one's work). The resources that foster a healthy work atmosphere include job autonomy, opportunities for skill utilization, support from the supervisor and colleagues, financial rewards, career opportunities, team cohesion, harmony, and coaching (Bakker et al., 2014; Beurden et al., 2020; Borst, 2018; Borst et al., 2019; Demerouti et al., 2001). An employee's performance significantly depends on the interactions between these demands and resources in terms of, for example, turnover, sick leave, work engagement, and job satisfaction.

Literature Review

Our literature review first considers studies focusing on telework that predate the COVID-19 crisis. Second, it takes a look at studies focusing on forced telework during the COVID-19 crisis. Finally, we turn to the literature related to NWW.

Literature on telework before the COVID-19 crisis. Studies focusing on telework were first published in the 1970s (Nilles et al., 1976), and a wide range of disciplines, including management, psychology, sociology, and information systems, took an interest in this area. However, definitions of telework and its components are diverse and numerous (e.g., Baruch, 2001). Nonetheless, scholars tend to agree on two dimensions of telework: being at a distance from the conventional workplace and using information and communication technologies (ICTs) to work (Carillo et al., 2021). A vast body of literature analyses the effects of telework on employees' performance, health and stress, turnover intentions, and professional isolation. However, there has been no consensus on whether telework is beneficial for or detrimental to employees' performance and well-being; thus, outcomes of telework have not been clearly identified yet (Beauregard et al., 2019).

A research article published in 2012 (Caillier, 2012) tried to assess the impact of teleworking arrangements on work motivation (satisfaction, organizational commitment, and job involvement) among the employees of a U.S. federal government agency. The findings indicated that employees who were empowered, worked under managers who supported teamwork, had a supportive supervisor, and were confident that their organization was attaining its mission were more likely to report higher levels of work motivation. However, contrary to what was expected by the author, teleworking arrangements were found to be unrelated to work motivation. A more recent empirical study (de Vries et al., 2019) highlighted that there are multiple negative effects of teleworking in the public sector, such as greater professional isolation and less organizational commitment. However, the authors found that teleworking did not affect work engagement, although leader-member exchange was found to be helpful in minimizing the impact of teleworking on professional isolation. Beauregard et al. (2019) reviewed existing research on telework and demonstrated that the outcomes of telework are neither straightforward nor clear. That is, while some studies have reported a positive impact on individual and team-related performance (e.g., Golden & Gajendran, 2019), others have highlighted negative consequences (e.g., van der Lippe & Lippényi, 2020a). For instance, “high-intensity” telework (defined as working from home for more than 2.5 days per week) is negatively related to team-related performance, while “low-intensity” telework is not (see Beauregard et al., 2019).

Using a JD-R perspective, Sardeshmukh et al. (2012) found that telework was negatively related to both exhaustion and job engagement and that job demands and resources mediated these relationships. Overall, scientific literature has identified four different factors that are of utmost importance when implementing teleworking practices for employees: first, the adaptability of the work-role for teleworking, which is the most obvious parameter; second, the presence of a specific place at home to work from, with access to technology and minimal interruptions, which Baruch (2001) called the “home/work interface”; and third, support of the organization and management for employees to telework; and finally, the individual’s characteristics and need for telework (see Baruch, 2001; Saba & Cachat-Rosset, 2020).

Literature on forced teleworking in the context of the COVID-19 crisis. There are very few existing studies on the impact of COVID-19 on working conditions, although there are several publications based on descriptive data. A quick search, using the Web of Science tool, with keywords such as “telework* AND COVID-19” or “homebased working* AND COVID-19” yielded 54 references. We restricted the research to the year 2020 and 2021 because we are focusing on the current pandemic; the ongoing COVID-19 scenario is unique in the contemporary world of work and is definitely not comparable to other home office experiences, notably owing to the lockdown and the closure of shops and schools. Thirteen of these studies specifically adopted a management, business, or sociology lens, whereas other studies approached the problem from a gender perspective. Only a couple of these studies that evaluated the effect of forced teleworking on work characteristics, work climate, and employees’ performance, engagement, and health were relevant to our research questions. For instance, Bolisani

et al. (2020) highlighted the importance of and difficulty in maintaining social relationships and contacts in this specific working context. Nevertheless, they concluded that it was neither possible to derive fully positive or negative conclusions about work from home nor feasible to get clarity about the effectiveness of these new working modalities.

On the same subject, a study (Mohring et al., 2020) assessed whether the lockdown policies (remote work, short-time work, and closure of schools and childcare) exerted an effect on family and work satisfaction among the population. Relying on individual panel data collected before and during the lockdown, they demonstrated a general decrease in family satisfaction and an overall decline in work satisfaction as well.

Carillo et al. (2021) analyzed a sample of 1,574 teleworkers in France during the lockdown. They found that crisis-specific factors influenced the adjustment of teleworkers; lack of contact and informal relationships with colleagues, as well as a lack of feedback from the manager and the organization at large, were identified as major obstacles to telework adjustment. They also underlined the importance of physical conditions (having a functional work space at home) and of being able to concentrate without disruption in the case of teleworkers. Saba and Cachat-Rosset (2020) investigated a Canadian population that teleworked during the Canadian lockdown between April 4, 2020, and July 30, 2020. Their sample ($N = 6,750$) reported an increase in workload and modification of tasks. That is, even as respondents suffered on account of being socially isolated from their colleagues and their organization, they felt more productive and were able to find a work–life balance. On the contrary, in a study that was undertaken in Germany, Abdel Hadi et al. (2021) found out that daily job demands and home demands during telework were positively related to emotional exhaustion. Finally, a study undertaken in China by Wang et al. (2021) identified four remote work challenges for employees: work–home interference, ineffective communication, procrastination, and loneliness. They underlined four virtual work characteristics that served as a buffer against these challenges: social support, job autonomy, monitoring, and workload.

The aforementioned studies emphasize the importance of job resources such as autonomy, a positive climate of work–life balance in the organization, positive relationships with colleagues, support from the organization, and flexibility. It is interesting to note that in the case of the effects of teleworking on employee outcomes, similar antecedents have been reported both in the context of forced teleworking during a crisis and in the absence of such a crisis.

Literature on NWW. Given that telework is a type of flexible work arrangement, it is interesting to see what the literature on the NWW has shown so far. NWW is a human resource management approach, which was introduced in many organizations globally and facilitated by the development of new information technologies (e.g., mobile devices and internet facilities; Blok et al., 2011; de Leede & Nijland, 2017; Gerards et al., 2018). NWW constitutes forms of work that allow workers to choose when and where they work and that involve the use of ICT to easily access colleagues and supervisors (Nijp et al., 2016; ten Brummelhuis et al., 2012).

Previous studies on NWW have pointed out that it may positively impact employees' well-being (Gerards et al., 2018; Peters et al., 2014; van der Voordt, 2003) as well as employees' performance (ten Brummelhuis et al., 2012). Other studies have highlighted that NWW does not exert any positive or negative effect on employees' well-being or performance (Blok et al., 2012; Nijp et al., 2016; Van Steenbergen et al., 2017). Kingma (2019) pointed out that employees experienced great difficulty in coping with NWW and highlighted the negative impact of these practices on employees' health, work engagement, and social cohesion. Nijp et al. (2016) showed that NWW may prompt employees to invest additional hours at work, but they did not identify any particular impacts of NWW on work–life balance, performance, or employee health. However, ten Brummelhuis et al. (2012) found that daily use of NWW was positively related to daily work engagement and negatively related to daily exhaustion due to increased effective and efficient communication.

Research Hypotheses

Based on existing literature, two dimensions related to NWW were taken into account in this study: the actors' ability to freely decide their work schedule and place of work (organizational freedom) and their ability to quickly reach colleagues, team members, or managers (easy access to colleagues and managers). Indeed, the COVID-19 crisis has had a direct impact on these two dimensions.

Second, according to previous research (Bolisani et al., 2020; Carillo et al., 2021; Saba & Cachat-Rosset, 2020), in the context of teleworking, face-to-face interactions with coworkers and managers diminish, which can affect employees' perceptions of relatedness to their team and the organization. At the same time, according to NWW literature (Gerards et al., 2018; Peters et al., 2014; van der Voordt, 2003), telework offers the advantage of reducing the stress associated with commuting and, hence, may reduce the employee's perception of the mental demands of their job. These two NWW dimensions (organizational freedom and easy access to colleagues and managers) can act as resources for public servants and positively impact their engagement and perceived performance while negatively impacting their level of exhaustion in the context of forced telework. Accordingly, we formulated the following hypotheses:

Hypothesis 1: The positive association between organizational freedom with employee engagement as well as with perceived performance is stronger during than before the forced teleworking period, while the negative association between organizational freedom with employee exhaustion is stronger during than before the forced teleworking period.

Furthermore, the literature shows that the use of NWW practices, in particular the ability to easily keep in touch with colleagues and the hierarchy, is considered to be a resource for sustaining engagement and reducing employee exhaustion (see ten Brummelhuis et al., 2012). This result leads us to two additional hypotheses:

Hypothesis 2: The positive association between easy access to colleagues and managers with engagement and perceived performance is stronger during than before forced telework, whereas the negative association between easy access to colleagues and managers with exhaustion is stronger during than before forced telework.

According to the literature review, with respect to teleworking and forced teleworking, several job-related factors seem to be of great importance when considering work outcomes (engagement, exhaustion, and perceived performance). More specifically, autonomy in the workplace (i.e., having a job that allows for a great deal of independence in carrying out tasks as well as for the ability to use one's own judgment) is an important resource identified in the literature (Wang et al., 2021), particularly with respect to understanding the link between teleworking and organizational commitment or well-being at work. The Job-Characteristics Model (Hackman & Oldham, 1976; Xanthopoulou et al., 2009) stresses that the ability to work on a variety of tasks and, therefore, to use a variety of knowledge and skills may be considered as important job resources. Given that the importance of these two job-related variables, namely, autonomy and diversity in skills and tasks, is supported by previous research, we developed some more hypotheses:

Hypothesis 3: The positive association between autonomy in the workplace with employee engagement and perceived performance is stronger during than before forced telework period, whereas the negative association between autonomy in the workplace with employee exhaustion is stronger during than before forced telework period.

Hypothesis 4: The positive association between a variety of tasks and skills with employee engagement and perceived performance is stronger during than before forced telework period, whereas the negative association between a variety of tasks and skills with employee exhaustion is stronger during than before forced telework period.

As indicated by the literature review, social isolation can be one of the consequences of teleworking (Saba & Cachat-Rosset, 2020). The relational aspect of work—in particular, the opportunity to maintain contact with colleagues and to benefit from their support—is an important resource that helps to limit the deleterious effects of social isolation (see, for instance, Park et al., 2021). Therefore, we formulate one more hypothesis:

Hypothesis 5: The positive association between support from colleagues with employee engagement and perceived performance is stronger during than before forced telework period, whereas the negative association between support from colleagues with employee exhaustion is stronger during than before forced telework period.

Finally, the literature review revealed that a work climate favorable to telework is important for generating positive feelings toward this specific work modality. However, while some studies have highlighted the difficulty that employees face in reconciling their personal and professional lives during forced telework, other studies have shown that forced telework led to a better work–life balance (Mohring et al., 2020; Wang et al., 2021). In any case, employees’ perception of the degree of openness of their direct supervisor, or of their organization as a whole, to the work–life balance issue is a dimension of the organizational climate that can clearly impact employees’ engagement, exhaustion, and perceived performance. Thus, a favorable work–life balance climate positively affects work engagement and performance, even among street-level bureaucrats (Destler, 2017). Accordingly, we formulated the last hypothesis:

Hypothesis 6: The association between positive work–life balance climate with employee engagement and perceived performance is stronger during than before forced telework period, whereas the negative association between positive work–life balance climate with employee exhaustion is stronger during than before forced telework period.

Research Model

Based on our review of the literature with respect to the JD-R Model, as well as the facilitating and detrimental factors for teleworking, NWW, and forced teleworking during COVID-19, we identified several dependent (employee engagement, exhaustion, and perceived performance) and independent variables: two variables related to forced telework characteristics (organizational freedom and easy access to colleagues and managers), two variables related to job characteristics (autonomy in the workplace and variety of tasks and skills), one variable related to the perception of support in the workplace (support from colleagues), and finally, one variable related to the perceived organizational climate (work–life balance). Figure 1 depicts the research model developed for the present study, comprising of all these variables.

Method

Sample and Procedure

To investigate the relationships between the different variables included in our research model, we adopted a quantitative methodology. Keeping in mind the pandemic and telework conditions, the survey method was deemed to be most suitable for collecting data from participants. Data were collected from a single Swiss Cantonal administration (name withheld to ensure anonymity and confidentiality) located in the French-speaking part of the country. This is one of the most important Cantons in Switzerland in terms of population size as well as in economic terms. A large sample was recruited from almost all the departments of this organization. To optimize the response rate in

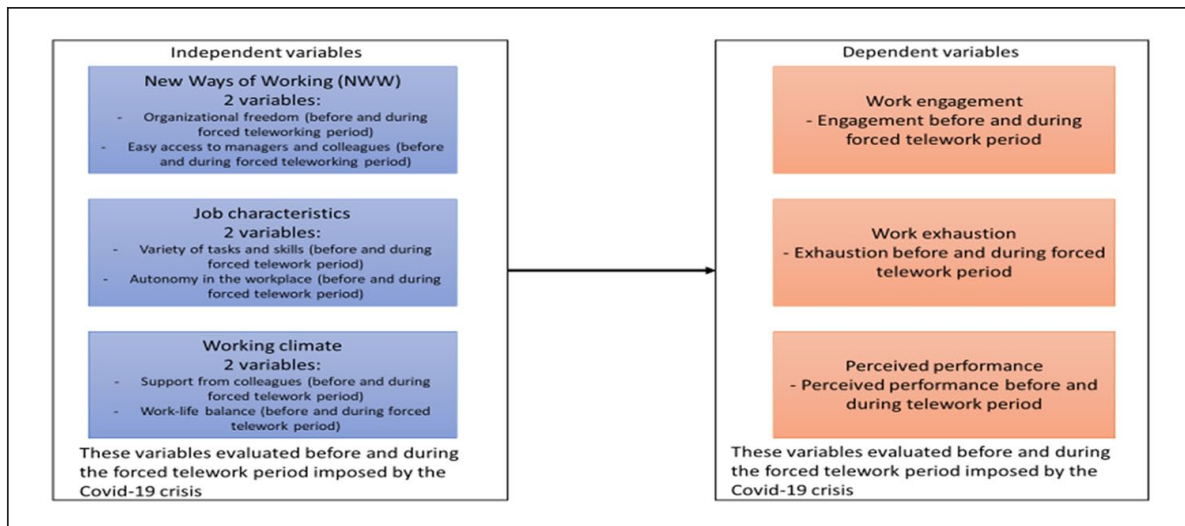


Figure 1. Research Model.

our online survey, we contacted the HR Department of the Canton, whereupon its executive members gave their official approval of this study. The questionnaire was developed in partnership with the leaders of the HR Department. After the test phase, an internet link to the questionnaire was sent to the HR Department, which invited the employees to fill the electronic questionnaire within 3 weeks (May 25, 2020–June 12, 2020). A reminder was sent after 1.5 weeks, prompting all the employees to complete their questionnaires. Furthermore, to ensure complete privacy, answers were directly saved on a server belonging to our university. Thus, employees did not have access to the data, and the respondents were completely and transparently informed about the research procedure. This announcement of procedures served the following two purposes: to increase the participation rate and to function as a baseline requirement to reduce common method bias (Podsakoff et al., 2003). A single questionnaire was administered to the participants who were asked to answer the same question from two different perspectives: before the period of forced telework and during the period of forced telework.

Out of 3,223 public employees, 1,373 completed our questionnaire (return rate of 42.6%), which is quite substantial for this type of research. Other studies conducted in Switzerland in recent years with large samples have had similar response rates. For instance, research by Petrovsky and Ritz (2014) reported a return rate of 56.23% for a sample of 26,544 respondents, whereas Giauque et al. (2011) reported a return rate of 38.1% for a sample of 9,852 respondents. However, as we were denied access to the HR data for all the departments in the canton administration owing to data confidentiality concerns, we could not make a clear judgment about the representativeness of our sample; this represents a methodological limitation of our study. Nevertheless, having a large sample size provides some assurance of the robustness of our findings.

Women comprised 70.5% of our sample and 51.1% of all respondents reported having dependent children at home. In addition, 19.1% of the participants were

supervisors, 30.2% of the participants were between the ages of 19 and 40 years, 64.2% were between 40 and 60 years, and 5.6% were aged 60 years or older. Furthermore, the level of education in our sample was high: 29.9% had been in a vocational track (elementary schools to professional baccalaureate), whereas 68.3% had an academic background (college degree to university diploma). Regarding organizational tenure, 30.2% of the participants had been with their current organization for less than 1 or up to 5 years, whereas 59.8% had been with the organization for 5 to 10 years.

Measures

Most of the items¹ was measured using 5-point Likert-type scales, with the endpoints *strongly disagree* (1) and *strongly agree* (5). The instruments relied on self-reports. It should be recalled here that the respondents became acquainted with the variables by putting themselves in a situation before and during the forced telework period. They answered the same questions (same variables) for the two time periods—before and during the Covid-19 crisis. Hence, the explanations of the measures below concern responses for the periods before and during the forced telework period—items before and during the forced telework period were placed in two separate parts of the questionnaire, to avoid bias and confusion in responses.

Independent variables (both before and during COVID)

NWW. To measure this variable, we relied on items already tested in previous research on NWW. Based on factorial analysis of these items, we were able to isolate two variables related to work arrangements. The first relates to the actors' ability to decide freely their work schedule and place of work. We will call it organizational freedom (3 items). The second isolated variable related to work arrangements is linked to the ability of the actors to quickly reach colleagues, team members, or their managers. This variable, created based on 3 items, is called easy access to colleagues and managers.

Job characteristics. We created two variables related to the dimension of job characteristics. These two variables are inspired by the job characteristics model (Hackman & Oldham, 1975, 1976), and the items used to construct these variables are extracted from an already tested measurement scale (Kim, 2016). The first variable measures the diversity of the tasks and skills involved in the job. We will call it a variety of tasks and skills. The second variable is related to the respondents' autonomy in doing their job as well as the possibility of taking initiatives. We will call it autonomy in the workplace.

Working climate. This variable focuses on the actors' perception of the work climate in which they work. Based on a factorial analysis, we were able to develop two variables related to this dimension. The first relates to the actors' perception of their relationships with colleagues. This measure is taken from a validated scale and includes 3

items (Euromed, 2015). We will call it support from colleagues. The second variable is related to the perception of the actors regarding the presence or absence of a favorable organizational climate in terms of work–life balance. Two items are drawn from a measure already used in research as well (Thompson et al., 1999). We refer to this variable as work–life balance.

Dependent variables (both before and during Covid)

Work engagement. The 5 items comprising this variable were selected from previous studies (Seppälä et al., 2008).

Work exhaustion. This variable comprises 3 items extracted from a measure that has already been tested and validated (Kim, 2005; Schaufeli et al., 1995).

Self-rated performance. The third dependent variable is a measure of performance, which is considered an in-role performance measure (Palvalin et al., 2015). The 3 items comprising this variable were also taken from a previous study. We call this variable perceived performance.

Control variables. The control variables are as follows: gender (0 = *men*; 1 = *women*); children, which is related to the fact that some respondents have children (0 = *no*; 1 = *yes*); the level of education (0 = *other* to 6 = *University degree*); organizational tenure (from 1 = *less than 1 year* to 5 = *more than 10 years*); age (in number of years); and managing or having to manage a team (0 = *no*; 1 = *yes*).

Statistical Analysis

Prior to assessing the reliability of our different variables, two supplementary indicators were used to test the condition of the dataset, that is, to ensure that the assumptions of normality were upheld and determine the presence of multicollinearity (notably, the assumption of normality pertains to residuals, not the survey data itself). The tolerance and variance inflation factor scores of our data also fell within the acceptable range for all the variables. Based on this evidence, we conclude that the dataset was in a good condition.

The first phase of our statistical tests focused on applying tests of means (*t* test procedures, using the Stata 16 software) on the variables to determine whether our respondents responded significantly differently to the same items when they related to the situation before and during the forced telework period.

In the second step, we wanted to better understand the effects of the independent and control variables on the dependent variables. Hence, we conducted three regression analyses (ordinary least square regressions using Stata 16). This was done to identify which variables correlated most closely with the three dependent variables, before and during the crisis. Multicollinearity and heteroskedasticity tests were performed on each regression. We did not detect multicollinearity problems; using Stata 16, we corrected the heteroskedasticity problems.

Table 1. Two-Tailed Tests Summary.

Two-tailed test (without any direction):	Interpretation of the results: mean answers to the different variables before and during the forced telework period
Organizational freedom before <-> Organizational freedom during	Two-tailed test, $t(1,368) = -38.12, p < .0000$, statistically significant.
Easy access to colleagues and managers before <-> Easy access to colleagues and managers during	Two-tailed test, $t(1,367) = 5.93, p < .0000$, statistically significant
Variety of tasks and skills before <-> Variety of tasks and skills during	Two-tailed test, $t(1,366) = 4.85, p < .0000$, statistically significant
Autonomy in the workplace before <-> Autonomy in the workplace during	Two-tailed test, $t(1,365) = -7.60, p < .0000$, statistically significant
Support from colleagues before <-> Support from colleagues during	Two-tailed test, $t(1363) = 4.38, p < .0000$, statistically significant
Work–life balance before <-> Work–life balance during	Two-tailed test, $t(1,363) = -6.39, p < .0000$, statistically significant
Engagement before <-> Engagement during	Two-tailed test, $t(1,366) = 1.36, p < .1742$, not statistically significant
Exhaustion before <-> Exhaustion during	Two-tailed test, $t(1,366) = 8.31, p < .0000$, statistically significant
Perceived performance before <-> Perceived performance during	Two-tailed test, $t(1,351) = 7.84, p < .0000$, statistically significant

Results

Two-Tailed t Tests Results

We will begin by presenting the results of our means tests in relation to our respondents' answers regarding their perceptions before and during the forced telework period. The results are summarized in Table 1.

In Table 1, based on the averages of the responses, respondents feel that their freedom to organize work, in terms of schedule and location, was higher during than before the forced telework period. On average, respondents feel that it was easier to contact colleagues and supervisors before than during the forced telework period. They also felt that the period before the forced telework period allowed them to engage in more diverse activities and, therefore, to apply a wider range of skills. However, the forced telework situation allowed them to enjoy a higher autonomy, as their independence and personal initiatives increased during this period compared with the prevailing situation. Cooperation between colleagues suffered during the forced telework period; on average, several employees felt that the forced telework situation was less favorable to social relationships with colleagues than the situation before the forced telework period. On average, they also believed that the climate for the work–life balance was more favorable during the forced telework period than before it.

In terms of engagement, our statistical analyses do not show differences in average responses between the situation before the forced telework period and during the crisis. However, the means in relation to exhaustion show that our respondents perceive the period of forced telework as being more favorable to their health. Finally, our respondents perceived the period before the forced telework to be more favorable to their individual performance than that during the forced telework period.

Results of the Ordinary Least Squares Regression Analyses

We identify the antecedents of the three dependent variables (engagement, exhaustion, and perceived performance).

Antecedents of engagement before the forced telework period. Our first ordinary least squares (OLS) regression analysis (Table 2) explains about 33% of the variance of respondents' engagement, which is significant. We observed high engagement in the case of women, younger people, those with the least organizational tenure, and those with lower levels of education. Respondents with hierarchical responsibilities were more likely to report high levels of engagement with their work. At an organizational level, variables related to job characteristics and organizational climate were found to be important explanatory factors for respondents' job engagement. In fact, the job characteristics such as the ability to conduct a variety of activities, the use of a variety of skills, greater freedom to organize work, and the opportunity to take personal initiatives are considered resources for the actors. These resources increase the work engagement of the actors. We also observe the significance of aspects related to the work climate. A good working atmosphere with colleagues, as well as an organizational climate conducive to work–life balance, is an important resource for the respondents. It is important to point out that, before the forced telework period, the two aforementioned variables related to NWW were not statistically significantly related to engagement.

Antecedents of engagement during the forced telework period. If we now turn to our regression (Table 2) in relation to the engagement of our respondents during the forced telework period (43% of the variance of engagement explained by our variables), we get somewhat similar results, except for the sociodemographic aspects. Older respondents and those reporting a low level of education are more likely to declare themselves engaged during the forced telework period. However, the same organizational variables identified in the previous regression had a statistically positive impact on our respondents' work engagement. The only difference is that, during the forced telework period, the ability of the actors to collaborate with colleagues, supervisors, and team members plays a crucial role in increasing engagement. Hence, this aspect determines the engagement of respondents during forced teleworking.

Antecedents of exhaustion before the forced telework period. The variables included in our regression (see Table 3) explain 13% of our respondents' exhaustion. Surprisingly,

Table 2. OLS Regression Regarding Engagement Before and During Lockdown.

Engagement before lockdown	Coef.	SE	t values	Engagement during lockdown	Coef.	SE	t values
Gender	.100	.037	2.69**	Gender	.050	.038	1.30
Children at home	-.029	.033	-.086	Children at home	.004	.034	.12
Age	.006	.002	3.30**	Age	.004	.002	2.12*
Level of education	-.020	.008	-2.42*	Level of education	-.031	.008	-3.62***
Tenure	-.052	.014	-3.64***	Tenure	-.020	.014	-1.41
Manager (yes or no)	.112	.043	2.57*	Manager (yes or no)	.007	.044	.16
Organizational freedom	-.021	.016	-1.32	Organizational freedom	-.009	.018	-.50
Easy access to colleagues and managers	.020	.024	0.84	Easy access to colleagues and managers	.156	.026	5.97***
Variety of tasks and skills	.145	.026	5.41***	Variety of tasks and skills	.174	.028	6.07***
Autonomy in the workplace	.174	.027	6.35***	Autonomy in the workplace	.307	.032	9.50***
Support from colleagues	.260	.028	9.18***	Support from colleagues	.174	.030	5.70***
Work-life balance	.223	.024	9.23***	Work-life balance	.181	.027	6.63***
Number of observations:		1,243		Number of observations:		1,245	
F statistic		45.20***		F statistic		73.25***	
R ²		.335		R ²		.43	
Root Mean Squared Error (MSE)		.579		Root MSE		.595	

Note. OLS = ordinary least squares.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 3. OLS Regression Regarding Exhaustion Before and During Lockdown.

Exhaustion before lockdown	Coef.	SE	t values	Exhaustion during lockdown	Coef.	SE	t values
Gender	-.087	.063	-1.38	Gender	-.125	.063	-1.96*
Children at home	-.141	.056	-2.50*	Children at home	.048	.056	.86
Age	-.006	.003	-1.95	Age	-.001	.003	-.55
Level of education	.000	.014	.04	Level of Education	.010	.013	.78
Tenure	.085	.024	3.51***	Tenure	.025	.023	1.05
Manager (yes or no)	-.096	.075	-1.28	Manager (yes or no)	.144	.077	1.86
Organizational freedom	.016	.027	.61	Organizational freedom	-.117	.029	-4.03***
Easy access to colleagues and managers	-.070	.038	-1.83	Easy access to colleagues and managers	-.102	.041	-2.47*
Variety of tasks and skills	.141	.042	3.31**	Variety of tasks and skills	.167	.041	4.05***
Autonomy in the workplace	-.163	.038	-4.28***	Autonomy in the workplace	-.200	.048	-4.13***
Support from colleagues	-.166	.045	-3.69***	Support from colleagues	-.044	.047	-.93
Work-life balance	-.257	.037	-6.90***	Work-life balance	-.151	.037	-3.99***
Number of observations:		1,243		Number of observations		1,245	
F statistic		15.73***		F Statistic		12.67***	
R ²		.13		R ²		.13	
Root Mean Squared Error		.982		Root MSE		.969	

Note. OLS = ordinary least squares.

* $p < .05$. ** $p < .01$. *** $p < .001$.

respondents without children at home reported higher levels of exhaustion than those with children. It is possible that this exhaustion is related to the number of people, not children, living in the same household. However, in the present study, as we do not have this information, it creates a limitation for explaining this finding. Respondents with a shorter tenure also reported higher levels of exhaustion. Respondents, who felt they had a variety of tasks to perform, and therefore, a variety of skills to apply in their work activities, also reported higher levels of exhaustion. However, independence, autonomy at work, and organizational climate aspects (good relationships with colleagues and a climate favorable to work–life balance) are factors that protect the respondents from exhaustion. Once again, the two variables related to NWW were not related to exhaustion before the forced telework period.

Antecedents of exhaustion during the forced telework period. Variables included in this regression also explain 13% (Table 3) of exhaustion during the forced telework period. Our male respondents were more likely (just statistically significant) to report higher levels of exhaustion. Two factors related to the NWW were negatively related to exhaustion: (a) the ability to freely determine the work schedule and location and (b) the ability to collaborate with colleagues, supervisors, and team members. High work autonomy and the freedom to use personal initiatives were negatively related to exhaustion. The other one (variety of tasks and skills) was positively related to exhaustion during forced telework period (a result similar to exhaustion before the forced telework period). Finally, a climate favorable to work–life balance was also negatively related to exhaustion during the forced telework period.

Antecedents of perceived performance before the forced telework period. Our regression analysis reveals that our variables explain 14% of the perceived performance during the forced telework period (see Table 4). Respondents with lower levels of education reported higher levels of perceived performance. Easy access to colleagues and managers, a variety of tasks and skills, autonomy in the workplace, and support from colleagues were all statistically significantly related to higher levels of perceived performance.

Antecedents of perceived performance during the forced telework period. Our last regression analysis shows that all the included variables explain 33% of the variance of the perceived performance during the forced telework period, which is much more than before the forced telework (see Table 4). Respondents who were less educated and had a longer tenure were more likely to report higher levels of perceived performance. Furthermore, five of six organizational factors were positively and statistically significantly related to perceived performance during the forced telework period—organizational freedom, easy access to colleagues and managers, variety of tasks and skills, and support from colleagues.

Table 5 summarizes the results of our regressions and identifies resources or demands according to our different dependent variables. It allows us to test our six hypotheses.

Table 4. OLS Regression Regarding Perceived Performance Before Lockdown and During Lockdown.

Perceived performance before lockdown	Coef.	SE	t values	Perceived performance during lockdown	Coef.	SE	t values
Gender	.031	.037	.82	Gender	.040	.044	.90
Children at home	-.058	.033	-1.78	Children at home	-.017	.040	-.44
Age	-.000	.001	-.13	Age	-.000	.002	-.34
Level of education	-.027	.008	-3.31**	Level of education	-.038	.010	-3.81***
Tenure	.021	.013	1.60	Tenure	.040	.016	2.41*
Manager (yes or no)	-.030	.040	-.75	Manager (yes or no)	-.008	.047	-.19
Organizational freedom	.004	.015	.27	Organizational freedom	.089	.022	4.03***
Easy access to colleagues and managers	.128	.025	5.03***	Easy access to colleagues and managers	.257	.032	7.95***
Variety of tasks and skills	.095	.031	3.02**	Variety of tasks and skills	.135	.035	3.85***
Autonomy in the workplace	.099	.028	3.50***	Autonomy in the workplace	.321	.040	8.02***
Support from colleagues	.122	.029	4.18***	Support from colleagues	.079	.037	2.13*
Work-life balance	.038	.201	11.44***	Work-life balance	-.019	.031	-.16
Number of observations:		1,230		Number of observations		1,245	
F statistic		13.57***		F-statistic		46.33***	
R ²		.14		R ²		.33	
Root Mean Squared Error		.572		Root MSE		.702	

Note. OLS = ordinary least squares.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 5. Synthesis of the Variables Identified as Job Resources or Job Demands According to Our Dependent Variables.

Outcome variables	Identified job resources before lockdown	Identified job resources during lockdown	Identified job demands before lockdown	Identified job demands during lockdown
Engagement	Variety of tasks and skills (+) Autonomy in the workplace (+) Support from colleagues (+) Work–life balance (+)	Easy access to managers and colleagues (+) Variety of tasks and skills (+) Autonomy in the workplace (+) Support from colleagues (+) Work–life balance (+)	—	—
Exhaustion	Autonomy in the workplace (–) Support from colleagues (–) Work–life balance (–)	Organizational freedom (–) Easy access to managers and colleagues (–) Autonomy in the workplace (–) Work–life balance (–)	Variety of tasks and skills (+)	Variety of tasks and skills (+)
Perceived performance	Easy access to managers and colleagues (+) Variety of tasks and skills (+) Autonomy in the workplace (+) Support from colleagues (+)	Organizational freedom (+) Easy access to managers and colleagues (+) Variety of tasks and skills (+) Support from colleagues (+)	—	—

(+) = positively and statistically significantly related to the dependent variable ($p < .05$).

(–) = negatively and statistically significantly related to the dependent variable ($p < .05$).

Based on this summary table of our main results, we can highlight that the majority of our hypotheses are not supported by our research data. H1 is partially supported by our data. Organizational freedom is indeed a factor that positively impacts perceived performance but also negatively impacts exhaustion during the telework period, but this factor is not associated with the engagement of our respondents. H2 is only partially supported as well. Easy access to colleagues and managers is more important during forced telework period than before with regard to engagement and exhaustion. But this variable is also a resource to support perceived performance before and during forced telework. H3 is not verified in this research. Autonomy in the workplace is not

a more important factor during the forced telework period than before. This factor has a positive effect on engagement, exhaustion and perceived performance, but the impact is no greater during than before the forced telework period. H4 is clearly not supported. On the contrary, this factor (variety of tasks and skills) could be identified as a factor of work arduousness as it contributes to increased exhaustion both before and during the forced telework period. H5 does not hold true in this research either. Support from colleagues is a dimension that decreases sharply during the forced telework period, and, therefore, this factor cannot be a resource for our respondents to deal with exhaustion. Finally, H6 is only partially supported by our data. A favorable work–life balance climate is not, however, associated with perceived performance either before or during the forced telework period.

Discussion

In general, our data reveal moderate impacts of the forced telework situation on employees' perception of their working conditions. We report a positive relationship between forced telework and job autonomy as well as between forced telework and work–life balance. On average, our respondents felt that they had more freedom to organize their work, which is one of the dimensions of NWW (organizational freedom) and that they had more opportunities to use personal initiative and judgment during the forced telework period. They also reported that the forced teleworking period was conducive to the development of a climate that allowed for a better work–life balance. This particular result calls into question certain studies, which have shown that forced telework has a negative effect on work–life balance (Mohring et al., 2020).

At the same time, other results may be more worrisome for both organizations and employees. On average, our respondents believed that the forced telework situation reduced their opportunities to collaborate with colleagues, team members, or supervisors. Thus, forced teleworking had a negative impact on the second dimension of NWW, namely, easy access to colleagues as well as on the dimension related to collaboration within the work climate. The respondents also experienced a decline in diversity in their tasks and their work skills.

Forced telework does not appear to have influenced our respondents' level of engagement, with the averages of their responses being almost identical before or during the forced telework period. This sends a positive message to the organizations that employees can exhibit high motivation and work engagement even without having a physical connection with the organization. The other good news is somewhat counter-intuitive to previous research results (Kingma, 2019), as the level of exhaustion dropped sharply during the telework period. Teleworking lowered the average level of perceived job strain of our respondents. One explanation may lie in the fact that new work arrangements have enhanced the work–life balance by facilitating a better integration of constraints related to private activities. Another potential explanation comes from Abdel Hadi et al.'s (2021) study, which demonstrates the importance of leisure crafting to reduce exhaustion during forced teleworking. Furthermore, these results

are consistent with those of previous empirical studies that have indicated that NWW may be favorable for employees' health (Diab-Bahman & Al-Enzi, 2020; Peters et al., 2014; van der Voordt, 2003).

However, on average, our respondents felt that their performance dipped and was negatively impacted during the forced telework period. It is necessary to consider employees' perceptions of their performance, as these perceptions are relevant to measuring workplace outcomes (Hewett et al., 2018) and maybe as important as the employees' actual performance. This result can possibly be explained by the decline in feedback during forced teleworking; a decline in the quality of relationships with coworkers and the inability to collaborate with colleagues and supervisors hinders the employee feedback and work support systems. Consequently, under such conditions, it becomes functionally more difficult to perform. However, a Canadian study by Saba and Cachat-Rosset (2020) found that approximately half of their sample of 6,750 respondents felt they were more productive during the period of forced teleworking. These contradictory results call for the need to gather more evidence on this matter.

Our OLS regression analyses showed that NWW dimensions and work–life balance are positively related to work engagement during the forced telework period. We identified several variables that constitute resources for the employees. Some of these resources can contribute toward lessening the negative impacts of forced telework. For example, employees must have certain job characteristics—the ability to perform a diversified job, the use of a variety of skills, freedom to organize one's own work, and the opportunity to use personal initiative and judgment. Our survey confirms that these characteristics of work, which have been extensively studied in the scientific literature (Bakker & Demerouti, 2007; Bakker et al., 2010), are important to ensure the work engagement of public employees.

Moreover, aspects of organizational climate also contribute toward employee engagement and occupational health. Our data underline that the perception of a good understanding and collaboration with colleagues is central to engagement at all times. In this case, our survey confirms the results of previous studies (Destler, 2017; Pecino et al., 2019). It should also be noted that the more the respondents perceived that their supervisors and, in general, their organization were in favor of a good work–life balance, the higher was their work engagement and the lesser was their exhaustion (Wood et al., 2020). Thus, a positive work–life balance climate is an important resource for employees, both during normal and forced telework periods. These results are consistent with the ones obtained by other studies focusing on the lockdown period (Bolisani et al., 2020; Saba & Cachat-Rosset, 2020; Wang et al., 2021).

If the aforementioned resources limit work exhaustion, then the variety of tasks and skills can act as a double-edged variable. We found a positive and significant relationship between this specific job-related variable and the other two dependent variables—engagement and exhaustion. In relation to this independent variable, there is a clear trade-off. It is a resource if it exerts a positive effect on engagement. However, it also represents a job demand because it fosters exhaustion. Indeed, other studies (Grant et al., 2007; Van De Voorde et al., 2012) have shown that certain aspects of work can both generate more engagement or satisfaction and have a negative impact on

workers' health. It can also contribute toward exhaustion, especially in times of crisis and forced teleworking. It should also be noted that the relational climate with colleagues proves to be a resource in normal times, but logically loses its protective value during a forced telework period. As teleworking is not favorable to social relations, this result seems logical.

Finally, it is also useful to mention the important role played by the freedom to determine one's own work schedule and workplace and the easy access to colleagues and supervisors during the forced telework period. Related to NWW, these variables negatively impact exhaustion, positively impact individual engagement, and contribute toward shaping a more favorable perception of self-performance. In our study, these variables are important in a context of a forced teleworking situation. Further research is needed to find whether those two NWW variables could be useful also in a "normal" teleworking context.

Limitations

Nevertheless, this study has several limitations. First, even if the variables used in this study capture a non-negligible proportion of the variance of our dependent variables, they are very likely to omit other important explanatory factors. For instance, working from home or teleworking requires technological competencies and skills as well as good IT infrastructures and materials (van der Lippe & Lippényi, 2020b). These specific facets of teleworking need further research. Individual variables may also have to be complemented. Single parents with children (forced to contribute to home-schooling) or those with dependent relatives may not find teleworking an effective work option. In our research, we included some sociodemographic variables, but individual conditions have to be better investigated. It may well be possible that other individual characteristics like personality traits can influence employees' responses. In addition, differences may emerge depending on whether people work full-time or part-time. It is also very likely that other variables may interact with the variables we have included in our own research. For example, the organizational culture, the leadership style, or even the level of trust between employees and management may interact with variables integrated in our analysis. Thus, it would be useful to better investigate, in the future, the possible moderating or even mediating effects between these interaction variables and the variables proposed in our survey. Finally, the type and nature of activities performed by employees have not been investigated. To better understand the relationships between the selected variables, it would be crucial to include the categories of occupational work.

Furthermore, this study has several methodological limitations. First, as our data are cross-sectional in nature, we cannot determine the causal relationships between our variables. Nevertheless, if we follow DeHart-Davis et al.'s (2015) argument, theoretical reasoning is of great importance and certainly provides guidance when dealing with causal relationships. According to theoretical perspectives reviewed previously, our assumption is that modalities of work (NWW), job characteristics, and working climate precede work engagement, work exhaustion, and perceived performance. Our

results are consistent with the theoretical argument, although future research must be developed to challenge our results.

Another important methodological issue is related to the one-sided methodology (i.e., a self-report survey to collect predictor and outcome variables) adopted in this study, which can result in common method biases (Podsakoff et al., 2003). This strategy may inflate the reported effect sizes. However, we tried to minimize this problem through the conditions of the survey. Another drawback related to our survey is the fact that respondents have to answer questions related to two different periods: one pertaining to before the forced telework period and another pertaining to the forced telework period. This strategy of administering only one questionnaire to collect points of view concerning two different temporalities is not immune to criticism and is probably not perfect for avoiding statistical or representational biases. Thus, while the adopted strategy was not perfect, it was the only feasible one at the time our survey was launched.

Finally, our sample comprises employees working in a large Swiss cantonal public administration. It would be interesting to conduct the same type of survey in private organizations, nongovernmental organizations (NGOs), or international organizations to compare the results and identify any differences. These methodological limitations may lead to new research perspectives.

Conclusion and Recommendations

To the best of our knowledge, this research is the first to investigate the impacts of NWW, job resources, and work climate during the period of forced teleworking induced by the Covid-19 crisis. Our results showed the differences in certain job resources, dimensions of NWW, and the work climate, as perceived by our respondents during the forced telework period and before it. In line with the previous literature on NWW and particularly with the empirical studies undertaken during the forced teleworking period, the evidence from the present study underlines the importance of NWW (the freedom to decide the place and time to work), job resources (autonomy and variety of tasks and skills), and the work climate (positive collaboration with colleagues and favorable work-life climate) for enhancing work engagement and performance and for reducing exhaustion among public sector employees. Second, this study shed some light on the importance of positive relationships at work, a climate favorable to collaboration, and a work–life balance for employees and organizations.

Practical Recommendations

Based on previous results, we can propose recommendations for managers and HR specialists in public organizations. In normal times, it seems necessary to allow employees to benefit from autonomy and independence in their work and equip them to carry out diverse tasks requiring the use of a variety of skills. It is also very important to develop a climate conducive to social relations and consider the importance of a better work–life balance. In times of forced telecommuting, the ability to contact

colleagues and supervisors becomes crucial to fostering employee engagement, reducing exhaustion, and promoting performance development. Similarly, during a crisis, the ability to work from anywhere and at any time functions as a crucial resource. However, the option to work on diverse tasks and use a range of skills may lead to unclear consequences.

As noted earlier, there has been a significant decline in perceived performance during the forced telework period. To counteract this feeling, organizations can promote opportunities for performance feedback. Social isolation and distance from colleagues and supervisors may diminish support to carry out the job and are probably not conducive to a favorable perception in terms of performance. However, further research is needed to better inform practical recommendations.

Finally, what can our results suggest about a co-modal or hybrid work situation that organizations are increasingly moving toward? Probably we need to review leadership practices and postures, as a first step. In terms of steering organizations, managers will simply not be able to do what they used to do. They have to adapt their expectations and behaviors to the reality of partial and sustainable telework for a large proportion of employees in the future. This means trusting, making themselves available to foster links, and to give additional feedback to employees, no longer focusing on “how” the work is done but rather on the objectives. It means adopting management by objectives. This new reality of hybrid work will also require a rethinking of the ways in which managers can create favorable organizational conditions to generate social bonds between themselves and employees but also between employees. In any case, a cultural revolution is underway in the world of work. Our organizations will have to try to create a favorable climate for reconciling private and professional life, to offer more hybridity and new ways of working; otherwise, they may not be able to successfully compete in the labor market.

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Note

1. The questionnaire and its items, as well as the table of correlations between the study variables and the Cronbach α s, are available on request. Please contact the corresponding author.

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Article n°3: Favourable
supportive work-life balance
environment and co-workers'
social support matter for
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of the Swiss Public Sector During
COVID-19

Perceptions of Work–Life Balance and Coworker Support Promote Teleworker Well-Being: Survey of the Swiss Public Sector During COVID-19

Karine Renard

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Perceptions of Work–Life Balance and Coworker Support Promote Teleworker Well-Being: Survey of the Swiss Public Sector During COVID-19

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Abstract

With the rapid increase of remote work due to the COVID-19 pandemic, it is important to understand if previously identified job resources are still pertinent when telework is compulsory and how flexible work arrangements are linked to employee well-being. This study aimed to assess the potential mediating effects of a perceived favorable work-life balance environment and coworker support between perceived new ways of working (NWW) practices (e. g., telecommuting and flexible work hours) and employee engagement/exhaustion during the COVID-19 pandemic. Based on the job demands-resources model and perceived organizational support theory, we hypothesized that perceptions of flexibility are positively related to a work environment conducive to work–life balance and that work-related resources will directly and indirectly affect employee well-being. The data comes from a survey of 1,373 Swiss public sector employees. Results showed that perceived schedule flexibility and the ability to communicate with colleagues and supervisors helped promote employees' well-being and that these relationships were partially mediated by a perceived favorable work–life balance environment and coworker support. These results suggest that an environment that encourages collaboration is key for public servants' well-being in a compulsory telework context. Further, as this study examined the perception of employees, it also suggests that human resource policies may be ineffective if not accompanied by supportive management.

Keywords

work–life balance, well-being, new ways of working, telework, COVID-19

1. INTRODUCTION

On March 11, 2020, the World Health Organization categorized the COVID-19 outbreak as a pandemic. Several countries, including Switzerland, reacted by imposing a lockdown, namely the complete cessation of nonessential activities, to lessen physical contact among their populations for sanitary reasons. On March 16, 2020, the Swiss Federal Council decided to close schools, restaurants, shops, bars, and nightclubs and declared telework mandatory for all organizations that were able to perform remote work. This change brought up new challenges for organizations in all 26 cantons (i. e., the regional level) of Switzerland, especially in public offices that had to rapidly transition to compulsory telework. In pre-COVID-19

Europe, approximately 15% of European workers engaged in some form of telework from their home; this increased to 48% of the workforce by July 2020 (Weber & Adăscăliței, 2021). Working from home put a lot of pressure on public servants, especially because, as schools were closed, it coincided with the staying-at-home of other members of the household, for example, partners or children. In this context, investigating the effects of working from home and new flexible working arrangements enabled by information and communications technology (ICT) on employees' well-being is more relevant than ever. Further, it appears that the new work conditions induced by the COVID-19 pandemic are here to stay. Statistics show that a massive shift toward telework is expected (Weber & Adăscăliței, 2021), and a shift toward what some scholars call "hybrid work" is already occurring (Wontorczyk & Roźnowski, 2022) businesses, and individual activities, it is important to examine how different forms of work affect employee behaviour. This study applies work engagement (the key construct in organisational psychology. In such a context, challenges related to worldwide telework implementation should be acknowledged, and academic research can provide answers on telework's effect on employee well-being.

Numerous studies have analyzed the effects of telework on employee well-being; however, "well-being" is defined and operationalized differently in every study (Renard *et al.*, 2021) because researchers who study well-being at work agree that it is a complex concept with multiple dimensions (Taskin, 2006). Based on research by work psychologist Peter Warr (1990), most human resource (HR) management literature defines well-being as the overall quality of an employee's experience and functioning at work. Over the years, the component of employee health has been added (Danna & Griffin, 1999). Indeed, a recent stream of research has begun to explore the potential trade-offs between different dimensions of well-being (Cvenkel, 2020; Grant *et al.*, 2007; Van De Voorde *et al.*, 2012). For example, it has been recently demonstrated that when a certain positive aspect of well-being, such as work engagement, is enhanced, another negative dimension, such as stress, can increase. In a literature review, Grant *et al.* (2007) illustrated well-being trade-offs, specifically that HR practices may enhance job satisfaction but have a detrimental effect on physical well-being. Considering this previous work, the present study focuses on two dimensions of well-being, namely exhaustion at work and work engagement. Work engagement refers to an active energetic state of mind that is characterized by vigor, dedication, and absorption (Schaufeli *et al.*, 2002). On the other side, work exhaustion is related to physical illbeing and is a component of the broader concept of burnout (Maslach *et al.*, 1977). Work exhaustion happens when employees cannot cope with job demands anymore, thereby causing an extreme fatigue (Schaufeli & Bakker, 2004).

Moreover, it is key to determine which social and organizational components must be established for telework to be beneficial. To do so, this study used the concept of new ways of working (NWW) to place telework in a wider context of flexible work arrangements. NWW can be defined as a work mode that allows workers to choose when and where they work while using ICT to be available anywhere and anytime (e. g., Brummelhuis *et al.*, 2012; Van Steenbergen *et al.*, 2017). This definition covers different types of flexible practices, such as flexibility in terms of location (e. g., teleworking, mobile working) and time (flexible working hours) and the use of ICTs on tablets, smartphones, or computers, so that employees can easily contact and collaborate with colleagues and managers (Renard *et al.*, 2021).

Regarding NWW effects on employee well-being pre-pandemic, the empirical evidence is mixed, and no consensus exists as to whether NWW practices have a positive impact on

employee well-being or not (Renard *et al.*, 2021). Researchers have called for more detailed exploration of these relationships by investigating mediating variables (Van Steenbergen *et al.*, 2017). One review on public sector antecedents of work engagement showed that team climate and organizational support climate are perceived as job resources for public sector employees (Fletcher *et al.*, 2020); however, no empirical study has considered perceptions of a favorable work–life balance environment as an antecedent.

To address this gap, this study analyzed the effects of NWW on public servants' well-being in a compulsory telework context and used the job demands-resources (JD-R) model as well as organizational support theory (OST) as theoretical frameworks. According to the JD-R model, job resources can be characterized as physical, psychological, social, or organizational aspects of jobs that 1) are functional for achieving work goals; 2) reduce job demands and the associated physiological and psychological costs; or 3) stimulate personal growth, learning, and development (Bakker & Demerouti, 2014).

More precisely, this study investigated the potential mediating effect of perceived favorable work-life balance environment (PFWBE; i. e., a work environment perceived as favorable toward employees' work–life balance) and coworker support, as potential job resources, between NWW practices and employee well-being.

Accordingly, the following research question was established: Do coworker support and does a perceived favorable work-life balance environment mediate the relationship between perceived NWW practices and public servant work engagement and exhaustion in the context of COVID-19?

This study makes several contributions to literature. First, it investigates whether perceptions of new ways of working, social support and PFWBE are determinants of employee well-being. The particularity lies in focusing on *perceptions* of NWW practices and of the work environment, which responds to a call of human resource management scholars (Paauwe & Boselie, 2005). Thus, the capacity to reach rapidly one's colleagues and superiors is a NWW component that had not been studied before. Second, this study adds to the debate on the existence of a trade-off between dimensions of well-being in terms of NWW practices, by investigating, at the same time, effects on work engagement and exhaustion (Grant *et al.*, 2007). Third, regarding literature on the effects of NWW on employee well-being, no studies have focused on the public sector, nor are there empirical studies on telework in the Swiss context (Athanasiadou & Theriou, 2021). This study aims to assess whether job resources, which have been extensively studied in the private sector, have the same impact on employee well-being in the public sector. Public administration literature is rather scarce on the determinants of public servant well-being (Borst & Knies, 2021), and scholars have called for research that examines well-being constructs such as work engagement and exhaustion in the government context (Liu *et al.*, 2015; Renard *et al.*, 2021; Steijn & Giaque, 2021). Finally, this is the first study that examines the potential mediating effect of PFWBE and coworker support between NWW practices and employee well-being in the context of a pandemic. The rest of the paper is organized as follows. Section 2 presents the literature review, and Section 3 introduces the hypotheses. In Section 4, the study methodology is explained, including the questionnaire items. Section 5 presents the results, which are discussed in Section 6. Finally, Section 7 concludes and discusses study contributions and practical implications.

2. LITERATURE REVIEW

2.1. Telework

The concept of telework in academic research originates from studies from the 1970s (Nilles *et al.*, 1976). The telework concept covers different definitions and components and has evolved over time (Baruch, 2001). Telework refers primarily to a shift in the place of work (Taskin, 2006). Researchers mostly agree on the general definition of telework: the performance of a work activity, in whole or in part, at a distance and through the use of ICTs (Carillo *et al.*, 2021; Taskin, 2006). Telework frequency has also been included in the definition: for example, teleworking one day per week or more than 90% of worktime can qualify as teleworking.

However, despite agreement on a definition, there is no consensus on whether telework is beneficial for or detrimental to employees (e. g., Fletcher *et al.*, 2020; Lunde *et al.*, 2022). Even concerning the most studied variable, job satisfaction, reviews on telework have found mixed results (Beauregard *et al.*, 2019). In a literature review, Vleeshouwers *et al.* (2022) investigated the results of 43 scientific articles published before COVID-19 and found that telework was associated with higher job satisfaction. However, in another review, drawing on 40 articles published in high-ranking journals between 2000 and 2020, Athanasiadou and Theriou (2021) indicated mixed findings on the effect of telework on job satisfaction, work-life balance, and social isolation. In a meta-analysis, Gajendran and Harrison (2007) found that telework was positively related to job satisfaction and negatively related to employee role stress, which is consistent with Tavares (2017). Further, the association between telework and work engagement has not been focused on, as only three such studies have been identified, which all found either no effect or a negative effect (Vleeshouwers *et al.*, 2022). In another literature review that includes the years 2010 to February 2021, only 14 studies were found that analyzed the impacts of telework on health outcomes (Lunde *et al.*, 2022); six studies investigated the impact of telework on stress, and most results showed that telework tends to reduce employee stress levels. Thus, these literature reviews indicate how telework's impact on employee work engagement and exhaustion, including mediating variables, needs further investigation.

2.2. Telework During the COVID-19 Crisis

Importantly, the telework period induced by COVID-19 cannot be compared to telework in a non-pandemic context. For example, it was a compulsory measure imposed from the Swiss Federal government for all organizations, and it was suddenly implemented in a context where social life was restricted. A recent search on the Web of Science platform revealed approximately 30 studies that analyzed the impact of compulsory telework during COVID-19 on employee well-being, particularly job satisfaction. For example, Sandoval-Reyes *et al.* (2021) collected 1,285 questionnaire responses conducted between April and May 2020 on LinkedIn from Latin America and found that the direct effect of teleworking on work engagement was positive and statistically significant. Considering supervisor behavior that was supportive of families, work engagement had a positive impact on employee work-life balance and job performance in a private company in Colombia (Campo *et al.*, 2021). Similarly, Pulido-Martos *et al.* (2021) determined that social support, both from colleagues and supervisors, was posi-

tively and significantly related to the level of vigor at work. Further, an empirical investigation in Canada demonstrated that workload and social isolation increased during the pandemic but that work–life balance was better during compulsory telework (Saba & Cachat-Rosset, 2020). Finally, a study on Korean public servants found that job autonomy, organizational goal clarity, and organizational justice were positively and significantly related to satisfaction with compulsory pandemic-related telework (Kim, 2022).

2.3. NWW

As mentioned, NWW are a specific set of flexible work arrangement practices (Renard *et al.*, 2021). The concept of NWW is more encompassing than that of telework: NWW practices allow workers to choose when and where they want to work and be available at anytime from anywhere, facilitated by the use of ICT (e. g., Brummelhuis *et al.* 2012; Van Steenbergen *et al.* 2017). Telework, on the other hand, can be seen as one subcomponent of NWW.

As the current study was conducted during a forced telework period, two practices of NWW were analyzed: 1) “flexi,” referring to flexibility in terms of space and time; and 2) “reach,” referring to the ability to contact colleagues and supervisors through ICTs. The first dimension concerns the *perception* of employees that this flexibility is available to their use. The second dimension refers to the *perceptions* of employees that they have the ability, thanks to ICTs use, to easily reach their colleagues and superiors at a distance.

2.4. NWW and Well-Being

Regarding the literature on the effects of diverse NWW practices on employee work engagement in the private sector, the empirical evidence shows some convergence. For example, Brummelhuis *et al.* (2012) examined the effects of certain NWW practices—flexible time and ICT-enabled teleworking—on work engagement and exhaustion at a large telecom company in the Netherlands. The results showed a direct effect of NWW on work engagement that was significant and positive but no direct significant effect of NWW on exhaustion. Similarly, Gerards *et al.* (2018) used the JD-R model to study the impact of five facets of NWW (e. g., time- and location-independent work, output management) on work engagement in Dutch organizations. They found that three facets of NWW—output management, access to organizational knowledge, and freely accessible open workplace—were positively related to work engagement.

Specific dimensions of NWW, such as teleworking, have recently begun to attract the attention of scholars in the public administration field. The results of the cross-sectoral meta-analysis of 130 studies by Borst *et al.* (2020) showed that the most noticeable significant sectoral differences can be found for work engagement. Their review highlighted specific characteristics, such as red tape, frequent changes of political leadership, and divergent motivations to work as a public servant, that are likely to result in possible negative effects on work engagement. Regarding telework, De Vries *et al.* (2019) analyzed the data of 61 public servants working for a Dutch municipality and found the effects of telework on their organizational commitment to be either neutral or negative in relation to work engagement. Another empirical investigation of Caillier (2012) assessed the impact of teleworking arrangements on outcomes such as job satisfaction among employees of a US federal government agency. He found that employees

who worked under managers who supported teamwork and those who had supportive supervisors were more likely to report higher levels of work motivation.

Regarding the link between NWW and employee health, the literature is quite scarce. Most studies have found NWW does not impact employee exhaustion (Nijp *et al.*, 2012; Van Steenberghe *et al.*, 2017), but one study found a positive effect of NWW dimensions on exhaustion (Brummelhuis *et al.*, 2012).

3. THEORY AND HYPOTHESES

3.1. Mediating Effect of PFWBE

Evidence suggests different mechanisms through which NWW increases work engagement. Flexibility regarding when and where to work is thought to enhance employees' perceived autonomy, which is classified as a job resource (Bakker & Demerouti, 2014). The intrinsic motivational potential of job resources is recognized by the Job Characteristics Theory (Hackman & Oldham, 1980). Therefore, as job resource, perceived time- and place-related flexibility at work provides discretion over one's job, and will likely result in higher work engagement. Based on this, we formulate the first hypothesis:

H.1: Perceived flexibility in terms of work time and location is positively related to work engagement.

Working at distance provokes physical and cognitive changes in how employees carry out their job. Teleworking has been reported to reduce stress and fatigue because it saves teleworkers time spent commuting and from interruptions by colleagues (Gajendran & Harrison, 2007). Thus, telework and the capacity to define one's working time gives autonomy to workers that can reallocate their time into different leisure activities, and better manage their work and family responsibilities, reducing their need for recovery (Gajendran & Harrison, 2007; Thompson *et al.*, 1999).

Therefore, we formulate the second hypothesis:

H.2: Perceived flexibility in terms of work time and location is negatively related to work exhaustion.

According to organizational support theory (OST), employees perceive treatment from their organization as favorable or unfavorable and develop feelings of obligation or dissatisfaction toward their organization accordingly (Shore & Coyle-Shapiro, 2003). Their perception is an indication of the "extent to which the organization values their contributions and cares about their well-being" (Aselage & Eisenberger, 2003, p. 493). In other words, employees' perceptions affect how they experience their work environment. Specifically, perceived favorable work-life balance environment refers to employees' perceptions of how their supervisor and the organization want to facilitate their work-life balance (Allen, 2001). In this study, instead of any official policies promoting work-life balance, employees' *perceptions* regarding the extent to which their supervisors and organizations encourage their work-life balance are examined. The definition of Gerrig and Zimbardo (2002) is retained relatively to the concept of perception. It "refers to the overall process of apprehending objects and events in the environment—to sense them, understand them, identify and label them, and prepare to react to

them” (Gerrig and Zimbardo 2002, p. 217). Moreover, in the literature on perceived psychological climate, individual perceptions are important matter in the relationship between employee’s evaluation of the environment and their behavioral responses (James *et al.* 2008).

A positive PFWBE may indicate that the organization is sympathetic to employees’ attempts to balance their work and non-work demands (Crain & Stevens, 2018), which would lead them to identify this supportive environment as a work resource, and this would help reduce their stress (Thompson *et al.*, 1999).

In this regard, we develop the third hypothesis:

H.3: PFWBE is positively related to work engagement and negatively related to work exhaustion.

However, only a handful of studies have assessed the relationship between PFWBE and employees well-being. For example, Campo *et al.* (2021) examined the relationship between telework, job performance, work–life balance, and PFWBE in the context of COVID-19. The data ($n= 519$), which were collected from large private service companies in Colombia during the COVID-19 pandemic, showed that telework was positively related to PFWBE, which in turn increased work engagement. This corresponds to previous empirical evidence of a positive link between flexible location and time and PFWBE (Hill & *et al.*, 2003; Maruyama *et al.*, 2009; Tavares, 2017). However, little is known about the process linking flexible work place and time and employees well-being, resulting in the “telework paradox” (Gajendran & Harrison, 2007). For example, in another study, any relationship found between telework and exhaustion was consistently mediated by other variables, such as role conflict, support, feedback, and autonomy (Sardeshmukh *et al.*, 2012).

Further, telework can provide employees more autonomy and control over their work, both of which are considered job resources in the JD-R model, and thus it may promote a better work–life balance (Tavares, 2017; Vayre, 2019). If employees perceive that their organization and manager support their autonomy with time and location flexibility, this will give them a signal that the organization supports their work-life balance. Following this line of reasoning, we argue that PFWBE might not only directly, but also indirectly, affect employee well-being.

Thus, we formulate a fourth hypothesis:

H.4: PFWBE will mediate the relationship between work flexibility in terms of time and place, and (a) work engagement, and (b) work exhaustion.

3.2. Mediating Effect of Perceived Coworker Support

During the pandemic, since telework was made compulsory for organizations by the Swiss Federal Government, social isolation likely increased. Indeed, social isolation is one drawback of telework in general but especially during a lockdown (Carillo *et al.*, 2021). Thus, the capacity to reach colleagues via ICTs was crucial during the pandemic considering organizations had to implement telework within a few days in Switzerland

Furthermore, the ability to communicate quickly with colleagues and superiors will likely enhance the feeling of social support for employees, especially in the context of COVID-19. In a qualitative study, Dumas and Ruiller (2018) highlighted the importance of new modes of communication in distance teams, and suggested the implementation of communication tools and rules relatively to the use of ICTS.

This leads to hypotheses 5 and 6:

H.5: The ability to reach colleagues and supervisors is positively related to work engagement.

H.6: The ability to reach colleagues and supervisors is negatively related to work exhaustion.

Many studies on the private sector have shown that coworker support is an empirically proven job resource and an antecedent of work engagement. For example, in their review of literature on the JD-R model, Bakker and Demerouti (2014) showed that social support can alleviate undesirable impacts of job demands on burnout in various organizational contexts. In their respective review on telework, Vayre (2019) highlighted the importance of social support from colleagues for teleworker satisfaction. Similarly, studies have shown a positive association between specific job resources, such as coworker support, and work engagement (Fletcher *et al.*, 2020).

However, these results correspond to a non-compulsory telework period. Therefore, how does coworker support affect public servants' well-being during a pandemic? It can also be expected that with the workplace's constant distance in telework, employees do not perceive their colleagues' support, which could have a larger effect on their well-being. Gajendran and Harrison (2007) found a high intensity of teleworking (more than 2.5 days/week) had a negative impact on relationships with coworkers. Regarding public employee exhaustion, evidence is scarce, but results have been similar, with coworker support attenuating the harmful impact of emotional labor requirements (Hsieh, 2014).

Theoretically, perceived organizational support indicates to employees that emotional support and help are available from the organization, from their superiors or their colleagues. In case of high job demands, workers would know that this resource is available to them, helping to reduce their psychological stress (Aselage & Eisenberger, 2003; Shore & Coyle-Shapiro, 2003).

We thus formulate the seventh hypothesis:

H.7: Coworker support is positively related to work engagement and negatively related to work exhaustion in public sector employees.

Moreover, Brummelhuis *et al.* (2012) showed that effective and efficient communication and connectivity completely mediated the relationship between NWW and work engagement and exhaustion. Similarly, Gerards *et al.* (2018) found that the relationship between NWW and engagement in Dutch organizations was completely mediated by social interaction in the workplace. This finding was also confirmed by Sardeshmukh *et al.* (2012), who found that social support mediated the relationship between telework and work engagement and exhaustion of employees. Bauregard *et al.* (2019) review showed contrasting evidence in the relationship between telework and work engagement; some studies demonstrated a clear negative impact, although this relationship was mediated by increased isolation (Bauregard *et al.*, 2019; Sardeshmukh *et al.*, 2012). Thus, the current study aimed to determine whether, even in a social distancing context, coworker support was perceived by employees and whether it mediated the relationship between the ability to communicate with colleagues/supervisors and employee well-being. Particularly during COVID-19, when social isolation was recommended even in individuals' private spheres, the role of social support at work was of utmost importance. In this regard, we develop the last hypothesis:

H.8: Coworker support will mediate the relationship between perceptions of the ability to reach colleagues and (a) work engagement, and (b) work exhaustion.

4. METHODS

4.1. Participants and Procedure

In March 2020, it was unclear how long the forced telework period would last; thus, we rapidly designed and launched a questionnaire in May and June 2020. To gather data from a Swiss public administration located in the French-speaking part of the country, we contacted the HR department of the relevant canton, who officially approved the study. The questionnaire was reviewed once by the HR department heads, who requested minor changes. All questionnaire items were derived from previously tested and validated scales. The questionnaire was sent as an Internet link to employees by their HR department, and questionnaires were completed between May 25, 2020, and June 12, 2020. Responses were directly saved on a server belonging to the researchers' affiliated university. The questionnaire was sent to a selection of canton-level departments and reached 3,223 of 18,727 public servants. Among them, 1,373 completed the questionnaire, for a response rate of 42.6%. The number of respondents is a strong advantage of this study and allowed for robust statistical analysis. Respondents were from five departments of the same public administration, which, for confidentiality reasons, will remain anonymous: Department 1 had 13.98% of total respondents, Department 2 had 55.18%, Department 3 had 12.59%, Department 4 had 16.22%, and Department 5 had 2.03%. However, HR data were not available for all departments owing to confidentiality concerns by the organization. Consequently, the study sample cannot be considered representative of the entire government office.

4.2. Measures

Respondents answered questions regarding how they perceived different job characteristics and work situations during the COVID-19 crisis. The questionnaire items associated with all the measures of the study are presented in the Appendix. Most items were measured using a five-point Likert-type scale, with 1 = strongly disagree and 5 = strongly agree. The data were self-reported.

4.2.1. Independent Variables

NWW. The items used to measure NWW practices were based on previous literature, and items were taken from the scale by Gerards *et al.* (2018). Through factorial analysis, we reduced this variable to two dimensions of NWW. The first, *Flexi*, relates to employees' ability to freely determine their work schedule and work location and comprised two items. An example item is: "I was free to determine my own work schedule." The second dimension of NWW, *Reach*, refers to access to one's colleagues and was measured by three items, such as "I could quickly reach colleagues on my team." Cronbach's alpha was 0.67 for *Flexi* and 0.84 for *Reach*.

Coworker support. This concept relates to employees' perceptions of their relationships with colleagues and whether or not they feel supported by coworkers. This measure was taken from

a validated scale and includes three items (European Foundation for the Improvement of Living and Working Conditions [Eurofound], 2015). An example item is “My colleagues and I cooperated well.” Cronbach’s alpha was 0.84.

PFWBE. This variable measured employees’ perceptions of the support of their work–life balance from their managers and the organization. Two items were drawn from a previously used measure (Thompson *et al.*, 1999) the shared assumptions, beliefs, and values regarding the extent to which an organization supports and values the integration of employees’ work and family lives: “In general, my direct supervisor was in favor of measures that allowed for a good work–life balance” and “Generally, in my department/unit, employees can easily balance their private and professional lives.” Cronbach’s alpha for this measure was 0.82.

4.2.2. Dependent Variables

Work engagement. The items used to measure this variable were derived from the short version of the Utrecht Work Engagement Scale, resulting in four items (Schaufeli *et al.*, 2002). In the current study, the five-item scale consisting of three subscales was maintained (Seppälä *et al.*, 2009). An example item is “I was passionate about my work.” The factorial validity of this scale was tested using confirmatory factor analyses; Cronbach’s alpha was 0.88, which is acceptable (comparative fit index [CFI]=0.99, root mean square error of approximation [RMSEA] = 0.08, standardized root mean square residual [SRMR] =0.011).

Work exhaustion. This second dependent variable was measured using three items from the General Burnout Questionnaire (Maslach *et al.*, 1997). Out of the three dimensions to measure burnout, only the exhaustion dimension was used in this study. An example of an item is “I felt emotionally drained from my work.” Confirmatory factor analyses showed good statistical reliability (RMSEA = 0.070, CFI = 0.995, SRMR = 0.014), and Cronbach’s alpha was 0.88.

4.3. Analytical Procedure

IBM SPSS and STATA software were used for descriptive statistics, Pearson’s correlation coefficients, and factor analysis. The PROCESS macro (Hayes *et al.*, 2017) in SPSS was used for mediation analysis. The data were reviewed to ensure that the assumptions of normality were upheld and to determine any presence of multicollinearity. The tolerance and variance inflation factor scores of the data were also within the acceptable range for all variables. Following Carillo *et al.* (2021), to ensure convergent validity, the following criteria were established : 1) Cronbach’s alpha is approximately 0.7 or higher, and 2) each item loading is significantly higher on its respective construct, with no item loadings below the cut-off value of 0.502 (Hulland, 1999; MacKenzie *et al.*, 2011). All coefficients were above 0.7 and showed consistent constructs (loadings reported in the Appendix).

To test the mediation hypotheses, PROCESS was used, which was applied in the multiple mediation bootstrap method by Preacher and Hayes (2008). This method uses ordinary least squares (OLS) regressions to estimate all coefficients and bootstrapping to determine the confidence intervals (CIs) for the direct and indirect effects. Applying bootstrapping (5,000 samples), PROCESS calculates indirect effects and their CIs. Therefore, this method allows us to test for the existence of indirect effects, which can only be inferred if applying a causal steps approach (Baron & Kenny, 1986; Hayes, 2009). Bootstrapping is regarded as the most powerful type of mediation analysis and is sensitive to indirect effects.

It should be noted that the distinction between full and partial mediation following the traditional causal steps approach (Baron & Kenny, 1986) for mediation analysis has been criticized for hindering further exploration of other potential mediators. Therefore, researchers have advocated for the consideration of the significance of exploring indirect effects regardless of using the terms “partial” and “full” mediation (Hayes, 2009). In this study, the effect size of the mediators was reported using the point estimate of the indirect effect. Hayes (2009) suggested that an indirect effect was significant if zero was not between the lower and upper bounds in the 95% CI. The possible effects of covariates were assessed and integrated into the model and regressions. Therefore, age, gender, being in a managerial position, tenure, and having children at home were introduced in all the different models as control variables.

5. RESULTS

5.1. The Measurement Models

Our overall hypothesised measurement model including six latent variables (Flexi, Reach, PFWBE, coworker support, exhaustion and work engagement) yielded an excellent fit to the data ($\chi^2(104) = 483.017$, $p < .001$, CFI = .969, TLI = .959, RMSEA = .052). That model yielded a better fit to the data than any other parsimonious model. The four measurement models (one for each mediation model) are presented in Table 1. The results show that the four models have a good fit with the data. Common-method variance (CMV) may be an issue as the data come from a single source (Podsakoff *et al.*, 2003). Therefore, Harman’s single factor tests were performed for all four models in which we loaded all items onto a single factor. Each of these one-factor model had significantly worse fits than the original measurement models, indicating that CMV is unlikely to be an issue.

Table 1. Fit Statistics of the Four Measurement Models

	CFI	TLI	RMSEA
Model 1 : Work engagement, PFWBE, and Flexi	.985	.975	.058
Model 1 : Harman’s signal factor test	.736	0.631	.221
Model 2 : Work exhaustion, PFWBE, and Flexi	.998	.995	.026
Model 2 : Harman’s signal factor test	.677	.516	.263
Model 3 : Work engagement, Coworker support, and Reach	.991	.988	.039
Model 3 : Harman’s signal factor test	.580	.461	.260
Model 4 : Work exhaustion, Coworker support, and Reach	.997	.995	.025
Model 4 : Harman’s signal factor test	.414	.218	.325

Note. CFI=comparative fit index; RMSEA=root mean square error of approximation; TLI=Tucker–Lewis index. Flexi: time/location flexibility; Reach: ability to reach coworkers/supervisor; PFWBE: perceived favorable work–life balance environment.

Table 2 presents the descriptive statistics of our sample. Of all respondents, 70% were women, of whom 51.1% reported having dependent children at home. Furthermore, 19% of respondents reported they held a manager position. In terms of age, 50% were older than 45 years old, and over half had various years of tenure, meaning that they had been public

servants for some time. Additionally, the respondents were asked whether they had been teleworking before the pandemic. Within the sample, more than two-thirds of respondents (68%) answered that did not have access to telework before COVID-19, while approximately 25% answered positively to this question. The rest of the respondents answered neutrally. It should be noted that based on the sample, the results should not be generalized, as there was a clear gender bias; further, these results may not apply to a younger sample with fewer years of tenure.

Table 2 also displays the correlation coefficients for the different variables. Levels of PFWBE and work engagement were positively and significantly related, while levels of PFWBE and work exhaustion were negatively and significantly related. Coworkers support was significantly positively related to work engagement and significantly negatively related with work exhaustion. Both *Flexi* and *Reach* were positively and significantly related to PFWBE and coworker support.

Table 2. Means, Standard Deviations, and Correlations with Confidence Intervals of Measurement Variables

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1. Gender	.70	.456	1.00										
2. Age	45.84	9.811	-.054*	1.00									
3. Tenure	3.93	1.342	-.067*	.500*	1.00								
4. Children	.51	.5	-.063*	-.116*	.017	1.00							
5. Manager	.19	.393	-.142*	.189*	.141*	-.046*	1.00						
6. Flexi	3.77	1.114	-.037*	-.054*	-.021*	-.008	.070*	1.00					
7. Reach	4.00	.843	.052*	-.127*	-.032*	.024*	.034*	.275*	1.00				
8. Engagement	3.84	.781	.047*	.037*	.010	-.023*	.064*	.229*	.411*	1.00			
9. Exhaustion	2.28	1.046	-.080*	.046*	.056*	.030*	.079*	-.223*	-.196*	-.316*	1.00		
10. PFWBE	4.08	.882	-.022*	-.076*	-.102*	-.026*	-.028*	.308*	.347*	.420*	-.255*	1.00	
11. Coworker support	4.10	.740	.089*	-.091*	-.057*	-.009	.001	.124*	.414*	.415*	-.163*	.354*	1.00

Note. Flexi: time/location flexibility; Reach: ability to reach coworkers/supervisor; PFWBE: perceived favorable work-life balance environment. *** $p < .01$, ** $p < .05$, * $p < .1$.

5.2. Model 1: Mediating Effect of PFWBE

OLS regression was used to test hypotheses 1 and 2; the results support both hypotheses (see Table 3). Further, OLS regression results showed that PFWBE was positively related to work

engagement and negatively related to work exhaustion (Table 3), supporting hypothesis 3. Of the five control variables, being a manager was positively and significantly related to work exhaustion, older age was significantly positively associated with work engagement, and gender was significantly negatively related to exhaustion, indicating women felt more exhausted than men (Table 3). Furthermore, in all regressions, having children at home was non-significant. R^2 increased from 0.2 to 0.3 when including mediating variables in the equation for engagement. For exhaustion, R^2 increased from 0.08 to 0.1 when including coworker support and PFWBE.

Table 3. Linear Regression Results

	PFWBE	Coworker support	Engagement	Engagement	Exhaustion	Exhaustion
Gender	-.095*	.099**	.055	.052	-.11*	-.124**
Age	.003	-.002	.008***	.008***	-.002	-.001
Tenure	-.059***	-.017	-.012	.005	.029	.017
Children	-.069	-.024	-.027	-.006	.066	.052
Manager	-.145**	.01	.051	.079	.209***	.18**
Flexi	.185***	.018	.101***	.054***	-.186***	-.151***
Reach	.296***	.346***	.363***	.217***	-.182***	-.107***
PFWBE				.228***		-.188***
Coworker support				.233***		-.051
Constant	2.441***	2.738***	1.671***	.471***	3.664***	4.258***
Number of obs	1250	1249	1250	1249	1250	1249
Mean dependent variable	4.1	4.114	3.854	3.854	2.255	2.254
SD dependent variable	.862	0.735	0.785	0.785	1.034	1.034
R^2	.185	.174	0.202	0.314	0.086	.109
F test	40.402	37.406	45.002	62.917	16.696	16.761
Prob > F	0.000	0.000	0.000	0.000	.000	.000
Akaike information criterion	2935.251	2551.991	2673.974	2489.007	3533.4	3503.3
Bayesian information criterion	2976.298	2593.032	2715.022	2540.308	3574.45	3554.637

Note. Flexi: time/location flexibility; Reach: ability to reach coworkers/supervisor; PFWBE: perceived favorable work-life balance environment. *** $p < .01$, ** $p < .05$, * $p < .1$.

Table 4 summarizes the mediation analysis results. The results support hypothesis 4, as the indirect effect of PFWBE on work engagement was significant, $B = 0.086$, 95% bias-corrected CI [0.0654, 0.1098]. Thus, Model 1 indicates that PFWBE partially mediates the relationship between time/location flexibility and work engagement. An inverse relationship was

found for exhaustion. The indirect effect for the exhaustion outcome was significant, $p \leq 0.001$, $B = -0.056$, 95% bias-corrected CI [-0.0780, -0.0383]. This result supports hypothesis 4.

Table 4. Work–Life Balance as Mediator: Estimates of Direct and Indirect Effects of 95% CIs

Dependent variable	Independent variable	Direct effect	Indirect effect	95% CIs: Lower 2.5%	Upper 2.5%	R^2
Work engagement	Flexi	.085**	.086**	.065	.109	0.2
Work exhaustion	Flexi	-.165**	-.056**	-.078	-.038	.099

Note. CI: confidence interval; Flexi: time/location flexibility. $n = 1,250$. ** $p < .001$, * $p < .05$.

5.3. Model 2: Mediating Effect of Coworker Support

OLS regression was used to test hypotheses 5, 6, and 7; results showed that ability to reach colleagues and superiors was positively related to work engagement and negatively related to exhaustion; thus, hypotheses 5 and 6 are supported (Table 4). Table 5 displays the results of the mediation analysis. The results showed that *Reach* was positively related to work engagement (see Table 5); the indirect effect was significant, $p \leq 0.001$, $B = 0.1047$, 95% bias-corrected CI [0.0769, 0.1349]. Therefore, this indicates a mediation effect of coworker support, thus supporting hypothesis 8.

Table 5. Coworker Support as Mediator: Estimates of Direct and Indirect Effects of 95% Confidence Intervals

Dependent variable	Independent variable	Direct effect	Indirect effect	95% CIs: Lower 2.5%	Upper 2.5%	R^2
Work engagement	Reach	.295**	.104**	.077	.135	.248
Work exhaustion	Reach	-.206**	-.038**	-.072	-.007	.053

Note. CI: confidence interval; Reach: ability to reach coworkers/supervisor. $n = 1,250$. ** $p < .001$, * $p < .05$.

Regarding work exhaustion, the indirect effect was significant, $p \leq 0.001$, $B = -0.038$, 95% bias-corrected CI [-0.0726, -0.053] (Table 4). Therefore, Model 2 showed that coworker support partially mediated the relationship between the ability to reach colleagues and work engagement and exhaustion, which supports hypothesis 8.

6. DISCUSSION

This study, set in a public administration in Switzerland, aimed to examine the relationships between public servants' perception of work time/location flexibility and ability to communicate with colleagues, and their engagement and exhaustion during the COVID-19 pandemic. The results showed a significant and positive effect of perceived NWW practices—namely teleworking, flexible time, and ability to reach colleagues—on work engagement and a negative effect on exhaustion. Additionally, both coworker support and PFWBE mediated the relationship between NWW dimensions and work engagement and exhaustion.

Perceived time/location flexibility had a positive effect on work engagement, and a corresponding negative relationship was found for exhaustion. Specifically, the beta value of flexi-

bility was lower in the relationship with exhaustion than in that with work engagement. These results suggest that perceived flexibility could be used to encourage public servants' work engagement and reduce employee fatigue. This conclusion is also supported by the R^2 values, which were larger in the model that explained flexibility's effects on work engagement than in the model that explained its effects on exhaustion. The results do not show a trade-off between the two dimensions of well-being (Grant *et al.*, 2007).

Gender also seems relevant in the case of implementing work time/location flexibility. Women showed a higher level of work engagement than men when these options were available. One potential explanation for this result is that women may take on more childcare-related responsibilities and hence are more sensitive to the availability of flexible arrangements to balance work and family life. This is in line with Swiss data on the division of domestic/family tasks between men and women; in 2018, women were in charge in 60% of cases (Office Fédéral de la Statistique, 2022). However, our results showed a non-significant effect for all regressions of the variable "having children at home" on employee engagement or exhaustion, which is consistent with findings by Maruyama *et al.* (2009). This surprising result may be explained by the fact that our variable of work time/location flexibility included time flexibility, which has been found to be related to increased work engagement and decreased work exhaustion (Thompson & Prottas, 2006). Furthermore, these disadvantages can be mediated by having a supervisor who prioritizes work-life balance, which is consistent with the literature (Irawanto *et al.*, 2021).

Additionally, we found managers tended to be more exhausted compared to employees in the context of COVID-19, likely due to the sudden shift in their management technique; it is logical that they were unprepared and had difficulties adjusting to this context. Our results suggest that attention should be paid to managers in the context of compulsory and high-intensity teleworking.

Of NWW-related studies done during the pandemic, the current study is the only one that found a negative relationship between flexibility and exhaustion; other studies have found a significant and positive relationship between telework and exhaustion during COVID-19 (Hadi *et al.*, 2021; Irawanto *et al.*, 2021; Meyer *et al.*, 2021; Sandoval-Reyes *et al.*, 2021) many employees transitioned from in-office work to telework to slow down the spread of the virus. Building on the Job Demands-Resources model, we examined day-level relationships between job demands, home demands and emotional exhaustion during telework. Moreover, we tested if leisure crafting (i.e., the proactive pursuit and enactment of leisure activities targeted at goal setting, socializing, growth and development. However, our results are in line with Gajendran and Harrison's (2007) 883 employees. Telecommuting had small but mainly beneficial effects on proximal outcomes, such as perceived autonomy and (lower meta-analysis of 46 studies, which found that telework had a significantly negative effect on role stress, and with Planchard and Velagic (2020), who found beneficial effects of teleworking on psychological well-being. One explanation might be that this study measures the *perceptions* of actors of time/location flexibility, not the policies, which is in line with the theory of Paauwe and Boselie (2005) that underlines the importance of perceptions of HR practices relatively to employee well-being. Another explanation may be related to public vs. private sector: This is the first study to investigate NWW in a public administration organization, and thus the results might differ from those in the private sector. This difference might be explained by cultural differences between these two sectors. In private companies, the aim of increased productivity and profits may

mean that employees may work longer hours, even in the context of teleworking, and hence feel more exhausted (Maruyama *et al.*, 2009). This result could also be explained by the fact that public employees work in a safer environment (i. e., job security) and therefore benefit from more psychological safety, which might be rarer in private organizations.

Additionally, the mediation model showed a positive and significant indirect effect of PFWBE on work engagement and a significant negative indirect effect on exhaustion. To our knowledge, this is the first study to investigate this relationship. Our result is consistent with the link between PFWBE and employee well-being found by other studies (Hill *et al.*, 2003; Tavares, 2017). This result can be explained by OST theory, suggesting that the link between work-life balance policies and practices and employees outcomes may not only depend on employees' awareness of the policies, but above all on the perceptions of actors that they are invited to use these practices in a supportive environment.

The results of Model 2 showed that the ability to reach one's colleagues is important for worker well-being. To our knowledge, this is the first study investigating this dimension of NWW on worker engagement and exhaustion. Moreover, the mediation analysis indicated that the positive effects of coworker availability has a direct and positive effect on social support in the workplace. These results are consistent with studies that found coworker support is an important job resource in the private sector (Schaufeli & Bakker, 2004; Schaufeli & Taris, 2014) sharing between 10 per cent and 25 per cent of their variances; (2. They are also in line with the OST theory that higher support is associated with a weaker relationship between job characteristics and mental strain (Karasek *et al.*, 1982; Shore & Coyle-Shapiro, 2003). Thus, these results indicate means through which coworker support can be enhanced with the use of ICTs. Finally, our findings for the public sector are consistent with studies on the positive effect of coworker support and work-life balance on work engagement in the private sector (Campo *et al.*, 2021; Miglioretti *et al.*, 2021; Sandoval-Reyes *et al.*, 2021) most recently due to the COVID-19 pandemic. It is important to deepen our knowledge about the performance of companies and employees in the context of telework because the results of previous studies are contradictory. The present study examines the relationship among telework, job performance, work-life balance (WLB. Further research should investigate furthermore this link, integrating the hazards of over connectivity.

6.1. Limitations

Our study is not without some limitations. The first key limitation concerns its cross-sectional design, from which only associations between simultaneously measured constructs and not causality can be determined. Furthermore, endogeneity may be an issue; covariates need to be added to the model to diminish endogeneity bias. Future research could clarify the different dimensions of NWW (e. g., the use of an activity-based office) and their relationships with mediator variables in a context with no compulsory telework. It would be interesting to investigate such relationships, in another context, to observe whether the same mediation effects still apply.

Future research design should apply a longitudinal approach to more thoroughly examine work flexibility, ability to communicate with colleagues, and employee engagement and exhaustion. It has not been possible for us to undertake another study in the same context in Switzerland, as we did not have a second lockdown similar to the one in March 2020. Addi-

tionally, the bias of potential confounders was partially corrected by adding variables such as tenure, age, and having children at home. However, future studies should seek additional confounders, particularly those that fit the applied JD-R theoretical framework, as it is possible that other job resources affect work engagement and exhaustion.

Another limitation was our restricted access to all HR data from the canton's departments; because this access is generally denied to researchers for reasons of data confidentiality, it is difficult for us to make a clear judgment about the representativeness of our data with regard to the specific characteristics of the population under investigation. Additionally, the results cannot be generalized to other populations, which represents a methodological limitation. Another methodological issue is the measure of flexibility of time and place, which had a Cronbach's alpha under 0.7; this might be because this measure contained two dimensions, namely time and location flexibility.

As the data were based on self-report measures collected at a single point in time, issues such as respondent consistency motives, transient mood states, and spurious results due to common method bias are of concern (Podsakoff *et al.*, 2003). Addressing the reliability of self-reported data is difficult in this type of research, as employee perceptions are the central focus of interest. Future research should use a longitudinal approach to deepen this knowledge, as this design could measure perceptions of employees both before and after NWW implementation.

7. CONCLUSION

7.1. Contribution/Future Perspectives

This study investigated the mechanisms through which NWW influence public servants' well-being by focusing on organizational resources. As such, it provides guidance on the necessary steps to take to improve public servant's conditions of telework. This study has attempted to explain how organizations may influence teleworkers well-being through the implementation of a collaborative work space, with the use of ICTs.

This study underlines the importance of perceptions in the link from telework to well-being (Paauwe & Boselie, 2005), but also that this link is too distal and necessitates the inclusion of mediating variables.

The results highlight the importance of collaboration among colleagues and leadership that promotes employee work-life balance. This study also sheds light on how to implement teleworking and flexible schedules to improve public servants' well-being in a context of compulsory telework. It contributes to the public administration literature by investigating the effects of NWW practices on employee well-being and highlights the importance of human relationships at work, especially when NWW are implemented.

Additionally, this study contributes to literature on the potential trade-off between different dimensions of well-being. Specifically, our results do not support the trade-off arguments, as all results showed that social support and PFWBE improve engagement and diminish physical exhaustion. Interestingly, we found that all dimensions of public servants' well-being improved with such organizational resources. Finally, the results highlight the importance of mediators in the relationship between NWW and employee well-being.

7.2. Practical Implications

Considering we have not yet achieved a post-pandemic world, the study's results emphasize the importance of maintaining good relationships among coworkers, even in a remote-of-fice context, and for investing in new technologies for communicating with colleagues. They also highlight the importance of human relationships in public organizations and suggest how NWW practices could be implemented to promote public servants' well-being. Leaders should be sensitive to employees' need for time to manage their private lives and underline the value of disconnecting from work. Furthermore, this study highlights the importance of flexible work schedules in the context of teleworking and permitting employees to manage their own time, which can lead to better work–life balance. The benefits of teleworking and flexible hours on public servants' well-being were also determined, although the results were mitigated for managers; the difficulties they face in this new context need to be addressed. Teleworking may change the communication between managers and employees, and new adjustments might be needed. Supportive managers, that would encourage autonomy and balance between work and private life of their employees should be favored. Furthermore, this study sheds additional light on the importance of adopting flexibility of time/location not only as an isolated policy, but in conjunction with other management practices and attitudes of managers that would create a positive supportive work environment. Finally, these results should be interpreted carefully, but they nevertheless provide lessons for a post-pandemic world where telework is an option.

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Title : Les perceptions d'un environnement favorable à l'équilibre travail-vie privée et le soutien des collègues favorisent le bien-être des télétravailleurs : Enquête auprès d'une Administration publique suisse pendant la COVID-19

Résumé : L'objectif de cet article est de comprendre la relation entre les nouvelles manières de travailler – comme par exemple le télétravail et les horaires flexibles – sur le bien-être des employés dans le secteur public. L'étude a eu lieu pendant la crise pandémique du COVID-19 et un questionnaire a été adressé à une administration publique. 1'373 employés du secteur public y ont répondu. Le design de cette recherche s'appuie sur le modèle des contraintes et ressources au travail, et fait l'hypothèse que les nouvelles manières de travailler sont positivement liées à un environnement de travail favorable à la conciliation vie privée-vie professionnelle et que les ressources au travail vont avoir des effets directs et indirects sur le bien-être des employés. En résumé, les résultats démontrent l'importance des perceptions des employés de l'environnement de travail favorisant la conciliation vie-privée vie-professionnelle et l'importance du soutien des collègues pour l'engagement au travail et pour réduire la fatigue des employés. Cette recherche démontre que des politiques RH ne sont peut-être pas suffisantes si elles ne sont pas accompagnées de positions des supérieurs hiérarchiques allant dans le même sens.

Mots-clés : Perceptions vie privée-vie professionnelle, télétravail, NWW, Bien-être au travail, COVID-19

APPENDIX

Variables, Items, and Cronbach's Alphas

Variable	Item	Factor loadings	Cronbach's alpha
Work engagement	I am bursting with energy for my work.	0. 8058	0. 88
	I am passionate about my work.	0. 8389	
	When I get up, I want to go to work.	0. 8254	
	I am proud of the work I do.	0. 7848	
Work exhaustion	I feel emotionally drained from my work.	0. 8625	0. 88
	I feel burned out from work.	0. 8950	
	It is physically straining for me to get through a work day due to the demand of my job.	0. 6887	
Flexi (telework and flexible time)	I am free to determine my own work schedule.	0. 5842	0. 67
	I have the possibility to telework.	0. 6239	
Reach (ability to reach colleagues)	I can quickly reach colleagues in my team.	0. 8218	0. 84
	I can quickly reach my line managers.	0. 7231	
	I can reach colleagues who are not part of my team.	0. 7325	
Coworker support	My colleagues help and support me.	0. 7848	0. 84
	There is good cooperation between me and my colleagues.	0. 8656	
	I generally get along well with my colleagues.	0. 6455	
Perceived work-life balance environment	In general, my direct supervisor is in favor of measures that allow for a good work-life balance.	0. 7518	0. 82
	Generally, in my department/unit, employees can easily balance their private and professional lives.	0. 7490	

Note. Factor loadings were calculated in an exploratory methodology for Flexi and Reach, as they were recently developed scales. The other factor loadings were calculated in a confirmatory approach as they are ancient validated scales.

Article n°4: HR Attribution
influence workers Well-Being
when flexibility is implemented:
Comparisons between the Swiss
Public and Private Sector

**HR Attribution influence workers Well-Being when flexibility is implemented:
Comparisons between the Swiss Public and Private Sector**

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We have no known conflict of interest to disclose.

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Abstract

The impact of New Ways of Working practices on employee well-being is currently inconclusive based on empirical evidence. In the present study, the impact of flexibility in time and place displays contradictory results in the literature. In the present study, we attempt to reconcile these discrepant findings by incorporating the role of HR attributions as mediation variables in the relationship between flexibility in time and place and employee well-being.

This study aimed to examine the impact flexibility in time and place on employees' engagement, stress and exhaustion, while considering HR attributions in the model.

Based on Attribution theory, the model posits that when employees perceive that their organisation's HR practices are intended to improve their well-being or their performance, they experience higher levels of work engagement, which leads to lower levels of stress, and exhaustion. Conversely, when employees believe that their organisation's HR practices are intended to reduce organisational costs, they experience higher levels of stress and exhaustion. A survey was conducted in Swiss public and private organizations. Results show that perceived flexibility in time and place positively influenced employees' well-being in both sectors. The results support partially the theoretical model of HR attributions as the mediation analysis proved that attributions relative to employee well-being mediate the relationship between flexibility in time and employee well-being in the public sector.

Keywords: HR Attributions ,work engagement, work stress and exhaustion, new ways of working, flexibility

1. Introduction

Since the COVID-19 outbreak, major changes occurred in organizations worldwide, especially through the sudden implementation of telework in 2020. This flexible work arrangement is part of a broader concept, which can be called "The 'Workplace of the Future'" (Brandl et al., 2019; Wessels et al., 2019). Major changes in the development of information and communication technologies (ICTs) have had an impact on the ways in which individuals interact in the workplace, but also transformed when, where, and how their work is conducted. In this context, the concept of "New Ways of Working" had emerged and academic research had begun to analyze how it participates in redesigning the workplace (de Leede, 2017). New Ways of Working may be defined as new forms of work that allow workers to choose when and where they work using information and communication

technologies (ICT) to be available anywhere, anytime (Demerouti et al., 2014; Nijp et al., 2016; Renard et al., 2021). This definition covers different types of flexible practices, such as flexibility in terms of location (e.g., teleworking, mobile working) and time (flexible working hours) and the use of ICTs on tablets, smartphones, or computers, so that employees can easily contact and collaborate with colleagues and managers (Renard et al., 2021).

In pre-COVID-19 Europe, approximately 15% of European workers engaged in some form of telework from their home; this increased to 48% of the workforce by July 2020 (Weber & Adăscăliței, 2021). Statistics show that a massive shift toward telework is expected (European Centre for the Development of Vocational Training, 2021), and a shift toward what some scholars call “hybrid work” is already occurring (Wontorczyk & Roźnowski, 2022).

The academic literature is quite divided on the effects of NWW practices on workers’ well-being (Giauque et al., 2022; Renard et al., 2021). Calls have been made to explore mechanisms through which NWW dimensions influence workers’ well-being (Gerards et al., 2018; Van Steenbergen et al., 2017), and recent empirical evidence seems to prove the importance of mediation variables in this relationship (Andrulli & Gerards, 2022). More generally, the effects of Human Resources (HR) practices on employee outcomes display contradictory results, leading researchers to ask how HR practices affect workers well-being. Moreover, these flexible work arrangements have been promoted as new innovative working conditions that increase workers’ autonomy and empowerment, but growing research reveals that the key drivers in many companies are cost reduction (space reduction and related costs) and efficiency and productivity gains (Parker, 2016).

There exists a certain confusion about the measurement of flexible work practices and scholars just began making calls for clarifying what is being measured: intended practices, availability of practices, or perceptions of the availability of flexible work practices (Lott et al., 2022). According to Paauwe & Boselie, a distinction should be made between planned Human Resources Practices (HRP), implemented HR practices and perceived HR practices (Paauwe & Boselie, 2005). Scholars in the field of HRM have proved the importance to study the perceptions of human resource practices rather than just analyze HR practices and policies put in place (Bowen & Ostroff, 2004; Gould-Williams, 2007; Wright & Nishii, 2007). To address this issue, this paper focuses on the perceptions of the availability of NWW practices.

Following Nishii et al. (2008), this paper argues that employees' perceptions of HR practices are likely to precede their attitudes and behavior responses. This study focuses on the subjective interpretation of employees of why these practices are being implemented. Based on attribution theory, this article follows the argument of Nishii et al. (2008):" The core idea in our research is that employees respond attitudinally and behaviorally to HR practices based on the attributions they make about management's purpose in implementing the actual HR practices."(Nishii et al., 2008, p. 505). In the field of Human Resource Management (HRM), investigations on this topic are still at their infancy and mostly focus on HR practices and their effects on performance (Hewett, R., Shantz, A., Mundy, J., & Alfes, K, 2018; Nishii et al., 2008). In the field of HRM, there is a limited understanding of the process of how HRM contributes to employee well-being. Concerning the HRM-Performance link, there exists a theory, the process-based approach focuses on the psychological process through which employees attach meaning to the HR practices adopted by their management to reach the organizational goals (Tandung, 2016). The latter has recently received an increasing importance from researchers to solve the HRM-performance link, but insight into this process for the HRM-well-being is still limited. In this article, we differentiate between three HR attributions. The first two are employees-focus: i.e., the attributions that HR practices are designed due to management's intent to enhance employee well-being and to enhance employee productivity. The third is organization-focus and is expected to relate negatively to employee attitudes (i.e., the attributions that HR practices are designed due to management's interest in cost reduction).

Using data that were collected during the winter 2021 in Switzerland, the study takes place in the middle of the COVID-19 pandemic, outside of a compulsory telework period, the study examines the effects of NWW practices on employees' work engagement, work exhaustion and work stress in Swiss public and private organizations. Work engagement refers to an active energetic state of mind that is characterized by vigor, dedication, and absorption (Schaufeli et al., 2002). On the other side, work exhaustion and stress are related to physical ill being and are components of the broader concept of burnout (Maslach et al., 1977). Work exhaustion happens when employees cannot cope with job demands anymore, thereby causing an extreme fatigue (Schaufeli& Bakker, 2004).

The contributions of this article are numerous. First, it aims to shed some light on how perceived flexible work practices affect workers well-being in both the public and the private

sectors. The interest of this study is that it focuses on the employees' *perceptions* of NWW availability and of the work environment, which responds to a call of HRM scholars (Pauwe & Boselie, 2005). Second, even though work engagement is more and more investigated as an outcome variable, work exhaustion and work stress are being less analyzed in the empirical literature. Thus, most empirical studies focus on one outcome variable, ignoring the potential trade-offs issues with dimensions of well-being (Grant et al., 2007). Third, it advances the literature of HR attribution, since it adds three components of attribution in the relationship between HR practices and employee outcomes. The literature on HR attributions focuses mainly on employee performance, this paper aims to analyze the effect of these subjective interpretations on employees well-being. Finally, it analyses the link between the perceptions of flexibility and HR attributions made by employees.

The rest of the paper is organized as follows. The following section introduces the literature review. Section three presents the theory and the hypotheses. The fourth section is dedicated to the methodology, and finally, the last section discusses the results, as well as some practical take outs for HR management, and highlights future research questions that could be addressed.

2. Literature Review

2.1 New Ways of Working and Well-Being

NWW practices allow workers to choose when and where they want to work and be available at anytime from anywhere, facilitated by the use of ICT (e.g., Brummelhuis et al. 2012; Van Steenbergen et al. 2017). In the current study two practices of NWW are analyzed: 1) “flexi,” referring to flexibility in terms of time; and 2) “place,” referring to the flexibility in terms of place. These dimensions concern the *perceptions* of employees that this flexibility is available to their use.

Flexibility in terms of place

Regarding the literature on the effects of NWW practices on employee work engagement the empirical evidence displays contradictory results. Bauregard et al. (2019) literature review display contrasting evidence in the relationship between telework and work engagement. For example, Brummelhuis et al. (2012) examined the effects of two NWW practices—flexible time and ICT-enabled teleworking—on work engagement and exhaustion at a large telecom company in the Netherlands. The results showed a direct effect of NWW on work engagement that was significant and positive, and no effect on work exhaustion. On

the contrary, Gerards and Baudewijns (2018) found no significant direct effect of time and location flexibility on work engagement in Dutch organizations, and other studies found a negative effect of telework on work engagement (Sardeshmukh et al., 2012). In a literature review, authors found three studies focusing on the effect of telework on work engagement and all found either no effect or a negative effect (Vleeshouwers et al., 2022).

Work exhaustion and work stress

Regarding the link between NWW and employee health, the literature is quite scarce. Most studies have found NWW does not impact employee exhaustion (Nijp et al., 2012; Van Steenberghe et al., 2017) or found that telework tends to reduce emotional exhaustion (Charalampous et al., 2019). However, these relations often depend upon the presence of other factors such as organizational support or social isolation (Lunde et al., 2022). For example, Sardeshmukh et al. (2012) found that telework generally lead to lower degree of work exhaustion but showed that the relationship could be mediated by role conflict, role ambiguity, time pressure, support, feedback, and autonomy.

In another literature review that includes the years 2010 to February 2021, six studies investigated the impact of telework on stress, and most results showed that telework tends to reduce employee stress levels (Lunde et al., 2022). This is consistent with the meta-analysis of Gajendran and Harrison (2007). However, some studies found a positive relationship between teleworkers and stress (Mann & Holdsworth, 2003) and rose the challenge of telework induced technostress (Charalampous et al., 2019).

2.2 Flexibility in terms of place and time during the COVID-19 Crisis

Generally, the effects of telework on employees well-being were quite positive during the pandemic. Different studies found a positive and significant direct effect between telework and work engagement (Miglioretti et al., 2021; Sandoval-Reyes et al., 2021) For example, Miglioretti et al. 2021 found in a sample consisting of 260 workers from three Italian organizations, that employees benefitting from at least one day of telework per month or more were more engaged than their colleagues who did not have access to such flexible work practices. On the other side, Nagata et al. (2021) found that high intensity telework – more than four days per week– was not significantly related to employees work engagement in Japan. However, low and moderate intensive telework – 3 days per week to once per month– was positively linked with work engagement.

Studies tended to show that telework during the COVID-19 had a direct significant and negative impact on work stress (Saba & Cachat-Rosset, 2020; Sandoval-Reyes et al., 2021) .

For example, Irawanto et al. 2021, using a quantitative approach, 472 workers who were forced to work from home all over Indonesia participated, found out that telework had a significant and negative effect on work stress.

Flexibility in terms of time

Flexibility in terms of time can be understood as flexibility to start and finish the workday or compresses workweeks (Grzywacz et al., 2008). In the present study, the first type of time flexibility is analysed. According to meta- analysis of 31 studies, flexible scheduling proved to be positively related to job satisfaction, and the reduction of absenteeism (Baltes et al., 1999). Lots of empirical studies focus on the effect of flexitime on work-life balance, work-family interference and concepts of such kind (Hayman, 2009; Shockley, K. M., & Allen, T. D, 2007). The literature review is quite complex as most articles focus on the concept of flexible work arrangements and analyses the effects of flexible working time, such as flexitime, job sharing, splitting, career breaks on employees outcomes (Wheatley, 2017). Few studies focus only on the dimension of flexible scheduling and employees well-being (Eaton, 2003). During lockdown, one study found that the possibility to manage one's work schedule reinforced feelings of self-efficacy and reduced the pressure of deadlines, thus increasing employee well-being (Smollan et al., 2023).

Work engagement

The evidence on the effect of time flexibility on work engagement is mixed and few studies exist. Some studies found a positive relationship between the two variables (Baltes et al., 1999; Halpern, 2005; Uhlig et al., 2022), whereas other empirical investigations found a negative relationship (Timms et al., 2015).

Work exhaustion and stress

Empirical evidence on the effect of flexibility in terms of time is more important regarding health outcomes variables. Most studies found that time flexibility reduce stress and exhaustion (Almer & Kaplan, 2002; Bal & Jansen, 2016; Grzywacz et al., 2008; Halpern, 2005). For example, Grzywacz et al., 2008 found that stress and burnout was lower among workers engaged in all types of formal flexible arrangements, including flexitime. The authors underline the importance of the perceptions of such flexibility and not on the formal practices put in place (Grzywacz et al., 2008).

The literature linking workers' perceptions of schedule flexibility with health-related

outcomes is more developed and consistent. Greater perceived schedule flexibility has been associated with levels of distress and burnout (Galinsky, Bond, & Friedman, 1996; Halpern, 2005; Janssen & Nachreiner, 2004; Thomas & Ganster, 1995). Only one study found that the effects of flexible time on work exhaustion as not significant (Brummelhuis et al., 2012).

3.1 Flexibility and well-being

Flexibility regarding when and where to work may enhance well-being through different mechanisms. First, these modalities may enhance employees' perceived autonomy, which is classified as a job resource (Bakker & Demerouti, 2014), and takes its root in Job Characteristics Theory (Hackman & Oldham, 1976). By providing workers with control over their time- and place-related work provides discretion over one's job, these practices will likely result in higher work engagement. Thus, flexibility at work gives the possibility to workers to reallocate their time into different leisure activities and cope with their different roles, and better manage their work and family responsibilities (Gajendran & Harrison, 2007; Sardeshmukh et al., 2012). These would result in reducing stress and fatigue of employees.

Based on this, we formulate the first hypothesis:

H.1: Perceived flexibility in terms of work time and place is positively related to (a) work engagement, and negatively related to (b) work exhaustion and, (c) work stress in both the private and public sector.

3. Theory and Hypotheses

Attribution Theory

Attribution theory comes originally from social psychology scholars. Fritz Heider was the first to investigate this concept, and his work was developed through the researches of Harold Kelley and Bernard Weiner (Fiske & Taylor, 1991; Handke & Barthauer, 2019; Weiner, 1979). At the origin of this theory, it can be traced into two different movements. The attribution theory focuses on the cognitive reasoning behind peoples' behavior in a general way. On the other side, attributional theory is an application for a more specific field or context. In this research, the study is anchored into the latter approach as the context is explicit and not general (Nishii et al. 2008). The main idea of this theory is that people attribute meaning to events or situations that happen to them and develop responses and attitudes according to the interpretation they have made of the stimulus. Following the work of Nishii et al., (2008), this paper argues that what matter for employees' behavioural responses to HR flexible work

practices are the interpretation made on why the practices were put in place. This theory is a mix of Heider's (1958) attribution theory with Weiner's (1979) attributional theory and applied to an organizational context.

Nishii et al. (2008) distinguish between employee attributions that HR practices reflect positive consequences for employees – focus on employee well-being– and those reflecting negative consequences for employees – focus on cost reduction and work intensification–. This paper builds upon the work of Nishii et al. (2008) and uses three different types of HR attribution made by employees of the implementation of flexibility in time and place. Two attributions are employee-focus: the practices were put into place to improve employee well-being or to increase employee productivity. The third attribution is relative to the cost reduction of the organization.

Literature Review

Most of the empirical literature on HR attribution investigate the link between these attributions and performance (Hewett, R., Shantz, A., Mundy, J., & Alfes, K, 2018; Sanders & Karmowska, 2020). A few articles investigate the effects of HR attribution on employee well-being. For example, Shantz et al. (2016) found that employees who attributed performance attribution reported higher levels of job involvement and lower levels of emotional exhaustion. Conversely, when they attributed their HR practices to a cost-reduction intent, it was related to higher levels of emotional exhaustion. On the other side, Tandung (2016) found that performance/wellbeing attributions were negatively related to turnover intentions, whereas exploitation/cost reduction attributions were positively related to it. In their study, Nishii et al. (2008) found that commitment attributions were positively related to commitment and satisfaction, whereas control attributions were negatively related to these outcomes. Chen and Wang (2014), used a sample of 350 professional workers in China found that the commitment-focused HR attribution - employees perceive that the intended goals of HR practices are to improve work quality and employee well-being. - had a negative direct effect towards the turnover intention as well as a negative indirect effect through the mediating role of the Perceived Organizational Support (POS). On the other side, their results show that Control-focused HR attributions - employees perceive that the intended goals of HR practices are to reduce costs and exploit employees– had a positive indirect effect towards the turnover intention through POS. The study of Fontinha et al. (2012), based on a sample of 158 highly skilled outsourced employees from the IT sector, showed that commitment-focused HR

attributions are positively and control-focused HR attributions negatively associated with affective organizational commitment to the outsourcing company.

Hypotheses

Following the Social Exchange Theory (SET) and organizational support theory (OST), employees interpret signals from their employers as favorable or unfavorable and engage in a reciprocal manner toward the organization (Shore & Coyle-Shapiro, 2003). In other words, the employment relationship can be viewed as consisting of social and/or economic exchanges (Eisenberger et al., 1986; Gould-Williams & Davies, 2005). In line with this theory, if employees perceive well-being/productivity HR attributions, they might perceive their organization as supportive in their well-being and employees, and are likely to feel an obligation to reciprocate in positive ways (Aselage & Eisenberger, 2003, p. 493). Moreover, in the literature on perceived psychological climate, individual perceptions are important in the causal relationship between HR practices and their behavioral responses (James et al. 2008). This is consistent with the few empirical findings on the relationship between HR attribution and employees well-being outcomes (Nishii et al., 2008; Tandung, 2016). According to the studies of Shantz et al. (2012) and Nishii et al. (2008), employees perceived performance-attribution as a positive signal from the organization.

According to Nishii et al. (2008), employees who attribute to HR practices to increase their performance, interpret their organization's intent in developing and administering HRM practices. HR performance attributions may signal to employees that they are important and valuable and that the organization believes in their ability to perform, thus providing employees with resources that enable them to fully embrace their role (Shantz et al., 2016). According to OST, performance attribution might send a signal to employees that the organization believes in their ability to perform well, providing support to them (Chen and Chiu, 2009).

Following this, we make the second hypothesis:

H.2: Well-being and productive attribution is positively related to work engagement (a) and negatively related to work exhaustion (b) and work stress (c) in both the public and private sector.

On the other side of employees-focus attribution, organization-focus attribution sends different signals to employees (Hewett, R., Shantz, A., Mundy, J., & Alfes, K, 2018). For

example, when employees believe that HR practices exist to reduce costs, they might infer that the organization is interested in minimizing spending. This signal might be interpreted as a willingness to reduce resources and increase demands (Nishii et al., 2008). This is in line with empirical evidence (Hewett, R., Shantz, A., Mundy, J., & Alfes, K, 2018; Nishii et al., 2008; Voorde & Beijer, 2015). Thereby, we formulate the following hypothesis:

H.3: Cost reduction attribution will be negatively related to work engagement (a) and positively related to work exhaustion (b) and work stress (c) in both the public and private sector.

3.2 Perceived flexibility and HR Attribution

However, current research has not yet explained why HR attributions differ among employees. Research is lacking on the antecedents of HR attributions. This paper investigates the variability in HR attributions among individuals and the organizational factors that influence this variability. According to Bowen and Ostroff (2004) employees' perceptions of HR practices are linked with their interpretation. According to Kelley (1973), individuals' attributions are based on the characteristics of the HR practices. As what is measured is the perceived flexibility, the hypothesis is that perception will be positively linked with HRATT well-being and productivity as they might be seen as a signal of the organisations that they have concern for their employees (Smollan et al., 2023).

H.4 (a) Perceived flexibility in terms of time and place will be positively linked with HRATT-well-being and productivity and negatively linked with HRATT-cost reductions.

H.5 HR Attributions mediate the relationship between perceived flexibility in terms of time and employee well-being.

4. Methods

4.1 Participants and Procedure

During this study, Switzerland was still under a state of emergency related to the COVID-19 pandemic. During the summer 2021, the Swiss Federal Council removed most of the measures undertaken to reduce the propagation of the COVID-19 and on the 19th October 2020, the Swiss Federal Council announced measures to reduce the propagation of the COVID-19 and the strike of the second wave. It recommends telework for organizations, but it was not compulsory and organizations were free to determine whether to implement telework or not. Later, on 18th January 2022, the Swiss Federal Council made teleworking compulsory again, which consists in the second period of semi-lockdown in Switzerland with

the shutting down of restaurants, shopping centers, private and public manifestations. The study took place during the autumn 2021 and took place during the non-compulsory telework period.

The data come from different Swiss public and private organizations, all located in the French-speaking part of the country. The HR department of the different entities were contacted and the questionnaire was reviewed once by the HR department heads. The questionnaire was built on survey monkey and an Internet link was sent to employees by their HR departments. Each organization transferred the same questionnaire according to its own timeframe, but all questionnaires were completed between the 1st and the 30th November 2021 for the public organizations. Private organizations handed out the questionnaires between October 2021 and January 2022. Data were saved on a server belonging to the researchers' affiliated university. Four public and four private organizations participated in the study. The public sample consists in two cantons and two municipalities, and the private sample consists in four private companies.

4.2 Measures

The questionnaires contained a high number of questions regarding, among others: job characteristics, work situations during the COVID-19 crisis, and workers well-being. All of the items were taken from previously validated scales. Most items were measured using a five-point Likert-type scale, with 1 = strongly disagree and 5 = strongly agree. The data were self-reported.

4.2.1 Independent Variables

NWW. The items to measure the two NWW practices were drawn from the scale by (Gerards et al., 2018). The first, *Flexi*, relates to employees' ability to freely determine their work schedule and comprised of two items. An example item is: "I am free to determine my own work schedule." The second dimension of NWW, *Place*, refers to was measured by items, such as "I am free to determine where I work, at home or at work".

HR Attribution. This variable measured employees' interpretations of the underlying objectives of the organization to implement flexible work arrangements. The three items came from previous work of Nishii et al. (2008). They were introduced by the following question: "Consider the flexible work arrangements implemented in your organization. What are the objectives of these arrangements?". The first item was: "Promote the well-being of

employees, making them feel valued and respected”. The second answer was:” To diminish the costs.”, and the final item was “To increase employees productivity”.

4.2.2 Dependent Variables

Work engagement. The items came from the short version of the Utrecht Work Engagement Scale (Schaufeli et al., 2002). Four items were kept, that consisted of three subscales (Seppälä et al., 2008). The first item was “I am passionate about my work.”.

Work exhaustion. This dependent variable was measured using three items from the General Burnout Questionnaire (Maslach et al., 1997). One item was “I felt emotionally drained from my work.”

Work stress. This dependent variable measure comes from the work tension scale of Fields (2022) and consists in four items. One item was “I work under high pressure.” (Fields, 2002, p. 123).

4.3 Analytical Procedure

STATA software was used for exploratory and confirmatory factor analysis, for descriptive statistics, Pearson’s correlation coefficients, and regressions and SEM analysis.

To test the mediation hypotheses, hierarchical OLS regressions were used in STATA software. This method uses ordinary least squares (OLS) regressions to estimate all coefficients and bootstrapping to determine the confidence intervals (CIs) for the direct and indirect effects. Applying bootstrapping (5,000 samples), STATA calculates indirect effects and their CIs. Therefore, this method allows us to test for the existence of indirect effects, which can only be inferred if applying a causal steps approach (Baron & Kenny, 1986; Hayes, 2009). Bootstrapping is regarded as the most powerful type of mediation analysis and is sensitive to indirect effects.

This procedure attempted to determine which variables correlated the most with the three dependent variables of employee well-being. The possible effects of covariates were assessed and integrated into the model and regressions: age, gender, tenure, and having children at home were introduced in all the different models as control variables.

5. Results

5.1 The Measurement Models

Following (Carillo et al., 2021), the following criteria were established : 1) Cronbach’s alpha is approximately 0.7, and 2) each item loading is significantly higher on its

respective construct, with no item loadings below the cut-off value of 0.502 (Hulland, 1999). All coefficients were above 0.7 and showed consistent constructs (loadings reported in the Appendix). Our overall hypothesised measurement model including five latent variables (Flexi, Place, HRAT, work exhaustion, work stress and work engagement) yielded an excellent fit to the data ($\chi^2 (120) = 287.980 p < .000$, CFI = .94, TLI = .924, RMSEA = .055, SRMR = .058) for the private sample¹. According to Hu and Bentler (1998), the cut-off value for RMSEA is below .06, and both CFI and TLI fit indices are above .90 and SRMR is below .08, meaning that overall the measurement model yields a good fit (Hu & Bentler 1998.). That model yielded a better fit to the data than any other parsimonious model. The four measurement models (one for each mediation model) are presented in Table 1 for the private sector. The results show that the four models have a good fit with the data. Common-method variance (CMV) may be an issue as the data come from a single source (Podsakoff et al., 2003). Therefore, Harman’s single factor tests were performed for all four models in which we loaded all items onto a single factor. Each of these one-factor model had significantly worse fits than the original measurement models, indicating that CMV is unlikely to be an issue.

Table 1 : *Fit Statistics of the Four Measurement Models for the private sector*

	CFI	TLI	RMSEA	SRMR
Model 1 : Stress, HRATT(1+3), and Flexi, Place	.993	.990	.027	.029
Model 1 : Harman’s signal factor test	.583	0.478	.193	.142
Model 2 : Work exhaustion, HRATT(1+3), and Flexi, Place	.993	.989	.029	.028
Model 2 : Harman’s signal factor test	.586	.483	.193	.135
Model 3 : Work engagement, HRATT(1+3), and Flexi, Place	.968	.954	.060	.041
Model 3 : Harman’s signal factor test	.495	.369	.221	.173
Model 3* : Work engagement, HRATT(1+3), and Flexi, Place	.976	.965	.048	.025
Model 3* : Harman’s signal factor test	.51	.387	.201	.149

¹ The measurement models were also calculated for the public sample that showed similar results. For parsimony the measurement models were only displayed for the private sample, with an example of the public sample. All four latent variables (Flexi, Place, work exhaustion, work stress and work engagement) yielded an excellent fit to the data ($\chi^2 (94) = 680.00 p < .000$, CFI = .96, TLI = .949, RMSEA = .056, SRMR = .044) for the public sample.

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Note. *Model calculated for the public sample. CFI=comparative fit index; RMSEA=root mean square error of approximation; TLI=Tucker–Lewis index. Flexi: time flexibility; Place: location flexibility; HRATT: well-being and productivity attribution.

Table 2 presents the descriptive statistics for the private sample.

The sample in terms of gender is almost balanced as of all respondents, 57% were women, and 48% reported having dependent children at home. In terms of age, more than 70% were older than 40 years old, and 50% had five years of tenure or more. This last information tells us that we should be careful when interpreting the results, and that they should not be generalized, as there is a clear bias in terms of age. However the sample is quite balanced in terms of gender, having kids and years of tenure.

Table 2 also displays the correlation coefficients for the different variables. *Flexi* is positively and significantly related with work engagement, and negatively related to stress and exhaustion. On the other side, *Flexloc* is negatively and significantly related with work engagement and exhaustion. Although, *Flexloc* is positively and significantly related with stress. The three different HR attributions are positively and significantly correlated with both *Flexi* and *Flexloc*. Only *HRATT-well-being* and *HRATT-productivity* are positively and significantly related with work engagement. The relationship between the three types of HRATT and stress and exhaustion goes in the same direction: *HRATT-well-being* and *HRATT-productivity* are negatively related with them, whereas *HRATT-cost* reduction is positively related with those outcomes.

Table 2
Private sector: Means, Standard Deviations, and Correlations with Confidence Intervals of Measurement Variables

Variables	Obs	Mean	Std. Dev.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) AGE	351	3.789	1.043	1.000										
(2) GENDER	350	.431	.496	-0.196*	1.000									
(3) TENURE	352	2.273	1.448	0.431*	-0.216*	1.000								
(4) KIDS	348	.483	.5	0.021	0.021	-0.038*	1.000							
(5) ENG	361	3.91	.741	0.096*	0.114*	-0.069*	0.092*	1.000						
(6) STRESS	363	2.569	.955	-0.028	0.026	0.010	-0.046*	-0.186*	1.000					
(7) EXHAU	362	2.454	.956	-0.003	-0.059*	0.065*	-0.008	-0.232*	0.778*	1.000				
(8) FLEXTI	363	3.759	1.121	-0.023	-0.036	-0.066*	0.055*	0.104*	-0.208*	-0.215*	1.000			
(9) FLEXLOC	361	3.991	.852	0.026	0.076*	-0.056*	0.051*	0.168*	-0.241*	-0.271*	0.521*	1.000		
(10) HRAT	363	3.766	.921	-0.077*	0.202*	-0.214*	0.082*	0.265*	-0.173*	-0.200*	0.299*	0.327*	1.000	
(11) HRATT2	356	3.534	1.166	0.014	-0.007	0.014	-0.014	0.004	-0.024	-0.051*	0.063*	0.061*	0.183*	1.000

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

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Table 3 presents the statistics for the public sample. The sample in terms of gender is balanced as of all respondents, 50% were women, and 51% reported having dependent children at home. In terms of age, 74% were older than 40 years old, and over 68% had five years of tenure or more. This last information tells us that we should be careful when interpreting the results, and that they should not be generalized, as there is a clear bias. More specifically, these results may not apply to a younger sample with fewer years of tenure.

Table 3 also displays the correlation coefficients for the different variables. *Flexi and Flexloc* are positively and significantly related with work engagement, and negatively related to stress and exhaustion. The different HR attributions are positively and significantly correlated with both *Flexi* and *Flexloc*. Only *HRATT well-being/productivity* are positively and significantly related with work engagement and are negatively related with exhaustion. The relationships between *HRATT-cost* and well-being variables are not significant.

Table 3: Public sector : Means, Standard Deviations, and Correlations with Confidence Intervals of Measurement Variables

Variables	Obs	Mean	Std. Dev.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) AGE	2030	4.167	1.04	1.000										
(2) GENDER	2021	.499	.5	-0.098*	1.000									
(3) TENURE	2027	2.901	1.316	0.475*	-0.041*	1.000								
(4) KIDS	2018	.514	.5	-0.029*	-0.020*	0.058*	1.000							
(5) ENG	2053	3.705	.779	0.046*	-0.035*	-0.094*	0.036*	1.000						
(6) STRESS	2061	2.583	1.001	0.083*	-0.005	0.174*	0.005	-0.300*	1.000					
(7) EXHAU	2056	2.457	.996	0.070*	-0.018*	0.168*	-0.010	-0.307*	0.797*	1.000				
(8) FLEXTI	2064	3.185	1.271	0.016*	-0.083*	-0.037*	-0.001	0.155*	-0.172*	-0.164*	1.000			
(9) FLEXLOC	2045	2.193	.935	0.039*	-0.132*	-0.067*	-0.015*	0.150*	-0.129*	-0.116*	0.374*	1.000		
(10) HRAT	2063	3.46	1.004	-0.130*	0.021*	-0.122*	0.038*	0.241*	-0.181*	-0.180*	0.244*	0.209*	1.000	
(11) HRATT2	2032	3.235	1.239	-0.008	-0.051*	-0.023*	-0.016*	0.006	0.035*	0.062*	0.071*	0.192*	0.281*	1.000

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

5.2 Flexibility, HR Attribution and well-being

Table 4 presents the different OLS regressions for the private sector. The hypothesis 1 (a), (b) and (c) are supported as flexibility in terms of time and place is positively related with work engagement and negatively related to exhaustion and stress. However, only the coefficients of flexibility in terms of place are significant. Hypothesis 2 is also confirmed with the OLS regression results. Table 4 shows that *HRATT- well-being and productivity* is positively related to work engagement and negatively related to work exhaustion and work stress. Although only the coefficients for work engagement and stress are significant.

As for the latter, hypothesis 3 is confirmed, as HRATT-cost reduction is indeed negatively related to work engagement and seems to increase exhaustion, but none of the relationships are significant.

Finally, the last hypothesis (4) was partially supported. Flexibility in terms of time and place was significantly and positively related with HRATT-employee well-being and productivity, thus supporting hypothesis (4a). However, flexibility was correlated positively with HRATT-cost reduction but the coefficients were not significant.

R^2 increased from 0.068 to 0.107 when including HRATT variables in the equation for work engagement. For exhaustion, R^2 increased from only 0.080 to 0.082 when including HRATT, and R^2 for stress as the dependent variable did not change when including HRATT.

As concerning the control variables, not so many variables are significantly related with our dependent variables. For example, being older was significantly positively associated with work engagement. Furthermore, being a male seems to be positively and significantly related with engagement.

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Table 4 Linear Regression Results for the private sector

	HRAT	HRATT 2	Engageme nt	Engageme nt	Exhaustio n	Exhaustio n	Stress	Stress
FLEXTI	.147***	.063	.026	0	-.084	-.062	-.085	-.062
FLEXLO	.218***	.032	.121**	.083	-.232***	-.203***	-	-.181**
C							.217***	
HRAT				.178***		-.1		-.107*
HRATT2				-.025		-.013		.001
AGE	.022	-.001	.113***	.113***	-.024	-.022	-.019	-.017
GENDER	.286***	-.032	.179**	.133	-.091	-.074	.056	.089
KIDS	.086	-.052	.097	.084	.039	.034	-.053	-.052
TENURE	-	.02	-.045	-.031	.036	.021	.001	-.014
Constant	.101*** 2.315**	3.185**	2.874***	2.541***	3.732***	3.96***	3.832**	3.994**
	*	*					*	*
Number of obs	340	333	338	331	339	332	340	333
Mean dependent variable	3.760	3.556	3.908	3.908	2.459	2.443	2.572	2.557
SD dependent variable	0.919	1.172	0.750	0.753	0.955	0.952	0.956	0.953
R ²	0.181	0.006	0.068	0.107	0.080	0.082	0.067	0.067
F test	12.226	0.347	4.054	4.835	4.809	3.591	3.966	2.906
Prob > F	0.000	0.911	0.001	0.000	.000	.001	.001	.004
Akaike information criterion	852.638	1061.731	754.153	731.119	915.235	897.898	5429.294	907.164
Bayesian information criterion	879.441	1088.388	780.914	765.338	942.017	942.017	950.790	907.164

Note. Flexi: time flexibility; Place: location flexibility; HR AT: well-being and productivity; HR ATT2: costs reduction. *** $p < .01$, ** $p < .05$, * $p < .1$.

Table 5 presents the different OLS regressions for the public sector. The hypothesis 1 (a), (b) and (c) are supported as flexibility in terms of time and place is positively related with work engagement and negatively related to exhaustion and stress. All the coefficients are significant. Hypothesis 2 is also confirmed with the OLS regression results. Table 3 shows that *HRATT- well-being/productivity* is positively related to work engagement and negatively related to work exhaustion and work stress. Hypothesis 3 is supported. Indeed, *HRATT-cost reduction* is positively and significantly related with stress and exhaustion, and the variable is negatively linked with work engagement.

Finally, hypothesis 4(a) is only partially supported. As for the private sample, perceptions of flexibility in time and place is positively and significantly correlated with *HRATT- well-being/productivity*. However, the perceptions of flexibility of place is positively and significantly related with *HRATT-cost reduction* and flexibility of time is negatively related with *HRATT-cost reduction* but the coefficient is not significant.

Hypothesis 4(b) is not supported as public employees linked the perceptions of flexibility with an aim of reducing costs from the organization. There is also a difference for time or place flexibility.

R^2 increased from 0.051 to 0.095 when including HRATT variables in the equation for work engagement. For exhaustion, R^2 increased from 0.058 to 0.089 when including HRATT, and similarly, R^2 increased from 0.061 to 0.087 for stress.

As concerning the control variables, being older was significantly positively associated with work engagement, and having kids seem to be related with being more engaged at work (Table 5). Interestingly, having more tenure is negatively related with well-being, as it means being less engaged but more stressed and more tired. Furthermore, in all regressions, gender was non-significant.

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Table 5 Linear Regression Results for the public sector

	HRAT	HRATT 2	Engageme nt	Engageme nt	Exhaustio n	Exhaustio n	Stress	Stress
FLEXTI	.15***	-.007	.067***	.037**	-.111***	-.085***	-.11***	- .085***
FLEXLO C	.147***	.252***	.08***	.066***	-.111**	-.063**	-.074***	- .076***
HRAT				.182***		-.164***		- .159***
HRATT2				-.049***		.105***		.083***
AGE	- .104***	-.37	.079***	.092***	-.003	-.014	.02	.007
GENDER	.074*	-.079	-.014	-.027	-.064	-.053	-.04	-.03
KIDS	.086**	-.027	.076**	.057*	-.045	-.032	-.01	.004
TENURE	-.038**	.004	-.08***	-.073***	.124***	.116***	.115***	.109***
Constant	3.124** *	2.891** *	3.19***	2.786***	2.645***	2.866***	2.702***	2.977** *
Number of obs	1957	1929	1948	1908	1952	1911	1955	1914
Mean dependent variable	3.466	3.229	3.707	3.708	2.455	2.457	2.582	2.585
SD dependent variable	.996	1.236	0.781	0.783	0.997	0.998	0.998	0.997
R ²	0.096	0.038	0.051	0.095	0.058	0.089	0.061	0.087
F test	34.391	12.642	17.247	24.904	19.962	23.330	21.170	22.710
Prob > F	0.000	0.000	0.000	0.000	.000	.000	.000	.000
Akaike informatio n criterion	5353.07 4	6230.54 9	4474.930	4307.194	5425.973	5183.637	52529.43 9	5262.75 9
Bayesian informatio n criterion	5392.12 8	6269.50 2.	4513.952	4357.178	5465.009	5239.191	5302.437	5312.77 2

Note. Flexi: time flexibility; Place: location flexibility; HR ATT1: well-being; HR ATT2: costs reduction; HR ATT3 productivity increase. *** $p < .01$, ** $p < .05$, * $p < .1$.

Mediation Analysis

Finally, the results of the mediation analysis are display in the figure below for the public sector employees. The indirect effect was significant, $p \leq 0.001$, $B = 0.043$, 95% bias-corrected CI [.0325373 ; .0537242] for work engagement and was also significant for work stress $p \leq 0.001$, $B = -.0566$, 95% bias-corrected CI [-.0709187 - .0424249]. Therefore, this indicates a mediation effect of HR attributions-well-being related, thus supporting hypothesis 5.

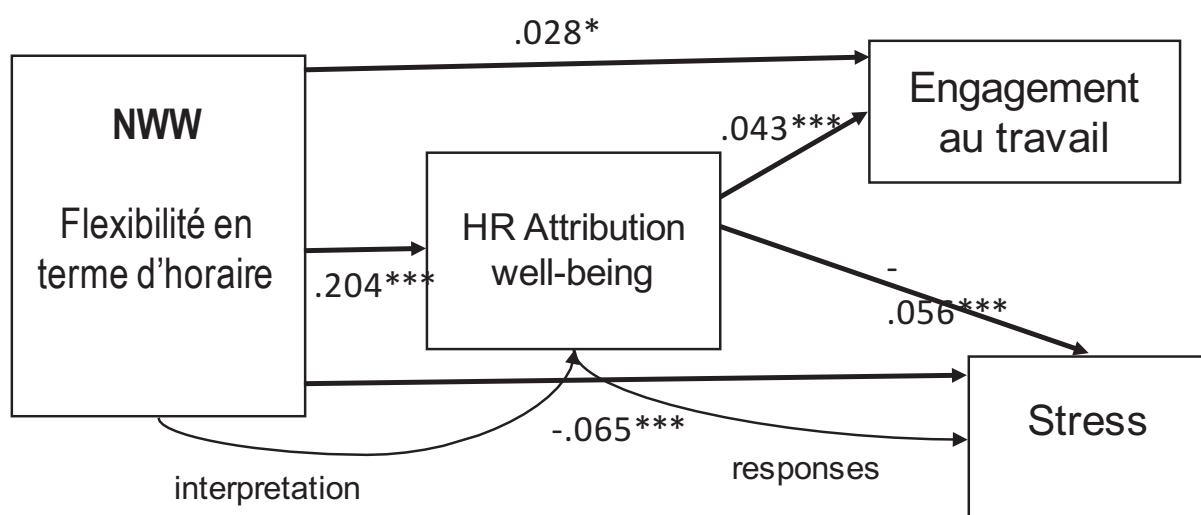


Figure 1 Mediation of HR attribution between flexibility in time and well-being

6. Discussion

This study, based on sample of public and private organizations in Switzerland, aimed to examine the relationships between public servants’ perception of flexible work arrangements, and employee well-being, and the potential effect of HR attribution in these relationships. The results showed a significant and positive effect of perceived NWW practices—namely flexibility of place and time, —on work engagement and a negative effect on exhaustion and stress. Additionally, HRATT-*well-being and productivity* were positively and significantly linked with work engagement and negatively linked with stress and exhaustion for both sectors. HRATT-*cost reductions* had the opposite relationships with the well-being variables. Finally, the perceptions of flexibility are partially correlated with HRATT of employees.

Perceived time/location flexibility had a positive effect on work engagement, and a corresponding negative relationship was found for exhaustion and stress. These results suggest that perceived flexibility could be used to encourage public and private employees work engagement and reduce employee fatigue. The results do not show a trade-off between the two dimensions of well-being (Grant et al., 2007). These results are not totally in line

with had been found in the literature. Studies undertaken during the COVID-19 have found a significant and positive relationship between telework and exhaustion (Hadi et al., 2021; Irawanto et al., 2021; Meyer et al., 2021; Sandoval-Reyes et al., 2021). However, our results are in line with Gajendran and Harrison's (2007) meta-analysis of 46 studies, which found that telework had a significantly negative effect on role stress, and with Planchard & Velagic, (2020), who found beneficial effects of teleworking on psychological well-being. One explanation might be that this study measures the *perceptions* of actors of time/location flexibility, not the policies, which is in line with the theory of Paauwe and Boselie (2005) that underlines the importance of perceptions of HR practices relatively to employee well-being.

This study participates in the debated occurring in the HR attributions literature. By focusing on the link between HRATT and employees well-being, it brings empirical evidence on how employees interpretations of HR practices influence their behavioral responses. The results show that when employees feel that flexibility is implemented for their well-being or their productivity, it is positively linked with their well-being. These results are in line with previous empirical analysis (Nishii et al., 2008; Shantz et al., 2016; Tandung, 2016). It also confirms that when employees feel that the HR practices are implemented to accomplish organizational goals such as cost reduction it impacts negatively their well-being (Hewett, R., Shantz, A., Mundy, J., & Alfes, K, 2018). The mediation analysis proved to be significant, meaning that attributions relative to employee well-being mediate the relationship between flexibility in time and employee well-being, with an example of the public sector.

Finally, this study participates in the literature on the antecedents of HR attributions. The results show that perceptions of flexibility is positively linked with well-being and productivity attributions in the public and private sector, but that is not significantly linked with cost reduction attributions. These results bring evidence on the link between HR practices, their perceptions, the interpretations made by employees and employees well-being in both private and public sectors. It confirms the different theories on HR attributions, and the process-based approach in HRM.

6.1 Limitations

This study displays several limitations. First, the nature of this study is cross-sectional, hence caution should be used when making conclusions of causality between the variables. Future research design should apply a longitudinal design to study HR attributions. This research could not be replicated as the same conditions as the one in the autumn 2021, which was during

the pandemic, did not happen again. It has not been possible for us to undertake another study in the same context in Switzerland.

Additionally, the results cannot be generalized to other populations, as the private or the public sample are unbalanced in terms of age and tenure, which represents a methodological limitation. Another methodological issue is the measurement of HR attributions. For this research, three items were added in the questionnaire to understand the global meaning of the perceptions of flexible work arrangement for employees. Other studies distinguished different items to different HR practices.

Finally, as data were based on self-report measures collected at a single point in time, issue such as spurious results due to common method bias are of concern (Podsakoff et al., 2003). Addressing the reliability of self-reported data is difficult in this type of research, as employee perceptions are the central focus of interest.

7. Conclusion

7.1 Contribution/Future Perspectives

This study investigated the mechanisms through which flexibility in terms of place and time influence employees well-being. As such, it provides guidance on the necessary steps to take to improve public and private employees well-being.

This study underlines the importance of perceptions flexibility at work for workers well-being (Paauwe & Boselie, 2005).

Additionally, this study contributes to literature on the potential trade-off between different dimensions of well-being. Interestingly, we found that all dimensions of public and private employees well-being improved with flexibility at work.

Finally, the results highlight the importance of HR Attributions in the relationship between flexibility work practices and employee well-being. Future research should investigate the reasons behind different HR practices. It also could link HR attribution literature and the concept of trust in organizations or organizational climate variables. It would be interesting to see if the level of trust in organizations is related to the interpretation of employees of HR practices for example.

7.2 Practical Implications

The results suggest that NWW practices could be implemented to promote public and private employees well-being. Leaders should be sensitive to employees' needs for flexibility in time and place. Supportive organizations and managers, that would send messages to

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employees that their concern with their well-being is needed when implementing flexibility. Furthermore, this study sheds additional light on the importance of management practices and attitudes of managers and organizations that would create a positive supportive work environment when implementing flexibility. Employees interpret the reasons beyond which such flexibility are put in place and are sensitive to whether it is for their own good or to reduce costs. When the reason is the latter it might impact negatively their well-being. These results show that organizations need to care for employees well-being in the public and the private sector. Finally, these results should be interpreted carefully, but they nevertheless provide lessons for a post-pandemic world where telework is an option.

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Appendix*Variables, Items, and Cronbach's Alphas*

Variable	Item	Cronbach's alpha public	Cronbach's alpha private
Work engagement	I am bursting with energy for my work.	0.845	0.841
	I am passionate about my work.		
	When I get up, I want to go to work.		
	I am proud of the work I do.		
Work exhaustion	I feel emotionally drained from my work.	0.90	0.87
	I feel burned out from work.		
	It is physically straining for me to get through a work day due to the demand of my job.		
Stress	My work tends to affect my health	0.90	0.88
	I work under high pressure		
	My work makes me nervous and/or agitated		
	Problems at work cause me to have insomnia		
Flexi (flexible time)	I am free to determine my own work schedule.	0.86	0.89
	I am free to change my schedule to choose when I start and finish my work		

HR ATTRIBUTION, NWW, AND WORKERS WELL-BEING

Place	I am free to determine where I work, at home or at work	0.67	0.73
	I am free to change where I work		
	At work, I am free to choose my place according to the tasks at hand		
HRATT1	Promote the well-being of employees, making them feel valued and respected	0.62	0.63
	Increase employee productivity		
HRATT2	Diminish costs		

Note. Factor loadings were calculated in an exploratory methodology for HRATT, as they were recently developed scales. The other factor loadings were calculated in a confirmatory approach as they are validated scales.

Exploratory Factor Analysis for HRATT

Private Sector

(N=356)

Factor analysis/correlation Number of obs = 356
 Method: principal factors Retained factors = 2
 Rotation: (unrotated) Number of params = 3

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	0.842	0.612	1.116	1.116
Factor2	0.230	0.547	0.305	1.421
Factor3	-0.317	.	-0.421	1.000

LR test: independent vs. saturated: $\chi^2(3) = 146.74$ Prob> $\chi^2 = 0.0000$

Factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Uniqueness
HRATT1	0.507	-0.298	0.655
HRATT2	0.333	0.374	0.749
HRATT3	0.688	0.038	0.525

Rotation Matrix

Factor analysis/correlation Number of obs = 356
 Method: principal factors Retained factors = 2
 Rotation: orthogonal varimax (Kaiser off) Number of params = 3

Factor	Variance	Difference	Proportion	Cumulative
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HR ATTRIBUTION, NWW, AND WORKERS WELL-BEING

Factor1	0.704	0.337	0.934	0.934
Factor2	0.367	.	0.487	1.421

LR test: independent vs. saturated: $\chi^2(3) = 146.74$ Prob> $\chi^2 = 0.0000$
 Rotated factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Uniqueness
HRATT1	0.587	-0.022	0.655
HRATT2	0.116	0.487	0.749
HRATT3	0.588	0.360	0.525

Factor rotation matrix

	Factor1	Factor2
Factor1	0.880	0.474
Factor2	-0.474	0.880

Alpha Cronbach : HRATT1 et HRATT3 = 0.6258

Exploratory Factor Analysis for HRATT

Public Sector

(N=2,029)

Factor analysis/correlation Number of obs = 2,029
 Method: principal factors Retained factors = 2
 Rotation: (unrotated) Number of params = 3

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	0.931	0.839	1.273	1.273
Factor2	0.092	0.385	0.126	1.400
Factor3	-0.292	.	-0.400	1.000

LR test: independent vs. saturated: $\chi^2(3) = 863.00$ Prob> $\chi^2 = 0.0000$
 Factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Uniqueness
HRATT1	0.519	-0.199	0.691
HRATT2	0.425	0.230	0.767
HRATT3	0.694	0.008	0.519

Factor analysis/correlation Number of obs = 2,029
 Method: principal factors Retained factors = 2
 Rotation: orthogonal varimax (Kaiser off) Number of params = 3

Factor	Variance	Difference	Proportion	Cumulative
Factor1	0.743	0.463	1.016	1.016
Factor2	0.280	.	0.383	1.400

LR test: independent vs. saturated: $\chi^2(3) = 863.00$ Prob> $\chi^2 = 0.0000$
 Rotated factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Uniqueness
HRATT1	0.551	0.071	0.691
HRATT2	0.265	0.404	0.767

HR ATTRIBUTION, NWW, AND WORKERS WELL-BEING

HRATT3 **0.607** 0.335 0.519

Factor rotation matrix

	Factor1	Factor2
Factor1	0.881	0.473
Factor2	-0.473	0.881

Alpha Cronbach : HRATT1 et HRATT3 = 0.6365

