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"Beyond the office: temporal and spatial changes in the modern workplace"

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Introduction

Digitalization is one of the most important transformations impacting companies today, driving consistent improvements in efficiency and productivity (Cette et al., 2021). Furthermore, new types of technologies and innovative solutions play a pivotal role in reshaping work organisation. With technological advancements, employees now have the ability to perform their tasks using digital tools, leading to deep changes in how their work is organised and changing traditional concepts of working time and space. Such shifts are directly related to work flexibility, that is the possibility for instance to work a number of hours different from the prearranged one, or the option to work remotely without needing to be physically present in the office.

Recent studies (ManpowerGroup, 2022) have demonstrated that, in the modern workplace, employees care about gaining flexible conditions on work, in order to achieve a better work-life balance and a higher job satisfaction. The rise in worker awareness on work flexibility and work-life balance has also been driven by disruptive events that have impacted organisations worldwide, such as the COVID-19 pandemic. First of all, the aim of this work is to demonstrate the current relevance of work flexibility for modern workers, and to deeply investigate to what extent the concepts of working time and space are changing; these changes have implications for employees, affecting their well-being, job satisfaction, and social relationships, as well as for companies, influencing coordination, subordinates' control and overall organisation. This thesis will mainly focus on individuals' expectations and preferences rather than the employer's perspective, although one of the goals of our analysis is to offer valuable insights for policymakers and highlight managerial implications. Indeed, only a thorough understanding of what employees prefer and consider relevant to them can help employers to develop effective strategies for attracting and retaining talents within their organisation. Given the intention of analysing the effects within a similar cultural and legislative context, we decided to select one specific country to carry out our analysis. Specifically, we have selected Italy as the focus of our analysis due to its distinctive characteristics: first of all, according to the Digital Economy and Society Index (DESI, 2020), Italy ranks far below the European average in terms of digital skills and use of digital public services. This, combined with a deeply rooted cultural mentality for "in-person" work, might limit Italian organisations' propensity to promote highly flexible working arrangements, while also making employees (within the Italian workplace) less inclined to request them. In fact, as suggested by previous research (Spector et al., 2004), factors such as work-family conflict, working hours, and well-being vary significantly based on cultural differences and the

national context. This implies that managers and policy makers should take cultural differences into account when addressing work flexibility.

This paper is structured as follows. In the first chapter, an historical overview of smart working in Italy will be presented, analysing also the disruptive impact brought by the pandemic and reporting clear evidence on the current relevance of work flexibility within the Italian context, given workers' preferences and interests regarding this topic.
In the second chapter, a literature review will be provided, in order to analyse how and what has been studied mostly so far regarding work flexibility, time and space management; moreover, studies reporting factors affecting telecommuting behaviour and the extent to which workers value flexible working arrangements have been included.
Lastly, in the third chapter, after having designed a Discrete Choice Experiment in order to elicit employees' preferences and priorities related to work flexibility, the results of this empirical study will be presented and discussed.

Chapter 1 - Smart and flexible work within the Italian workplace

In recent years, the relevance of smart working has been increasing a lot in the Italian labour market, especially with the arrival of the COVID-19 pandemic period. This new work model, allowing high flexibility in terms of location and hours, has become a crucial element for companies and workers. Moreover, this modality has boosted the process of increasing awareness and attention amongst workers regarding work flexibility and work-life balance. Hence, the relevance of this topic lies in its strong current significance, as well as in the necessity for modern organisations to provide their employees with work solutions that take into account their changed preferences and expectations regarding flexibility in the working time and space. This chapter, thanks to the support of several studies and researches (conducted by prestigious consulting firms, research centres, ecc), aims to demonstrate the current relevance of the phenomenon within the Italian context, underlining the change in preferences and the higher attention to the theme among employees in the Italian workplace. The following chapter is composed of four parts: in the first part, after a clear definition of "smart working", a description of the historical background and evolution of this topic till the COVID-19 pandemic in Italy will be presented; then, the second part will describe some real cases concerning Italian organisations that changed their work organisation exploiting the momentum provided by the emergency. In the third part, the focus will be on the change in workers' preferences regarding this theme after the emergency period; finally, real examples of companies pushing the boundaries of flexibility, with related implications and possible developments, will be presented.

1.1 Evolution of smart working in Italy

First of all, it is worth giving a clear definition of the term "smart working", because of the consistent array of meanings and definitions provided over the years. In order to accomplish this goal, two different perspectives will be adopted: the first one, given by one of the Italian institutions who is deeply studying the phenomenon, will be more "academic"; the other one, instead, will report the definition provided by the Italian regulatory authority.

The first definition was provided by Mariano Corso (2019), scientific director of the Smart Working Observatory at the Politecnico di Milano, which analyses the evolution of the phenomenon in Italy: "*Smart working means rethinking telecommuting from a more intelligent perspective, challenging traditional constraints related to place and time by giving*

people greater autonomy in defining work methods in exchange for increased accountability for results. Autonomy, but also flexibility, accountability, talent development, and trust become the key principles of this new approach[1]".

The second definition refers to Law n. 81/2017, which lays down a form of regulation regarding agile work. As established by the Italian legislation[2], smart working is: "*The mode of execution of the subordinate employment relationship established through an agreement between the parties, also with forms of organisation by phases, cycles, and objectives and without precise constraints of working hours or location, with the possible use of technological tools for carrying out work activities. The work is performed partly within the company premises and partly outside without a fixed workstation, within the sole limits of the maximum duration of daily and weekly working hours, as determined by law and collective bargaining*".

These two definitions, even though coming out from different perspectives, are similarly highlighting the crucial elements of smart working: flexibility, autonomy in choosing time and space of work, use of technological tools for carrying out work activities.
Before the law n. 81/2017 described above, there had already been some legislative initiatives aimed at introducing the concept of "telework" in Italy: the D.P.R. n.70 of March 1999 and the Resolution of the Authority for Informatics in Public Administration n. 16 of May 2001; both concerned only the Public Administration and in them, telework was understood as a way of performing work from a location different from the usual one (Toscano & Zappalà, 2020). Only two years later, in June 2004 with the Interconfederal Agreement, the private sector was affected by a measure on work flexibility; with this agreement, the theme of time flexibility has been formally introduced in Italy.
Starting April 1, 2024, Italian regulations on smart working have been revised once again. The extension that allowed certain categories of workers to perform their duties in agile work mode without a written individual agreement has ended. As of April 1, 2024, agile work in Italy is therefore only possible with a signed individual agreement between the employer and the employee, in accordance with Law 81/2017, the national protocol on agile work, and any other provisions established by collective bargaining agreements[3].

[1]https://blog.osservatori.net/it_it/cos%C3%A8-lo-smart-working
[2]https://def.finanze.it/DocTribFrontend/getAttoNormativoDetail.do?ACTION=getSommario&id={9872E708-F077-4699-AB74-F9DAECD29C24
[3] https://www.confindustriafirenze.it/aggiornamento-in-tema-di-smart-working/

Despite the path just described, compared to the other European countries the relevance of the theme has been low in Italy, ranking the lowest among the 27 European countries in the percentage of employees engaged in flexible working in various locations such as home, office, or other place (Eurofund, 2017).

In the year 2019, just before the pandemic period, the percentage of large Italian companies that had initiated smart working projects internally was 58%, up from 36% in 2017, as reported by the "Osservatorio sullo smart working del Politecnico di Milano"; an additional 7% of companies that had already started informal initiatives and 5% that planned to do so in the following twelve months should be added to the previous percentages. Smart working initiatives were less widespread among the small and medium enterprises, where the quantity of companies promoting structured programs in this area (in 2019) was around 12%. More than half of such enterprises didn't evaluate smart and flexible modalities as interesting or suitable for their small size. A significant increase, instead, was recorded in the public administration, where the organisations with structured projects related to smart working in 2019 were around 16%, doubling the percentage level of the previous year (Osservatorio sullo Smart working del Politecnico di Milano, 2020).

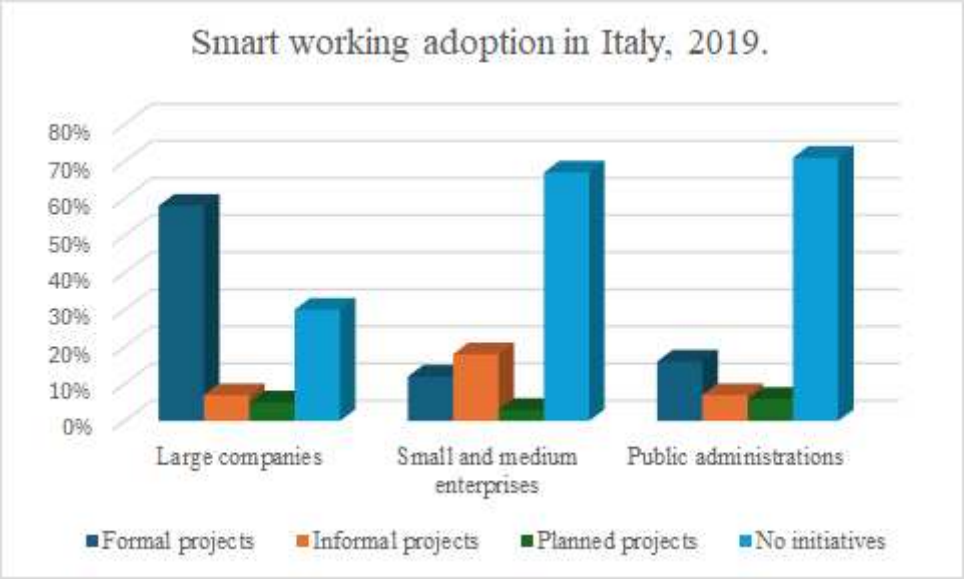

Figure 1.1. Source: Osservatorio sullo Smart working del Politecnico di Milano, 2020.

However, the change brought by the COVID-19 pandemic has been disruptive: rules on social isolation and restrictions on freedom of movement enacted in 2020, necessitated the need for organisations and workers to develop a different work organisation. During the first phase of the emergency period ("lockdown"), between March and the beginning of May 2020, remote work was the only viable option for almost all the industries in Italy, therefore several

organisations implemented such method and even the government, aware of its importance, has significantly promoted its implementation, simplifying the access procedure and discouraging in-presence work (Osservatorio sullo Smart working del Politecnico di Milano, 2020). During the "lockdown" phase, the number of remote workers in Italy reached 6.58 million, accounting for one-third of all employees in the country[4]; the public administration sector led with a share of 58% of remote workers, followed by large enterprises at 54%, and then small/medium-sized enterprises at 14%.
According to the study conducted by the "smart working Observatory" of the Politecnico di Milano, before the COVID-19 emergency only 31% of the interviewed sample were smart workers, with just 13% working remotely in a structured and continuous manner. During the emergency period, 96% of respondents reported working remotely; of these, 78% worked in full remote mode and 12% returned to the office once a week. People who were experiencing remote work for the first time, sometimes didn't own all the necessary equipment and digital support to accomplish their tasks; in this context, workers with previous remote work experience, have been more prepared than the others, having adopted different behaviours and digital tools for working remotely before the emergency. Hence, companies with a high digitalization level of their processes and good equipment for effectively practising remote work, have been able to gain a competitive advantage during the emergency period.

Actually, the method suddenly adopted and implemented by several organisations during the lockdown phase, shouldn't be defined as the "official" smart working, but rather as an "emergency remote work", pushed more by external factors than by a change in the organisational culture.

In fact, mentioning again the definition of smart working provided by the Observatory above, one fundamental element is the *"autonomy in defining work methods"*; it should be clear that, during the lockdown in Italy, there was no autonomy nor flexibility given to employees in defining their work spaces. However, the forced adoption of remote working during the emergency period has been a breakthrough in the Italian labour context, because the implementation of smart working strongly demonstrated its own relevance as a solution that facilitates the balance between personal and work time, enabling also the proliferation of hybrid forms combining working in the office with working from home. Therefore, it has become crucial for companies to immediately face issues regarding technology and work-life

[4]https://www.agendadigitale.eu/cultura-digitale/lo-smart-working-prima-e-dopo-la-pandemia-nuovi-modelli-di-lavoro-per-non-tornare-indietro/#post-122889-footnote-ref-21

balance, realising that smart working is an innovative organisation model characterised by high flexibility and autonomy, allowing employees to freely manage their working time and decide the most appropriate moments for accomplishing their tasks.

1.2 New normal within Italian organisations

After the fast-growing effect caused by the pandemic, it's considered appropriate to analyse the extent to which the Italian labour market has continued to adopt smart working in the subsequent years, once the temporary emergency was over. In 2023, remote workers in Italy reached the number of 3.585 million, slightly higher than 3.570 million in 2022, but significantly more than before the COVID-19 pandemic, with an increase of 541% compared to the year 2019. Estimates predict that during 2024, the number of workers in smart working conditions will increase up to 3.65 million in Italy (Osservatorio sullo Smart Working del Politecnico di Milano, 2023). The increase observed in 2023 comes mainly from large enterprises, where the percentage of firms providing remote working initiatives is around 96%, with an amount of 1.88 million of workers (more than 50% of the total), while the percentage of public administrations providing such programs is around 60%, with an amount of 515 thousands workers, equal to 16% of the total remote workers. Beyond numerical aspects, it is considered significant to also present some concrete cases of organisations that, leveraging the momentum provided by the emergency situation, have made significant changes to their internal work organisation in terms of flexibility and possibility of remote work, implementing innovative tools and methods for managing this process and keeping them active even after the end of the emergency.

One of the organisations where flexibility has been tested in several ways, is "Intesa Sanpaolo", one of the largest banking institutions in Italy. Intesa, which before the pandemic had fixed working hours and limited flexibility, now allows its employees to start work at 7, 8, 9, or even 10 o'clock, and then correspondingly adjust their departure time based on the starting one. Additionally, they can choose to work remotely for up to 120 days per year, without a monthly limit. Moreover, they can distribute their working hours over 5 days, working 7.5 hours per day, or over 4 days, working 9 hours per day, thereby gaining an extra hour and a half each week.

This relevant change in the work organisation has been highlighted by Roberto Cascella, Chief People & Culture Officer: "*Intesa Sanpaolo is at the forefront in work organisation*" and "*we are perceived as an innovative employer, able to anticipate society's changes*[5]".

Another relevant case concerning work organisation, emerges from what Gianfranco Chimirri, Chief People Officer of Sace (a financial insurance group) declares[6]: "*I try to spend time in the office with colleagues for activities related to innovation and idea generation, project discussions, developmental conversations with people. But also for all initiatives aimed at creating a sense of belonging before and after meetings*". His innovative vision resulted in an organisational model characterised by high flexibility: "*Our employees do not clock in and can work remotely, not according to the outdated logic of counting days, but to activities: on average, Sace employees spend 40% of their working time in the office, and teams decide when and why to come, for collaborative and innovative activities*[7]". In this second case, the support given by technology is crucial: just after the emergency period, the company invested in generative AI tools, allowing employees to carry out routinary activities remotely.

A further example is provided by an internal study conducted within "Banca d'Italia" and elaborated in the "Questioni di Economia e Finanza" occasional paper (Mariani et al., 2023). Analysing data from this study, in this bank was already possible to work remotely up to one day a week before specific regulations were introduced to manage the pandemic: it emerges that in 2019, 29% of employees had worked remotely for at least one day (of which approximately 80% used less than one day on average per month), and the days worked remotely, compared to the total days worked, were found to be 1%. Since April 2022, the new hybrid work model, formalised through collective agreements, has been implemented: for workers belonging to basic units performing fully remote workable activities (75% of the total), a maximum of 10 days per month and 100 days per year of remote working is granted. For those belonging to basic units performing partially remote workable activities (11% of the total), the maximum number of remote working days is 5 days per month and 50 per year, while the remaining employees belonging to basic units performing activities not workable remotely (14% of the total) cannot avail of remote working except on very occasional basis.

[5]https://www.ilsole24ore.com/art/bancari-intesa-vitali-smart-working-e-settimana-corta-vuole-continuare-usarli-99percento-AGM0O7C?refresh_ce
[6]https://www.ilsole24ore.com/art/i-cinque-giorni-ufficio-sono-superati-anche-top-manager-lavora-remoto-AG2r31D?refresh_ce
[7]Ibidem

After the application of this method, the percentage of employees fully working in presence, even though they can work remotely, is around 20% including both units performing fully remote and partially remote workable activities. Thus, also the case just described represents a situation where the organisation has been able to exploit the change brought by an emergency period, developing a different work organisation and transforming a constraint into an opportunity to design the new normality.

1.3 Italian workers' preferences

Then, after mentioning the flexibility initiatives carried out by companies and their decision to invest in such models even after the pandemic, studies and research are now presented to investigate workers' preferences in this field, in order to verify Italian workers' awareness and attentiveness regarding work flexibility and work-life balance.

An important contribution is given by the report "Future of Work Life[8]", published by the "Ericsson Consumer & IndustryLab" with the aim of shedding light on how employees and employers are navigating the current situation and their opinions regarding the future of work post-pandemic and flexibility. The research was conducted in 30 global markets, including Italy, through 38,000 online surveys among employees, 3,600 among decision-makers, and 11 in-depth interviews with decision-makers in selected sectors in three markets: China, Spain, and the United States. First of all, on the basis of the survey conducted in this research, it can be stated that, after the pandemic period, 4 out of 10 workers in Italy have enjoyed increased flexibility in their work; moreover, the 43% of them consider flexibility in working hours or location as a fundamental requirement, while for 21% of workers flexibility would be the top priority in case of seeking for a new job. An interesting insight given by this report is that nowadays flexibility is considered by employees as a currency: in fact, workers now often switch jobs to gain better benefits, acquire new skills, or access increased flexibility options. They appreciate work-life balance depending on the amount of flexibility ensured by their companies; the more the organisations will offer them flexibility, the more workers will feel "rich" and less motivated to change jobs. Thus, if companies want to leverage on employees' loyalty, providing them with a good amount of flexibility becomes crucial.

Other interesting evidence is coming out from the "Deloitte Global 2023 Gen Z and Millennial Survey", which decomposes workers' preferences among two different categories, as suggested by the title of the paper: Gen z and Millennials. According to this study, about

[8] Consulted here: https://www.ericsson.com/en/reports-and-papers/consumerlab/reports/future-of-work-life

80% of respondents said they might start looking for a new job if their employer required them to work on-site full-time, both for Gen Z and Millennials; moreover, both the generations would like to have more choice in establishing where work, even though they accept that employer sets requirements for how often and/or when they need to be on-site. Furthermore, both generations would prefer that their roles require them to be less physically present at the office, but Millennials' preference is 10% stronger than Gen Z's regarding this pattern (Figure 1.2).

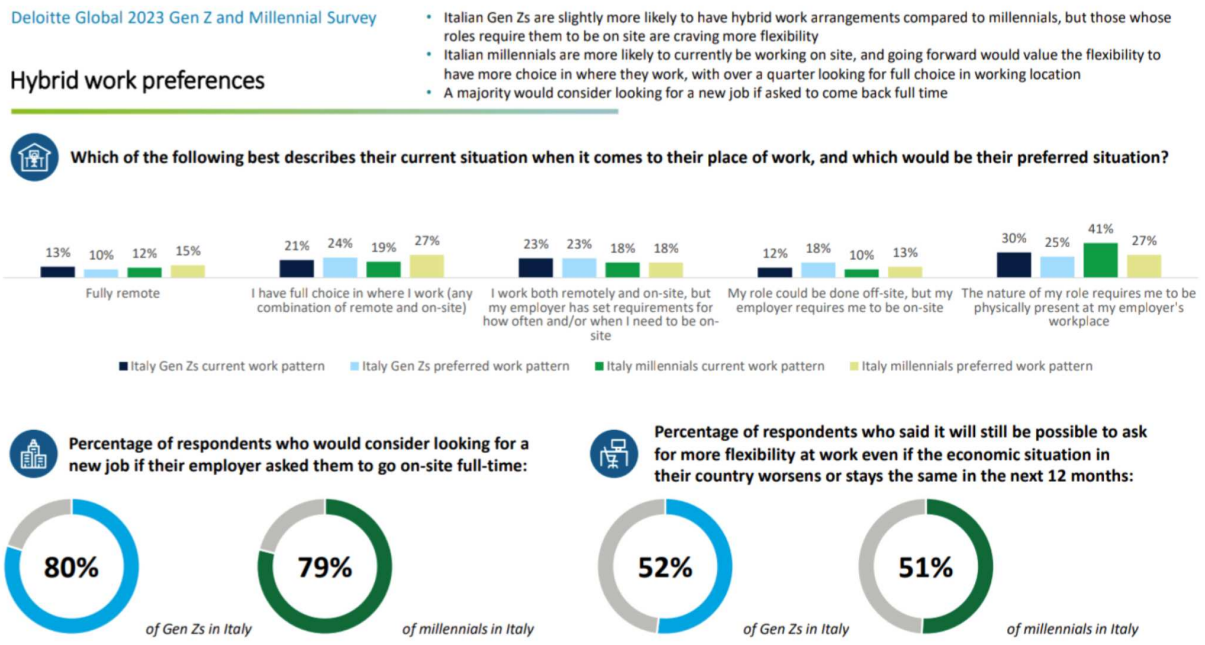

Figure 1.2. Source: Deloitte. (2023). *Global 2023 Gen Z and Millennial Survey.*

Respondents have been asked also about work-life balance: both the category of Italian workers believe that, in order to help foster better employees' work-life balance, employers should prioritise condensed working weeks, more than ensuring comparable career advancements for part-time employees or allowing employees to work remotely. On the other hand, factors which might lower respondents' propensity to adopt flexible work are a consistent pay cut and a lack of workload reduction; if both the generations are giving to the pay cut almost the same level of concern, worth noting that Gen Z seems to be more concerned about a possible lack of workload reduction. The last important insight coming out from this study concerns workplace mental health; the percentage of Gen Z Italian workers affirming that their employer takes care of their mental health providing policies or resources designed to help them is slightly below 50%. This quantity drops sharply in the case of Italian Millennials, where the share of employees who agree that their employer has such an attention

is only 36%. Both the rates given by Italian employees are lower than the ones given by the global respondents, highlighting the scepticism of Italian workers about the possibility that their employers show a good level of attention regarding employees' mental health. Finally, the percentage of respondents who say that mental health support is relevant when considering a potential employer is 73% for Gen Z's workers and 78% for Millennials, suggesting the fact that Millennials appear more worried about this theme.

On a similar level moves the analysis carried out by Randstad in its reports called "Randstad Workmonitor 2023" and "Randstad Workmonitor 2024"; reporting the expectations of Italian workers, the study published in 2023 states that 35% of the respondents wouldn't accept a job without flexibility in terms of working hours, and the 33% wouldn't accept the job in case of low flexibility concerning the working place. Moreover, 58% of interviewed said they wouldn't take a job if they believed it would damage their work-life balance (Figure 1.3).

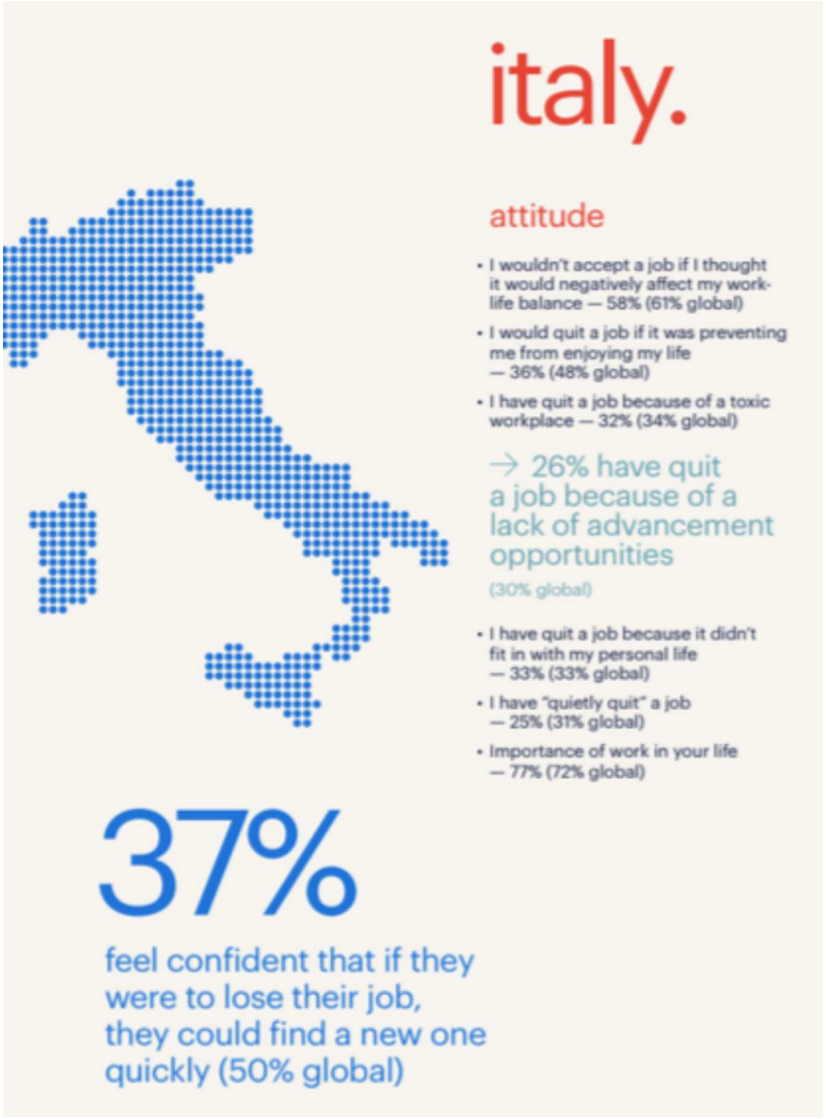

Figure 1.3. Source: Randstad. (2023). WorkMonitor 2023. *Randstad*.

In the report published in the year 2024, respondents affirm that health and personal well-being is among the five most important factors influencing their future career ambition; furthermore, asking about the most important factors both in their current job and in the future, respondents put work-life balance at the first position (94%). Flexibility still plays a relevant role, but with an interesting distinction: while the possibility of choosing working hours is considered one of the most important factors (80%), flexibility in terms of space is considered less important (67%).
Last, 34% of the respondents have the goal that their generation will achieve a better work-life balance compared to previous generations.
The theme of flexibility is explored also in the report "People at Work 2023: a global workforce view" published by the ADP Research Institute; the survey involved 33,000 workers across 17 countries, with around 2,000 participants from Italy. Concerning the four-day workweek, one in four Italians believes it will become a standard within five years; 56% would like to have it immediately, even if it means working ten hours a day. Three out of ten workers (30%) emphasise the importance of flexible hours, while 13% believe that it will soon face a decrease in manual labour due to artificial intelligence. Then, 18% of respondents envision that they could accomplish their work assignments even from any point on the globe.

A further relevant contribution is given by Manpowergroup, a global workforce solutions company, in its report "What workers want. From Surviving To Thriving At Work". The first pillar presented in the study, called "Pushing the flexibility frontier", delves into the theme of autonomy over when and where employees can work. The 93% of respondents consider flexibility as a crucial aspect of their working life, and the 64% of them would move to a four-day compressed week if they could. Moreover, 45% of them want to have the freedom of choosing starting and ending work hours, while the percentage of respondents concerned about freely choosing their working location is 35%. This evidence confirms what results have suggested also before: overall flexibility is considered as crucial, but having freedom over the "time dimension" seems to be more relevant than the "space dimension".
All these data are reported in Figure 1.4.

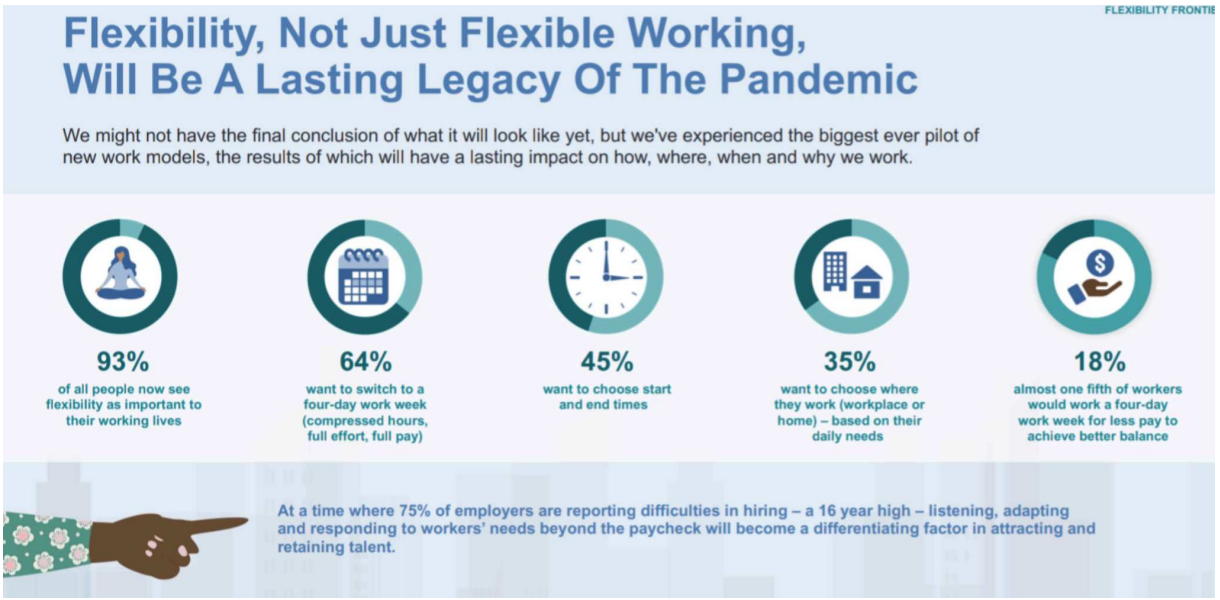

Figure 1.4. Source: ManpowerGroup. (2022). What workers want: From surviving to thriving at work. *ManpowerGroup*.

Another analytical lens adopted in this study concerns "what workers want" on the basis of their sex; it emerges that the percentage of women who want "more flexibility at the start and end of the day" is 49%, higher than the percentage of men (41%). This stronger preference by women finds its reason in the fact that, in Italy, often women have to bear the burden of the difficult balance between work and family life: therefore, being able to manage in a flexible way their working time becomes crucial.

A further element contributing to reinforce what just stated is the importance assigned to "flexibility to help prevent workplace burnout": the percentage of women concerned by this factor is 41%, while men just 34%; this result, highlighting a stronger attention from women in terms of workplace burnout prevention, suggests that Italian women have been reporting higher levels of burnout compared to men's levels, paying a higher price both because they are forced to make greater sacrifices to balance work and family life, and because of a wage gap (Figure 1.5).

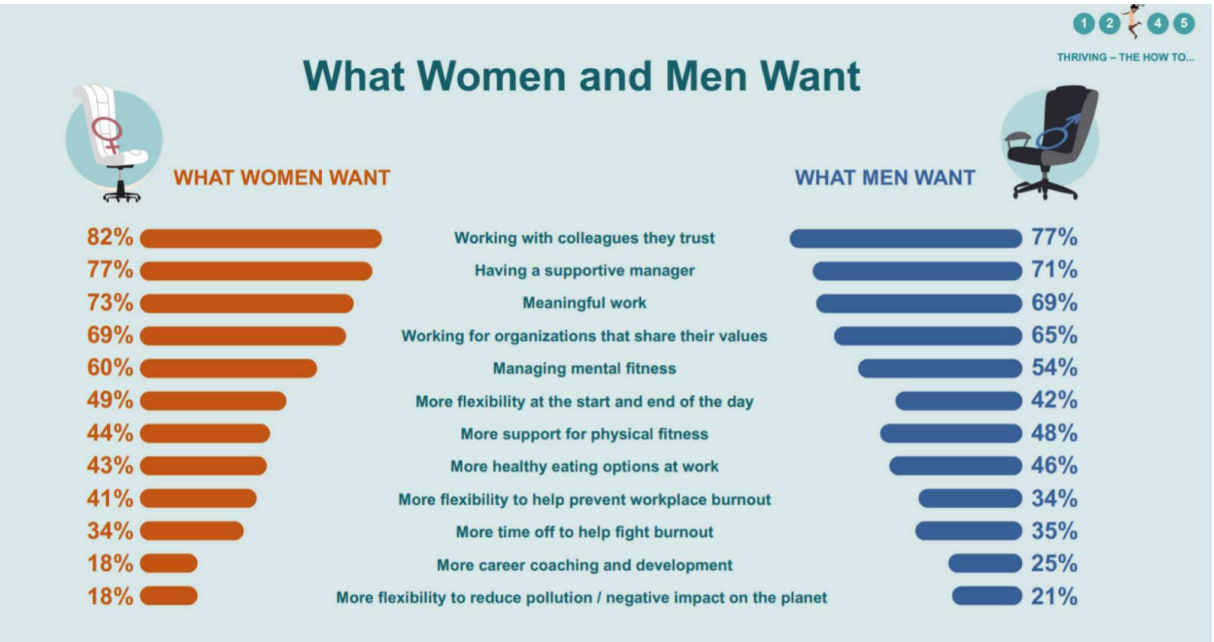

Figure 1.5. Source: ManpowerGroup. (2022). What workers want: From surviving to thriving at work. *ManpowerGroup*.

Furthermore, the study restates the themes parents are more demanding about: after the pandemic, many of them have become more aware of the importance of balance, well-being, acceptance, and a sense of belonging at work, as well as the need for employers to support both mental and physical health. The issue of workplace burnout and the difficulties related to balancing family and work life, which often fall on the shoulders of women, underscores once again the strong need for today's workers to have access to flexible models for organising their time and workplace. Otherwise, the number of workers (both men and women) who may be eventually forced to change jobs will significantly increase in the coming years.
Additional evidence is brought by the research conducted in March 2024 by Asus Business, in collaboration with Astra ricerche[9], through online interviews with a sample of 805 Italian employees aged 18 to 65, employed in small, medium, and large enterprises, both national and international. Only 6.3% of the respondents work fully remotely, while 51.2% work remotely for 2-3 days per week. Those who practise partial smart working show a clear increase in satisfaction with their balance between home and work, their performance, and their overall work situation. Worth noting that employees are the actors who confirm that the professional benefits outweigh the personal ones, especially if they work in large companies, while senior workers, aged over 55, do not see any improvement in this regard. 79% of individuals are more willing to extend their workday to better manage tasks during available

[9]https://www.repubblica.it/tecnologia/2024/03/25/news/un_po_in_smart_working_un_po_in_ufficio_come_cambia_il_lavoro_in_italia_dopo_la_pandemia-422369086/

hours. In particular, employees confirm that the professional benefits outweigh the personal ones, especially if they work in large companies, while workers over 55 do not see any improvement at all. Additionally, 52% of Italians view smart working as a way to eliminate commuting costs, reduce stress and improve time management. Given a choice between a four-day workweek and smart working, 50% of respondents would prefer a shorter workweek. Only 27% of respondents wouldn't want to change their working conditions to smart working in that case. For 72% of Italian workers interviewed, a reduced workweek would further improve work quality by eliminating the superfluous and downtime, but two out of three are convinced they would not be able to achieve the same goals and results they currently achieve.

On the other hand, respondents commented that also some disadvantages may occur: 47.8% of respondents report that smart working has a negative impact on their relationship with colleagues, causing isolation, while 69.7% associate it with a worsening of their work situation, although it doesn't affect their performance. Both disadvantages are particularly high for workers over the age of 45, especially if they live alone or as a couple without children. Finally, 42.8% of individuals working from home at least once a week report feeling very distant from their company, no longer feeling a sense of belonging to the organisation they work for, and no longer sharing its corporate values. However, several positive aspects related to smart working remain: more than 60% of respondents consider themselves overall very satisfied with remote work, and in general, 6 out of 10 Italians see themselves as effective in achieving their goals completely and without errors.

1.4 Future developments

In this last section of the first chapter, the aim is to convey some real cases of organisations that, through the development of particularly innovative solutions, are pushing the boundaries of flexible and smart working, in order to identify possible further developments of such solutions in the future.

The first relevant example is represented by Spotify, the company which provides digital music, podcast, and video streaming services. The organisation has implemented the "Work from anywhere" program, allowing employees to freely decide whether they want to work remotely or at the office; more in detail, the company promises to supply workers with the necessary equipment they need to digitally associate and work with colleagues in spite of a consistent distance and an absent (or low) physical interaction. The program is composed of two essential steps: first employees have to choose the location of work, a geographical area

in which Spotify has a physical entity offering specific roles to its workers, then employees can choose if they prefer to work mostly in presence, mostly from remote or totally in one of the mentioned configurations. The relevance of this example comes from the fact that the company leaves total autonomy to its employees in choosing the degree of flexibility and the location they would like to work in, supporting them with all the IT and technological equipment required. Furthermore, learning opportunities are provided equally to all employees, even from remote locations: most courses and tutorials are conducted online by default to promote self-directed learning.
Spotify evaluated the success of this initiative and took an additional step by making the results publicly available, increasing awareness among the global talent pool. As a result, Spotify's attrition rate decreased by 15% between 2021 and 2022, a significant achievement. This reduction in turnover highlights the positive impact of the "Work From Anywhere" policy on employee satisfaction and retention, one of the program's primary goals at launch. Approximately 50% of Spotify's hires since the launch of the framework have been from outside their hubs in New York City and Los Angeles; this has provided access to a broader talent pool, both nationally and internationally. Moreover, Spotify's Work From Anywhere initiative has been instrumental in enhancing diversity and inclusion within the organisation. The number of women in leadership roles increased from 25% to 42% between 2019 and 2021, while the percentage of Black and Hispanic employees grew from 12.7% to 18% during the same period[10].

Recent technological advancements have paved the way for what many are enjoying today: place independence. In the future, significant transformations are likely to occur; the next frontier of remote work could be even more impactful, potentially offering complete time independence to workers.
On the other hand, some companies still remain hesitant or unable to accommodate flexible work requests: in some instances, executives have insisted that employees return to the workplace full-time, reverting to pre-pandemic work practices. This happens especially within specific industries, such as finance, where businesses are often subject to compliance regulations that can be more challenging to meet in remote settings[11], which may explain why their return-to-office policies have been stringent.
The current situation depicts a moment in which some companies have implemented highly flexible solutions, permanently changing their approach, while others, particularly in more

[10]https://www.unleash.ai/future-of-work/wfa-drives-down-attrition-at-spotify/
[11]https://www.bbc.com/worklife/article/20220831-why-some-employers-wont-give-in-to-flexibility?utm_source=linkedin&utm_medium=newsletter&utm_id=worklife

rigid industries, have decided to reinstate pre-pandemic rules. We are at a juncture where anything can still happen and there isn't a mainstream approach to this challenge. Significant strides in flexible work practices are present, but to further enhance and revolutionise the concept of working time, rapid changes will need to occur in industries that are less innovative in terms of agile work solutions.

After describing the current state of the art, it is considered appropriate to analyse long-term impacts and trends that are characterising (and will do even more in the future) these shifts.
First of all, the implementation of flexible practices should imply a change in the corporate culture: allowing workers to better manage their time and organise their work, companies can show all their attention and care toward employees. Nowadays organisations have to realise the increased importance of work-life balance and the high demand of flexible solutions, after that the pandemic period has revealed their effectiveness in the majority of cases.
Being able to fastly realise such workers' preferences will allow companies to attract talents and retain them; otherwise, a lack of awareness on the part of companies regarding the crucial importance that workplace flexibility holds for workers today could reinforce the phenomenon of so-called "Great Resignation", also known as quitting.
This global trend, characterised by the "mass voluntary exit of employees from their employment obligations[12]", is driven by several factors, including the increased relevance of well-being and the need to conciliate work and personal life. The sooner employers realise that employees can effectively maintain productivity and achieve performance expectations also through alternative work arrangements such as telecommuting and hybrid work models, the better will be for companies and workers as well.
Furthermore, these practices should require a different relationship between employers and employees: since there is low possibility to fully control employees working remotely, managers should establish a trusting relationship with workers, verifying occasionally that short-term assignments have been completed.
In order to consolidate smart working as a widespread practice, digital infrastructure reinforcement appears to be necessary: only by ensuring that employees have access to the necessary tools and technologies regardless of their location, private organisations as well as public institutions will transform flexible working into a solution characterised by inclusion and equity.

[12]https://www.mga.edu/news/2022/04/what-is-the-great-resignation.php

The last important aspect concerns digital skills: pushing training and development of such abilities will align workers on the same level of competencies, allowing them to communicate and work properly despite the low propensity and habit of some employees to use computer tools as the main working instrument.

This chapter had the aim to shed light on the relevance of work-life balance for employees, especially within the Italian labour market, through the support of reports and studies conducted by consulting firms, universities and other entities.
Evidence has confirmed this trend, demonstrating that today employees' priorities are focused on flexibility and balance between work and personal life. Several companies are interpreting such an important trend, implementing solutions for enhancing flexible and agile work.
On the other hand, especially in some industries, the situation has returned to pre-pandemic conditions.
In the next years, will be crucial for the Italian labour market the introduction of incentives for promoting more flexible solutions also within the more rigid or peculiar industries, avoiding a too high employees turnover in some industries ; furthermore, for allowing everyone to join flexible programs, the reinforcement of digital infrastructure around the whole country should be considered as a priority.

Chapter 2 - Literature review

After having highlighted the current relevance of flexible working within the Italian workplace, including employees' preferences and possible development trajectories, a review of what has been mostly studied by the literature so far about teleworking will follow.
The analysis of literature has been divided into 4 separate sections.
The first dimension explored is mostly related to working time: important studies concerning time management, overtime theory, relationship between working hours and productivity, use and measurement of time in teleworking will be cited; moreover, studies concerning blurring boundaries between work and life will also be summarised.
The second area we will delve into concerns the workspace. In this phase, studies regarding job satisfaction and other benefits of working in alternative places (other than the office) will be reviewed, as well as studies on the effectiveness of telecommuting as a tool to ensure employee well-being without sacrificing organisational productivity. Furthermore, the evolution of telecommuting, deeply affected by COVID-19 pandemic, will be explored, in order to highlight the role of the pandemic in accelerating changes regarding the conception and use of workspaces.
The third section of this review aims to identify the factors that, according to the previous literature, are most likely influencing employees' choices in terms of work-hour and -location arrangements. Hence, in this part also studies belonging to the psychosocial and behavioural field of employees' choices will be cited.
The last area of our review regards the value that employees assign to specific working arrangements: studies based on discrete choice experiments (DCE) will be cited, in order to establish how much value (often expressed as willingness to pay) workers are assigning to more flexible work schedules.

2.1 Time management literature

One of the most significant and pioneering contributions to the exploration of the temporal dimension of work activity was made by Pierce and Newstrom (1983). The state of knowledge just before their contribution was notably deficient in theories regarding flexible working hour arrangements, and reliable statistical data were lacking (Pierce & Newstrom, 1983). As a result, the knowledge regarding flexible working hour systems and their impact on employees' behaviours and attitudes was limited. Therefore, the goal of their study was to identify the key elements of flexible work schedules and to investigate how flexible hours affect employees' behaviours.

More in detail, in their research conducted through a survey, the authors presented respondents with various work schedule configurations, such as the option to start working between 7 and 9 a.m., in order to analyse the effects of such flexible schedules on job satisfaction, performance, absenteeism, organisational commitment, psychological stress, and other factors. The study's first surprising finding concerns the absence of a strong relationship between flexible work arrangements and employee job satisfaction; this result is in contrast even with previous literature (Pierce & Newstrom, 1983). Conversely, a relationship between employees' organisational commitment and flexible work schedules has been found. Moreover, evidence indicates that stress level is lower for workers under flexible working hours arrangements. Another notable finding is the significant relationship between performance and flexible schedules, indicating that greater flexibility in working hours is associated with increased employee performance. The implications of this research are particularly relevant to the design and implementation of flexible work hour arrangements. These arrangements should enable employees to recognize the autonomy provided and fully experience the flexibility offered (Pierce & Newstrom, 1983).

Nine years later, Jon Pierce (along with Randall Dunham) provided additional insights into this field, publishing a paper exploring the concept of compressed workweek, implemented by an increasing number of organisations in the latest years (Pierce & Dunham, 1992). The investigation has been carried out starting from the case of a police department, which after facing issues of insufficient coverage due to summer vacations of its officers, established a reconceptualisation of the workweek. Specifically, the department implemented a work schedule structured over 8 days, consisting of 4 days of 12-hour shifts followed by 4 days off; in this way, the department could maintain a high presence of officers during the summer, allowing employees to have many free days. Thus, the goal was investigating the consequences of such an arrangement on factors such as personal activities, behaviours and attitudes, stress and fatigue. First of all, results show that implementing a 8 days week (based on a 4 days on, 4 days off configuration) allows employees to dedicate themselves to non-working activities and to better balance their time between work and family responsibilities. This configuration also involves a higher degree of satisfaction regarding working hours. Moreover, giving 4 consecutive days off to workers means giving them the necessary time to recover and be more productive once they come back to work, even though a direct impact on an increase in performance is lacking (Pierce & Dunham, 1992).

Further evidence on flexible and compressed workweek schedules comes out from the paper of Baltes et al. (1999); the objective of this study was to evaluate the impact of flexible

workweek schedules on many outcomes. Concerning flexible time, evidence of work-related criteria indicates that productivity, absenteeism, satisfaction with job and working hours are connected by a positive relationship with flexible time schedules. Regarding the employee type, results indicate that managers and professionals are not affected by flexible schedules in terms of working hours, while employees are significantly affected by them. This might indicate that flexible schedules don't affect workers that already have a high amount of autonomy. Results regarding compressed workweek support the hypotheses of a positive relationship between compressed workweek schedules and supervisor performance ratings, job satisfaction, and satisfaction with work schedule. Anyway, there is no evidence of a significant relation with absenteeism and productivity. Overall, the effects of flexible time and compressed workweek schedules have been found consistent with initial hypotheses, even if there are some surprising exceptions: in the case of flexible time, self-rated performance was not significantly impacted, while under the situation of compressed workweek schedule, an unexpected finding was the lack of effects on absenteeism. This latter result indicates that, on the basis of answers received, neither an alternative arrangement such as the compressed workweek affects employees' motivation to work (Baltes et al., 1999).

The first review of time management literature was made a couple of years later (2007) by Claessens et al. The first important insight coming out from the mentioned study is the complete lack of theory about time management, namely the question "how does time management work and why?" remains still unanswered (Claessens et al., 2007). Moreover, neither a clear and unique definition of "time management" was found in previous research. Authors, taking into account what emerged from the literature, suggest a definition, establishing a strong connection with aim-related activities: "behaviours that aim at achieving an effective use of time while performing certain goal-directed activities", stated Claessens (2007, p. 262). Studies reported confirm evidence mentioned above regarding the positive relationship between time management and perceived control of time, job satisfaction, health. Overall, Claessens et al. affirm that time management needs more rigorous analytical methods to carry out further studies, and the topics to be explored and analysed more should be the processes involved and the effects on perceptions, feelings and performance.

Another crucial element in time management literature is productivity. How do working hours relate to productivity? What impact does altering the temporal aspects of work have on employees? Is there a point where productivity declines after a certain number of hours worked? These are some of the questions we will explore by examining findings from previous research. Understanding how these relationships work is essential for the

implications in terms of working hours and related arrangements that employers should implement.

Shepard and Clifton (2000) made a significant contribution to this field of research by attempting to quantify the impact of overtime hours on productivity. As cited in their paper, there are several studies that analysed the relationship between shorter work hours and an increase in productivity (Schor 1991, and other studies). Reasons for explaining such an increase might be related to a higher level of motivation or a lower level of stress and a diminution in idle time (Shepard & Clifton, 2000). Moreover, the authors state that, despite numerous studies demonstrating the impact of worked hours on productivity, a production-function model to quantify the effects of hour intensity is still missing. Results indicate that a 10% increase in overtime working hours would involve a 2-4% decrease in productivity across the majority of manufacturing industries, even if few of them appear to be unaffected by such a decrease. Subsequent studies (Pencavel, 2014) confirm this evidence and affirm that, since extending working hours leads to a decrease in productivity rather than an increase, employers should consider reducing work hours, showing a commitment to addressing employees' stress levels. Collewet and Sauermann (2017) state that, as total working hours increase, the time required to handle a single activity (in their study conducted in a call centre, time for a single call) also rises. While this may lead to higher quality output, it inevitably reduces the overall quantity completed in a day, thereby decreasing worker productivity. Overall, the consistency of productivity loss in the case of overtime and longer working hours has been demonstrated by several researchers (Chang & Woo, 2017).

Beyond observing the relationship between productivity and working hours, it is worth analysing the effects of overtime and longer hours on employees' satisfaction and well-being. Golden and Wiens-Tuers (2006) deeply studied these effects, shedding light on the fact that, even though additional working hours bring an increase in income for employees, this doesn’t involve higher happiness; moreover, the work-life balance becomes more difficult to achieve. Also, distinguishing between voluntary and mandatory additional work, the authors (Golden & Wiens-Tuers, 2006) demonstrated that increased stress and work-family imbalance are even higher in the case of mandatory overtime work.

Among the various changes shaping the modern workplace, one of the most significant is work intensification, which has been on the rise since the 1990s (Green, 2001; cited in: Green, 2004). Work intensification refers to the process by which employees experience an increase in the amount of work they are expected to perform within a given period of time; this can

involve longer working hours, faster work paces, more tasks to complete, or higher performance expectations. Green (2004) studied the impact of rising work effort on employees' well-being and mental health, finding that the rise in work strain and the fall of job satisfaction are related to work intensification, whose existence has been reconfirmed by more recent data. Furthermore, work intensification is closely linked to technological tools that on one hand are driving spatial and temporal shifts in the contemporary workplace, but on the other one might encourage a more intense work environment, marked by the constant pressure to work faster or harder (Chesley, 2014).

More specifically, information and communication technologies significantly accelerate the pace at which work tasks can be completed, heightening the "level" of work intensification. This pace increase directly leads to a more stressful experience for workers (Chesley, 2014). The study's results confirm a link between ICT-related tasks and a faster-paced job experience, also emphasising that these conditions are linked to higher stress and work strain.

Closely tied to technological changes, it's important to note how the concept of time is redefined in the context of teleworking. Telework, even though mainly characterised by a spatial shift from the traditional workplace, offers to its users many temporal benefits: employees can save time from reducing time wasting linked to commuting and preparation time. The direct consequence is that workers can be more available during the day and more productive (Steward, 2000). Anyway, it should be noted that an increase in availability and a different definition of working time doesn't necessarily involve more well-being. Steward's study (2000) sheds light on the fact that, with teleworking, traditional time boundaries between work and family have been blurred. In other words, many employees struggle to establish time boundaries while working remotely, often ending up working for extended periods, causing frustration and anger to teleworkers. The blurring boundary theory has been adopted by several researchers, as a theoretical lens for analysing how easily and frequently employees are able to transition between work and life roles (Ashforth et al., 2000. Cited in: Field & Chan, 2018). The direct consequence is verifying how different degrees of work-life integration impact well-being, and how individuals create and navigate the boundaries between work and life (Field & Chan, 2018). The study conducted by Field & Chan (2018) confirms that Information and Communication Technology had a relevant role in blurring the boundaries between work and life time; this has implications for human resource management, whose role should be ensuring a proper balance between technology availability and individuals' demands both in their working and family life (Field & Chan, 2018).

Additionally, telework has impacted the way time is measured: respondents indicated that working remotely makes it more challenging to accurately track and assess the time spent working (Steward, 2000). This complexity mainly stems from the fact that employees working from home often account for time spent on personal or domestic interruptions in a way they wouldn't need to in an office setting.

Thulin et al. (2019) investigated how the evolving conditions of home-based telework are impacting employees' perceptions of time pressure and time use control. Evidence coming out from their study demonstrates that there are no substantial connections between individuals' time control and their teleworking practices or employment types. Hence, teleworking can be adopted as a strategy for time-pressed workers to keep control of their time both in working and family life (Thulin et al., 2019).

As already mentioned, the impact on flexible work arrangements of COVID-19 pandemic has been significant, also altering the number of hours worked remotely. Fan & Moen (2021) studied how the pandemic has altered working time, both for those workers who were working remotely even before the lockdown and for those who never experienced remote working before.
The findings demonstrate that, for the majority of remote workers, the number of working hours has remained similar; the group of workers, who had never worked remotely before, reporting an unvaried number of working hours has a slightly lower percentage compared to the first group. Anyway, evidence suggests that women who didn't work remotely before the pandemic experienced a higher increase in the number of working hours remotely; this result can be explained by a lower ability to bargain good work-time arrangements compared to men, as well as by the fact that, having more home responsibilities, they are more affected by distractions and interruptions, resulting in a lengthening of their working hours (Fan & Moen, 2021).

2.2 Space management literature

After a review of what literature has explored regarding the theme of time management, this section aims to focus mostly on the spatial dimension of work. This entails a thorough analysis of flexible working arrangements in alternative locations, including studies on the effectiveness of remote workplaces such as teleworking and the satisfaction of employees participating in these opportunities. For doing so, it is considered necessary to cite the research review made by Bailey et Kurland (2002), which analyses some of the changes telework has brought in terms of concept of work and workplace. First of all, the authors try

to answer the following questions: who teleworks? Why? And what happens when they do it? The evidence underscores the difficulty of obtaining a straightforward answer: defining and identifying teleworkers is often challenging, especially because many workers practise teleworkers few days per week (Bailey & Kurland, 2002). Another relevant aspect highlighted in the research is that several empirical studies on teleworking are lacking links related to organisational theories, hence authors suggest that future researches should provide more theory-related studies. Siha and Monroe (2006) confirm such a lack of theoretical elements, stating that future papers should focus on how organisations should successfully implement teleworking.

A key aspect of the following research involves detailing the evolution of teleworking over the years and identifying the events that have significantly impacted its growth, particularly highlighting the role of the COVID-19 pandemic.
A couple of years before the pandemic, Felstead (2012) stated that the era of working solely in a fixed location was coming to an end, also thanks to the important role played by connectivity, which allows workers to be virtually present regardless of their real location. Felstead's study discusses the consequences of spatial changes, examining how individuals adapt to working in a range of different locations. One of the most relevant findings concerns a more difficult integration of new employees into the organisational community, derived from the higher geographical dispersion of workers. Additionally, evidence suggests that there is a growing trend toward adopting shared office spaces, where resources are utilised collectively on an as-needed basis, with "hot desking" becoming increasingly prevalent. This transition reflects broader shifts in work habits, highlighted by the rising number of employees working from home. To thrive in various work environments, employees must develop self-discipline and adaptability. However, despite an expanding body of literature on evolving workspaces, significant gaps in understanding persist and should be covered in following studies (Felstead, 2012).
In 2020, the COVID-19 pandemic emerged and immediately transformed workers' habits regarding work spaces, bringing about changes that would remain stable over time, even after the end of the health emergency: as reported by Barrero, Bloom and Davis (2023), the number of fully remote workers in 2023 has quadrupled compared to 2019.
This significant change offers new opportunities, particularly for workers living in remote or economically disadvantaged areas, as well as for individuals who face challenges in commuting due to mobility impairments or family caregiving responsibilities.

These opportunities might bring new people to work, expanding labour supply rates (Barrero, Bloom and Davis, 2023).

Moreover, the spread of virtual work practices increased when organisations realised it was also cost-saving for employers to exploit connectivity having a lower number of full-time in-presence employees (Spreitzer, Cameron, & Garrett, 2017 cited in: Kniffin et al., 2021). An important consequence of changing space of work is that many employees have to learn to work in a completely different way from the one of previous generations (Kniffin et al., 2021).

Jamal et al. (2021) used the job demands and resources theory to examine their role in contributing to strain or well-being outcomes among remote employees. The results indicate that factors such as workload pressure, task interdependence, professional isolation and family interference represent job demands causing stress for full-time mandatory teleworkers. On the other hand, schedule flexibility, autonomy and availability of technology resources represent job resources enhancing work-life balance, therefore make teleworkers more productive and more satisfied.

However, it is important to emphasise that the pandemic has not affected all employees in the same way, as they do not share the same characteristics. In this regard, it is useful to mention the research by Donati et al. (2021), which aims to study whether different groups of workers share the same perceptions of telecommuting's usefulness and effectiveness. The initial finding is that employees with prior experience in remote work are the ones who value telecommuting the most, citing its simplicity, time-saving benefits, and increased productivity and effectiveness.

This suggests that previous experience with remote work makes employees less likely to dislike telecommuting (Donati et al., 2021).

Moreover, workers belonging to different categories show different ability to cope with events deriving from the pandemic; more in detail, the difference between individuals mainly working alone and individuals performing their activities within a team, indicates that social support has a positive influence on working from home. In other words, this means that social interactions among remote workers enhance their well-being and job satisfaction (Donati et al., 2021).

Another, somewhat clear consequence of changes in workplace locations concerns the distance from the office to where employees choose to live when they are no longer required to work in the office traditionally but they lean towards hybrid or fully remote working arrangements. A study conducted by Bloom et al. (2024) shows that, in the last 4 years, the average distance between workplace and employees' habitation has risen from 10 miles up to

25 miles or more. Moreover, the proportion of workers living more than 50 miles from their workplace has surged to 5%, compared to approximately 1% before the pandemic. Examining gender differences, the proportion of women living farther from their employer is, on average, slightly higher than that of men, particularly since 2023. Regarding wage differences among employees, the results indicate that, on average, workers earning $250,000 or more increased their distance from the workplace from 11 to 42 miles, while those earning $50,000 or less saw the distance rise from 10 to only 16 miles. This suggests that individuals with greater economic resources are able to choose a greater distance from their workplace, highlighting the strong link between personal autonomy and the ability to live farther from work (Bloom et al., 2024).

Another study conducted by Franken et al. (2021) during the pandemic provides valuable insights into virtual workspaces when the transition is not voluntary but driven by external factors. First of all, some employees affirmed that their home set-up was more favourable to work and well-being than their office set-up; hence, the shift towards a remote workplace would enhance their productivity and well-being. The relevance of this observation is that employees view the work environment as a resource capable of reducing work-related stress (Franken et al., 2021). Conversely, the blurred distinction between work and personal life represents one of the most relevant threats when employees are shifting their workplace from office to home.

Babapour et al. (2022) affirm that one threat of the modified space of work concerns the meaningfulness: employees adopting telecommuting risk to lose sight of the broader context within the organisation and how their work aligns with the overall organisational goals. This threat is motivated by the fact that remote workers might be “closed in a bubble” and more focused on their individual activity, losing touch with the external environment.

Moreover, another risk related to teleworking is the low development of competencies, because of fewer chances to receive feedback on tasks, diminished support and guidance, and less interaction with supervisors and colleagues compared to working in an office (Babapour et al., 2022). Overall, this study suggests that the days of a “one-size-fits” office-based work setup are behind us, preparing the way for hybrid and flexible work models that can guarantee customisation to their adopters.

A topic deserving of dedicated in-depth analysis is the job satisfaction and productivity of remote workers. As already stated by Bailey et al. (2002), the way teleworking and job satisfaction affect each other is not completely clear. In fact, even if many benefits related to personal satisfaction in adopting flexible work arrangements have been found, such positive

effects might be compensated by worsening relationships at work and the sense of individual isolation (Cooper & Kurland, 2002; Ruppel & Harrington, 1995. Cited in: Golden et al., 2005).

The study of Golden & Veiga (2005) aims to resolve such an inconsistency, in order to identify a clear answer about telecommuters' job satisfaction.

Their results indicate that, initially, the amount of hours worked remotely increases proportionally the level of job satisfaction; however, after a specific quantity of hours it becomes quite stable, suggesting that the relationship is complex. Therefore, the amount of time an individual chooses to telecommute boosts job satisfaction up to a certain point, beyond which the worker gains no further benefits in this aspect. Moreover, workers who are less dependent on others or have higher work autonomy tend to report greater satisfaction compared to others.

Subsequent studies (Gajendran & Harrison, 2007) affirm that there are no direct telecommuting's negative effects on work relationships, while the effects on productivity and job satisfaction are small but positively denoted.

A further contribution to the same area is given by Jamal et al. (2021), whose aim is to determine the effects of work-life balance on teleworkers' job satisfaction, within the constraints of mandatory telecommuting imposed by the pandemic. The evidence suggests that work-life balance is strictly related to teleworkers' job satisfaction, in fact the former positively affects the latter; moreover, previous teleworking experience positively moderates such a relationship.

Another important resource, defined by Jamal et al. as the premise for ensuring good work-life balance, is represented by job autonomy, which has demonstrated also a direct positive effect on job satisfaction.

Concerning the productivity perceived by employees, Thomas et al. (2022) affirm that employees' perception is that working from home involves a strong positive effect on their productivity and creativity. Such a positive effect is motivated by an alignment in personal values by workers adopting telecommuting (Thomas et al., 2022). In other words, this study suggests that employees become more productive, even when working outside the traditional workplace, if they can align their values with those of the organisation.

In summary, the studies referenced above show that working from home enhances employees' job satisfaction and strengthens their ability to maintain a healthy work-life balance, all without compromising their performance level.

2.3 Factors affecting telecommuting behaviour

After having described in a general way which are the impacts of flexible working practices (such as telecommuting) on employees' productivity, well-being and job satisfaction, in this section of the chapter the aim is to identify the factors that, according to the previous literature, are most likely influencing employees' choices in terms of work-hour and -location arrangements. The relevance of such an operation can be motivated by the attempt to identify some predictors that indicate, with a good amount of probability, which may be employees' future decisions in terms of working arrangements. This represents an important contribution, since current literature has offered limited insights regarding factors influencing employees' daily choices to work from home or the office, especially during the pandemic (Shao et al., 2021). Moreover, the necessity to reliably predict telecommuting demand has been highlighted even by previous studies, in order to evaluate the impacts of policy choices (Mokhtarian and Salomon, 1994).

In doing so, previous studies and research from literature have been analysed and gathered on the basis of the kind of factors affecting telecommuting behaviour. More in detail, factors coming out from the mentioned studies have been organised into three main areas:

- Personal factors, including elements such as age or gender, but also personality, attitude, values and other psychological factors.
- Family factors, including aspects such as being married or not, the presence of children at home or elders to assist, the type of habitation and the possibility to work from home without distractions.
- External factors, such as job-related factors (working conditions and tasks assigned), the presence of services (such as internet provision, libraries, restaurants, ecc) in the neighbourhood where the alternative workplace is located, as well as organisational related factors (management support, organisational culture).

As stated above, the first area identified includes all the elements related to personal factors. Mokhtarian and Salomon made a relevant contribution to the research, through the publication of several papers; their research activity started with a series made of three papers called "Modelling the choice of Telecommuting", from 1994 to 1996.

In the first paper (Mokhtarian and Salomon, 1994), a distinction between facilitators, drives (or motivators) and constraints of telecommuting has been made; facilitators and drives are factors increasing the probability that workers will decide to telecommute, while constraints are factors lowering such a possibility.

More in detail, identified motivators related to the personal dimension are: independence, leisure desire, ideology-related and mobility limitation. Independence, the first factor that motivates telecommuting choice, can be easily defined as the desire to perform working activities mostly independent of supervision, and might also involve introversion or misanthropy. Leisure desire can be explained with the will to spend more time for personal activities such as hobbies or passions. Ideological motivation represents an important element, since the decision to telecommute may be motivated by personal values; for instance, a worker may be concerned about environmental sustainability, and consequently, working from home would be the ideal choice to contribute to reducing pollution. The last driver identified concerns mobility limitation due to temporary or permanent disabilities, which hinder workers' ability to commute.

On the other hand, personal constraints are related to the psychosocial dimension. The first element, namely interaction needs, it includes the desire of workers to interact with others, both peers and supervisors; this desire may be motivated by the need for having discussion on technical matters as well as generate creative ideas, or by the need to promote their image as a consistently present and hard-workers employees, thereby enhancing their reputation. The lack of discipline involves the inability of workers to properly arrange their working-time and related assignments without the direct supervision of managers. Risk aversion can be explained by the avoidance of visibility related to the seek of telecommuting: those who don't want being controlled, might avoid asking for such flexible arrangements. The last element, perceived beneficial commute, refers to the perception that, separating spatially and temporarily the work from home, gives them some utility, since they are distinguishing two important parts of their life. The stronger the intention to separate these two worlds, the lower should be the probability of telecommuting.

After the development of a conceptual model described above, the authors in the last paper of the series "Modelling the choice of telecommuting" include also gender and age as individual characteristics, stating that there is no significant difference in estimated mean age between telecommuters and non-telecommuters, as well as the difference in the proportion between men and women choosing telecommute is not statistically significant (Mokhtarian and Salomon, 1996). Similarity in estimated average age between workers choosing to telecommute or not has been also confirmed by subsequent studies (Walls et al., 2006; Singh et al., 2013). Further evidence concerning the gender variable has been brought by the same authors in their following research (Mokhtarian, Bagley and Salomon, 1998): on average, women tended to rate the benefits of telecommuting more favourably than men. Moreover,

introducing a distinction between rates of preference and rates of choice for telecommuting, women seem to face more limitations than men. In fact, even having a stronger preference than men to adopt telecommuting, the choice rate is quite similar, demonstrating that women are not free as men to follow their desires (Mokhtarian and Salomon, 1996).

The interaction need, mentioned before as one of the constraints, has been further analysed in contemporary studies, resulting as one of the most frequently cited reasons for deciding not to telecommute, driven by the desire to share information with others and to socialise with colleagues (Bèlanger, 1999).

Another important factor related to the personal dimension of employees is represented by their educational level, which significantly affects employees propensity and frequency to telecommute (Walls et al., 2006). Previous research on education demonstrated a relationship between telecommuting and employment in occupation with high education levels (Bhat and Popuri, 2003).

Concerning employees' willingness to have a sustainable lifestyle and reduce their own environmental footprint, their decision to minimise the use of polluting means of transportation, such as cars, translates into a stronger preference for telecommuting (Bhat et al., 2008).

About self-discipline, results of the paper confirm that, for those workers perceiving a lack of self-discipline, the probability to prefer and choose unconventional work arrangements such as telecommuting is quite low (Bhat et al., 2008). Thus, the lack of self-discipline can be confirmed as one of the most relevant constraints for telecommuting, within the personal factors.

The second area identified concerns all the factors related to the family dimension of workers. Starting from the seminal contribution provided by Mokhtarian and Salomon since 1994, the first drive identified is the desire to spend time with the family, eventually driven also by the necessity to assist children or elders; on the other hand, the main constraints are household interaction problem and unsuitability of home environment. The former refers to negative consequences brought by possible distractions that hinder workers' ability to focus on their work when telecommuting, while the latter is more focused on the physical characteristics of the habitation, namely the possibility to work in a comfortable place having also technological tools to support the working activity.

In particular, the impact of children has been thoroughly examined to determine whether it acts as a motivator or a constraint: on one hand, the need to care for children encourages workers to prefer telecommuting; on the other hand, providing this care may create a barrier if it prevents them from working effectively and without distractions.

Mokhtarian and Salomon (1996) state that the percentage of telecommuters with children under 6 years old is 8% higher than that of non-telecommuters with children in the same age group. Furthermore, when analysing the presence of children between 6 and 15 years old, the percentage difference between telecommuters and non-telecommuters is not statistically significant. This suggests that, especially when having younger children, workers are more inclined to prefer and choose telecommuting. Contrary to the previous statement, Jang et al. (2006) argued that the presence of children reduces the likelihood of workers to choose telecommuting.

Worth noting that workers with children at home demonstrated to appreciate benefits of telecommuting (such as stress reduction and family benefits) more than workers without children (Mokhtarian and Salomon, 1998). Moreover, workers with children mentioned more than workers without children the household distractions as a significant constraint.

As established by previous studies (Abdul Azeez and Supian, 1996), married workers are more likely to prefer telecommuting compared to their single counterparts. Lim and Teo (2000) have tested such a hypothesis, finding a weak - but consistent- relationship between marital status and a stronger preference for telecommuting.The authors suggest that the relatively weak relationship can be explained by respondents potentially relying on grandparents or domestic helpers for childcare, letting them free to work also from the office. Subsequent research (Bhat and Popuri, 2003) confirm that marital status positively influences both the decision to telecommute and the frequency of telecommuting, indicating that married individuals are more dedicated to household responsibilities than their unmarried counterparts.

Another interesting factor, namely the effect of household size on telecommuting, has been analysed by Bhat et al. (2008), shedding light on a quite complex dynamic, since the study just mentioned analyses both the choice and the likely frequency of telecommuting.

On one hand, as the size of the household increases, there is a decrease in the preference for home telecommuting as the sole work arrangement throughout the week; on the other hand, with the increase in household size, there is a preference for a flexible model that includes telecommuting several days a week compared to other alternatives. This ambiguity has been

motivated by the fact that, on one hand, a larger house might mean more people living in it, leading to increased distractions for workers; on the other hand, a bigger house may come with more home responsibilities, prompting workers to choose telecommuting to manage these duties.

Further evidence from the study of Bhat et al. (2008), concerns "employees familial inclination", specifically the desire of workers to spend more time with their family: this inclination brings to a higher preference for telecommuting, resulting as a consistent motivator. Anyway, this preference can be associated only with a medium frequency of telecommuting, demonstrating that workers want to balance time with the family and time away.

Additional information comes out from the paper published by Shao et al. (2021), which analyses employees' choice on next-day work location in order to alleviate stress. More in detail, the study focuses on stressors related to work-family boundaries during the pandemic: although the study pertains to a very peculiar and limited period, some useful insights will be presented.

In fact, the results indicated that employees who experienced more work–family boundary stressors on a given day, were more likely to work in the office rather than at home the following day. This evidence confirms the constraint that households might own, given possible distractions or space unsuitability that may cause stress to workers trying to accomplish their duties remotely.

The final area identified concerns all the external factors that may affect workers' propensity to choose telecommuting, including especially job-related factors and provision of services in the neighbourhood or town where the alternative workplace is located.

To effectively discuss this group, it is useful to revisit the seminal works of Mokhtarian and Salomon (1994, 1996a, 1996b). The main drives emerging from the conceptual model are work-related factors such as the desire to get more work done: employees who find it difficult to be more productive at work, or having too many distractions at the office, will increase their propensity to choose telecommuting. On the other hand, several potential constraints are defined, related to the organisation or to job characteristics. In the first sub-group (organisation-related) are included two factors: lack of employer support and managerial disapproval. The lack of employer support concerns the implicit or explicit obstacles set by the organisation to prevent the widespread adoption of telecommuting among its workforce.

Managerial disapproval is closely linked to the previous factors, but specifically pertains to the behaviour of the direct supervisor, independent of the employer's overall stance.

Conversely, most important constraint factors within the job-related group are job unsuitability and unavailable technology. Jobs can be unsuitable due to the fact that some of them are location-dependent, thus it is very hard to practise telecommuting; this happens, for instance, in the case of goods delivery or brain surgery (Mokhtarian and Salomon, 1994).

Technology unavailability indicates the lack of advanced equipment or high-speed data transfer capability, which might be important for carrying out advanced technological operations; if the alternative work-place (home or other remote location) doesn't offer to employees such technology, they will have a strong constraint.

Mokhtarian and Salomon (1996) made a comparison between job unsuitability and managerial disapproval, stating that managerial disapproval is a stronger constraint compared to job unsuitability, even though both are statistically significant. This evidence sheds light on the crucial role of management within organisations, suggesting that management resistance might be one the most difficult hurdles to overcome in implementing telecommuting.

Moreover, another relevant factor that may serve as motivator (or constraint) is job category; on the basis of occupation typology, as well as its related task and characteristics, it could be possible to state a higher (or lower) workers' propensity to choose telecommuting. According to Mokhtarian and Salomon (1996), Notably, managers are the most frequent telecommuters, with 23% working remotely, in contrast to 14% of professional/technical employees and 6% of clerical staff. This surprising evidence might be explained by the fact that managers can rely on greater autonomy and higher levels of trust from their superiors compared to the other groups. Moreover, subsequent studies (Mokhtarian et al., 2008) have demonstrated that managers are more inclined to adopt conventional working-hour arrangements, and if they choose to work exclusively remotely, they do it with a low frequency.

Also, according to subsequent studies (Mokhtarian and Salomon, 1998), constraints such as managerial disapproval and job unsuitability affect more strongly workers with lower educational levels or lower average household incomes, suggesting that less economic freedom and job prestige can lead to a lower likelihood of choosing telecommuting.

A sensitive factor, related to both family and job-related aspects, concerns the characteristics of the workspace. A deep analysis of workspace environment's characteristics can be found in the paper by R. Appel-Meulenbroek et al. (2022). In this study, working activities are

categorised into three scenarios: communication-related, concentration-related, and a 50-50 split. Based on the requirements of their tasks, workers are classified into one of these groups. The results suggest that most workers engaged in communication-related activities prefer working in the office, whereas those involved in concentration-focused tasks tend to work from home. More in detail, the research indicates that the main factors influencing workers' decision to prefer one workspace are noise perception, crowdedness on the floor and position of the desk in relation to walking routes (R. Appel-Meulenbroek, 2022). This research implies that employers aiming to bring their employees back to the office should offer suitable spaces for performing concentrative-related tasks.

Another job-related variable that has been analysed is whether workers are employed in the private or public sector. Bhat and Popuri (2003) found that employees in the private sector are more likely to adopt telecommuting, since they can benefit from more flexible schedules and often rely on advanced technological instruments. Moreover, authors investigated differences between part-time and full-time employees; findings, surprisingly, indicate that part-time workers are more inclined to choose telecommuting compared to full-time workers, as well as they tend to do it with a higher frequency. This evidence can be explained by the fact that part-time workers often engage in other activities throughout the day, leading employers to accommodate them with more flexible working arrangements. Walls et al. (2006) confirm such results, adding a comparison with self-employed workers: findings indicate that, even having a statistical significance, full-time and part-time workers under contract are about 20% less inclined to adopt telecommuting, compared to self-employed workers.

An additional drive introduced in the subsequent paper of Mokhtarian and Salomon (1996) is represented by overtime, expressed as hours of overtime the respondent worked within the last two weeks. The higher the number of extra hours worked by employees, the more workaholic they demonstrate to be, enhancing their inclination to telecommute (Mokhtarian and Salomon, 1996). Conversely, subsequent studies (Mokhtarian, Bhat and Vana, 2008) state that employees who have worked unpaid overtime in the past 6 months tend not to prefer frequent telecommuting, since they may want to be "noticed" by supervisors while working extra hours without compensation.

Bèlanger (1999) introduces a further factor that might act as motivator (or constraint) to telecommuting, analysing the role of "years with organisation": beyond the challenge of managing employees working remotely, managers may be worried that those workers might lose their sense of identification and commitment to the company. Therefore, some employers

may decide that only long-term employees can benefit from telecommuting, while newer employees, who still need to demonstrate their commitment and alignment with the organisation's purpose, should primarily work on-site. Nevertheless, the hypothesis has been tested, and results show that there is no significant difference between telecommuters and non-telecommuters in terms of the number of years spent within the same organisation. Hence, years with organisation doesn't represent a reliable constraint or motivator factor that affect telecommuting adoption. The theme of organisational commitment has been studied also by Lim and Teo (2000), who demonstrated a negative relationship between attitude towards telecommuting and alignment with organisation's purpose and values. One possible explanation, as suggested by the authors, is that employees with lower levels of commitment and identification with the company often prefer to maintain physical distance from the organisation's workplace, often choosing telecommuting as an alternative.

Lim and Teo (2000) suggest that also job insecurity can represent a constraint to telecommuting. Any changes within an organisation, such as economic and technological shifts that render certain skills obsolete, can heighten internal competition among employees. These effects contribute to increasingly unstable job positions for some workers, potentially involving a lower attitude to telecommuting. Results contained in the survey confirm that employees with high job insecurity are less likely to prefer and choose telecommuting (Lim and Teo, 2000).

Another crucial element that belongs to the external factors affecting the choice of telecommuting is represented by the characteristics of the neighbourhood (or town) where the alternative work-place is located. Mokhtarian et al. (2008) deeply studied the theme, analysing the relationship between neighbourhood built environment and tendency to working from home. The main variables chosen for this study were commute trip attributes (miles and minutes to work, average speed of the commute trip), neighbourhood characteristics (accessibility, provision of services as public transports, establishments as restaurants and libraries) and some personal-attitudinal factors. The first evidence concerns the positive impact of commuting time on the choice to adopt telecommuting: the higher the distance or the time required to reach the office, the higher the propensity of workers to prefer working from home. Such a result concerning commuting distance has been confirmed by subsequent studies: in their paper, Bhat et al. (2013) demonstrated that employees with a commuting distance longer than 20 miles are more likely to choose telecommuting and to do it more frequently.

Concerning perceived neighbourhood accessibility, results show that this variable is related to a low tendency to adopt telecommuting frequently, probably because employees find commuting less burdensome (Mokhtarian et al., 2008). While the number of eating-out places within 400 metres has a positive effect on telecommuting frequency, the density of institutional establishments (such as churches, libraries, post offices, and banks) has been negatively associated with the propensity of adopting telecommuting. Thus, these results suggest that neighbourhood characteristics might have quite complex and counteracting effects. For instance, enhancing regional accessibility might benefit home-based businesses but could diminish salaried employees' tendency for telecommuting. Also, increasing commercial density near residential neighbourhoods could boost the likelihood of telecommuting for some workers, while decreasing it for others.

On a similar levels moves the analysis of Bhat et al. (2013), which study the role of built environment and traffic zones: in addition to confirming the previously obtained results regarding residential accessibility, the study reveals that workers living in urban and suburban areas are more likely to have the option to telecommute compared to those residing in rural areas. However, when given the option, workers living in rural areas are more likely to choose telecommuting.

Analysing again the paper by Shao et al. (2021), worth mentioning two work-related stressors that can represent an important constraint from choosing telecommuting: workload and work coordination stressors. Results clearly indicate that employees who experience workload stressors at the office on a certain day, are more likely to work remotely the next day. Instead, work coordination stressors lead to the opposite consequence: findings indicate that employees experiencing work coordination stressors on a certain day are more likely to stay at the office on the next day. Anyway, the observed power of workload stressors is 7% stronger than the effects of work coordination stressors.

In the previous pages, several factors have been mentioned and analysed; our aim was also to identify potential lacks, in order to suggest further research and investigation on new factors.

Regarding the built environment and neighbourhood characteristics, all the factors mentioned concern property and activities outside the workplace. An interesting analysis might be focused on services provided by the organisation itself, in order to attract and motivate its employees to spend more time at the office without neglecting work-life balance. For instance, the presence of recreational spaces, gyms, wellness centres, and playrooms for

children inside the buildings held by the employer can be a strong incentive for employees to prefer working on-site rather than telecommuting.

Another aspect that could potentially be investigated concerns job replacement. Given the high internal competition within organisations, which, as we have seen, increases job insecurity and leads some workers to avoid opting for telecommuting (Lim and Teo, 2000), it might be interesting to study workers' choices in cases of jobs with a high risk of automation. The goal could be to verify whether workers who fall into categories at greater risk of automation in the coming years perceive this threat and, consequently, how their preferences and choices regarding telecommuting vary.

2.4 Valuing working arrangements

After a detailed review of the factors that affect employees' propensity and decision to telecommute, is considered relevant for our research to delve into studies related to the value that employees assign to alternative work arrangements. In other words, the aim is to understand how much valuable flexibility is, and to what extent workers consider it as essential; for doing so, the main technique adopted by literature is to verify, through the use of discrete choice experiments, workers' willingness to pay for flexible arrangements, including observing how much flexibility do they expect in front of variation in salary.

First of all, it's worth clarifying what an alternative working arrangement is; it involves a non-traditional job in one of the following dimensions: being hired by a specific employer (whether as a temporary worker or an independent contractor), working in an office with a flexible schedule, working from home, or having a completely irregular schedule, etc.

Such arrangements are extremely relevant for economists and policymakers (Mas & Pallais, 2020), since they are often mentioned as methods to enhance work-life balance.

One of the most important papers in this field belongs to Mas and Pallais (2017). In their study, more than 7 thousands of applicants have been interviewed and asked to choose between a traditional office position, working five days a week from 9 to 5, or a randomly selected alternative that could include various forms of flexibility. The first result is quite unexpected: most of the respondents don't value scheduling flexibility, neither the possibility to freely choose which days work nor the possibility to choose the amount of hours to work in a specific day (Mas & Pallais, 2017).

Moreover, workers expect to receive an additional wage compensation when working overtime. Another interesting finding is that employees generally do not appreciate jobs where employers have significant discretion over scheduling their work hours and days. To avoid such jobs, employees are willing to accept a wage reduction of approximately 20%. This evidence might explain the first result mentioned above: rather than being exposed to employers' discretion, workers usually prefer a well-defined and standardised work schedule that enables them to plan their personal and leisure activities in advance. Among the proposed alternative arrangements, respondents showed the highest preference for working from home, willing to forgo 8% of their salary for jobs that offer this option.

Concerning differences between men and women, results indicated that women are more likely to choose flexible work arrangements compared to men, and they have a stronger distaste towards irregular working schedules. Anyway, this difference between men and women preference is not large enough to fully explain the wage differential (Mas & Pallais, 2017).

Another paper that similarly explores this topic has been published by Maestas et al. (2018); the research aims to analyse workers' willingness to pay for a broad set of job characteristics, such as schedule flexibility and telecommuting. Findings indicate that, for workers, having the ability to set their own schedule is comparable to receiving a wage increase of 9%. Furthermore, telecommuting opportunities are perceived as beneficial but not essential, equating to a general wage increase of about 4%. Despite some variations in the study population and methodology, these results can be regarded as similar.

Further evidence coming out from this study (Maestas et al., 2018) concerns racial differences in the valuation of schedule flexibility: the results show that white workers perceive the possibility to set their own schedule as equivalent to a 10% wage increase, whereas non-white workers view it only as a 4% wage increase.

Workers' valuation of job flexibility has been explored also by He et al. (2019), by comparing application rates across different combinations of job flexibility and pay. More in detail, evidence demonstrates that application rates have been higher in the case of flexible jobs, hence workers value job flexibility (He et al., 2019). Another relevant finding highlights the difference in application rates between fully flexible jobs with low salaries and jobs with medium salaries but without flexibility, with a preference for the former. When comparing fully flexible low-salary jobs to high-salary jobs without flexibility, the difference is not significant. These results suggest that workers place a higher value on job flexibility.

Further evidence concerning the value of flexible schedules comes out from the research of Nicholas Bloom (et al., 2023). Consistent with previous research (Mas & Pallais, Maestas et al., He et al.), the paper clearly highlights that employees place high value on working from home option, since it reduces attrition rates by 33% and increases self-assessed satisfaction scores. Moreover, a distinction between managers and non-managers has been made: non managers were more likely than managers to choose working from home, report a positive effect of hybrid on their productivity, and exhibit lower quit rates (Bloom et al., 2023).

As already known, the pandemic had a profound impact on many aspects of life, and it's likely that the value assigned to working from home has also shifted in some way during and after this transformative event. This is the starting point for the research conducted by Lewandoski et al. (2022), which aims to analyse workers' willingness to pay for working from home and how may be affected by COVID-19 related risks. The results indicate that respondents prefer working from home rather than in the office, even though the total remote option is not the most preferred: the ideal combination chosen by respondents would be working from home 2 or 3 days a week, spending the remaining ones in the office.

Additionally, women generally prefer working from home slightly more than men (with a difference of about 3%); younger workers also tend to value remote work more than their older counterparts. Regarding the impact of the COVID-19 pandemic, the results indicate that workers who view COVID-19 as a threat are about 4% more likely to prefer working from home than those who don't perceive it as a significant threat. Furthermore, it's important to note that workers' subjective perception of COVID-19 related risks had a greater influence than objective data on occupational exposure.

Additional experiments by Lewandoski et al. (2023) confirm that workers prefer a hybrid schedule, opting to work from home 2 or 3 days a week rather than fully remote. They are even willing to forgo 4% more of their salary for this arrangement, compared to the total remote option (Lewandoski et al., 2023). Moreover, this paper explores the mismatch in preferences between employees and employers in the adoption of working from home. More in detail, evidence highlights the fact that workers are willing to sacrifice 5% of their wage for choosing hybrid work and 0.6% for fully remote options. Conversely, the wage cut employers expect to offer to potential employees is around 16.5% in the case of hybrid work and 25.3% in the case of fully remote work. These results, beyond highlighting different perspectives between employees and employers concerning the quantity of salary to be sacrificed, may be motivated by managers' concerns about productivity loss, as well as the increased monitoring

effort that supervisors perceive as required when employees work from home (Lewandoski et al., 2023). Lastly, also previous evidence concerning stronger preferences of women compared to men, and younger workers compared to older ones, are confirmed.

Additional evidence specifically concerning women willingness to pay for flexible works comes out from the research made by Bustelo et al. (2020). Interestingly, the study reports evidence in contrast with what found by Mas & Pallais (2017) regarding overall workers' value assigned to flexibility: this last experiment indicates a statistically significant willingness to pay for a flexible work schedule (Bustelo et al., 2020). Results also confirm women's stronger preference for flexibility, and suggest that women also appreciate part-time employment when the salary is fixed. Nevertheless, respondents don't want to combine flexibility with part-time employment: the benefits of flexibility are considered essential only in case of long schedules.

Overall, from the literature cited above it clearly appears that workers value flexibility and the option to work from home, with many of them willing to sacrifice 5% to nearly 10% of their salary for alternative arrangements. This trend is particularly strong among women and younger workers, who have demonstrated a higher willingness to pay. For women, this can be attributed to the frequent need to balance work and family responsibilities, making flexible opportunities especially valuable to them. Additionally, it's notable that workers most prefer hybrid arrangements (2 or 3 days at home, with the rest in the office), whereas fully remote schedules do not seem to be as appealing to them. Finally, the discrepancy in preferences between employees and employers highlights a significant obstacle to flexibility. Employees may be asked to forgo an excessive portion of their wages, or employers might choose not to offer flexible options at all.

Chapter 3 - A survey on individual preferences for flexible working conditions

3.1 Introduction

After a deep review of what literature has highlighted so far in terms of time and space management, as well as previous contributions related to factors affecting telecommuting behaviours and the value of flexible (or alternative) working arrangements assigned by employees, in this last chapter an empirical study will be conducted.

Given our aim to elicit individuals' preferences toward remote work, we have chosen to adopt a stated preference method, based on the use of a survey. One of the most used stated-preference methods is Discrete Choice Experiments (DCE), which involves an experimental design where a series of hypothetical scenarios is created. These scenarios provide respondents with situations, called choice sets, which have at least two alternatives, defined by several characteristics, namely attributes. Respondents are asked to choose, for each choice set, which alternative they prefer, on the basis of the characteristics (attributes) provided in that specific set. Repeating this process several times, changing the alternatives in each set, helps researchers to identify which attributes are most important in explaining participants' preferences among the presented alternatives. As stated by Soekhai et al. (2019), in recent years the number of empirical studies conducted through the use of DCE has been increasing, especially in the field of health economic research, analysing the elicitation of views on diagnosis, treatment and care, as well as preferences of health personnel.

This econometrics technique finds its roots in the "random utility theory": assuming that all the individuals are rational and want to maximise their utility, their aim should be to choose the alternative that gives them the higher payoff. Moreover, this technique allows to estimate marginal valuation of attributes, as well as individuals' willingness to pay (WTP) for specified attributes. In other words, DCE makes it possible to determine which characteristics have the greatest impact on respondents' preferences and how much money they are willing to give up for achieving a better level of a specific attribute. In our case, the aim of the study is to analyse which factors are playing a pivotal role in determining individual preferences related to flexible work, and to estimate the willingness to pay for getting more flexible work arrangements.

In order to design a discrete choice experiment effectively, several stages need to be followed, as illustrated in Figure 3.1.

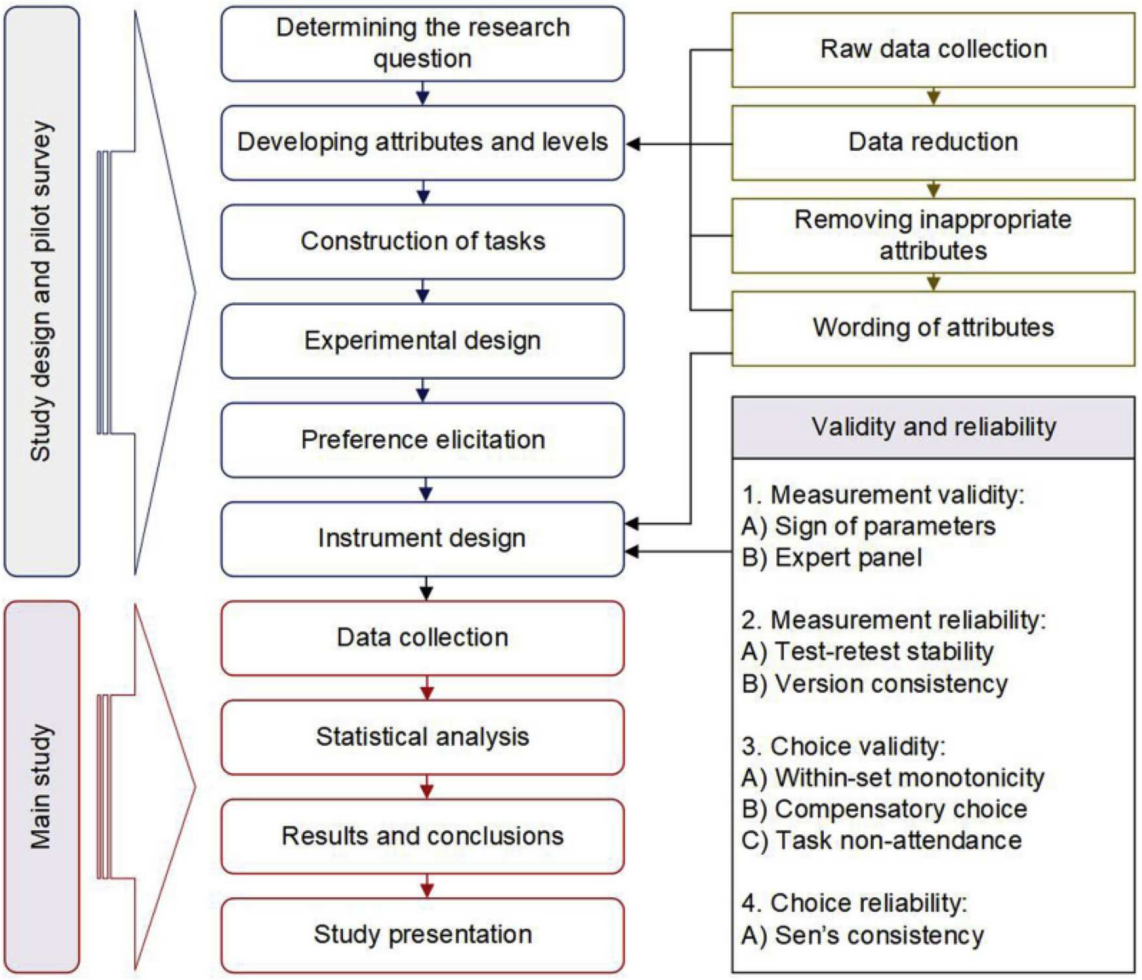

Figure 3.1: DCE Flowchart. Source: Sarikhani et al. (2021). A protocol for developing a discrete choice experiment to elicit preferences of general practitioners for the choice of specialty. *Value in Health Regional Issues, 25*, 80-89.

3.2 Methodology

First stage: determining the research question

As already stated, individuals might have different preferences regarding work arrangements: The previous chapters showed that flexibility is a key value for many individuals; however, it is not confirmed whether the spatial aspect takes precedence over the temporal one
Our aim, therefore, is to carry out a statistical analysis providing reliable evidence related to the topics just mentioned. Our goal is to examine workers' preferences regarding work flexibility, with a focus on the temporal and spatial dimensions. Therefore, our main research question is "Which are the workers' preferences regarding work flexibility (in terms of time

and space flexibility)? ". In addition to that, we aim at exploring a second research question related to the contribution of the job automation to workers' preferences, in particular our second research question can be formulated as follows "To what extent job automation is considered a relevant aspect in determining workers' preferences in terms of space and time flexibility?".

Second stage: developing attributes and levels

One of the most important steps in designing a Discrete Choice Experiment is establishing attributes. As already explained, attributes refer to the specific characteristics used to describe the options in the choice experiment, and these can be either qualitative or quantitative. Researchers who conducted previous experiments (Szinay et al., 2021) affirm that, in order to effectively manage all the data, the ideal number of attributes should be around 5-7 units, even if there is not an official limit established for the development of DCE.
Furthermore, each attribute must have at least two levels, which represent variations in the quantity or intensity of that attribute. This allows for the development of alternatives where attributes are presented at different levels, and respondents are faced with trade-offs: basically, they need to decide how much of a particular attribute they are willing to prioritise, while simultaneously sacrificing a portion of another feature that they consider less important.
In our study, we have selected attributes that capture key aspects related to (flexible) work. As previously discussed, we believe that work should be analysed in both its **spatial** and **temporal dimensions**. Therefore, our primary attributes are centred around these two categories: the first attribute, "Working place", concerns the location where daily working activities are performed, while the second, "Daily working hours", describes the number of hours that an individual works during the day. In order to associate them to flexible work, also on the basis of insights and assumptions coming out from the literature review, both these attributes have been organised into three levels, also with the aim of designing alternative working arrangements with diverse intensity of flexibility provided;

- "Working place" can be defined exclusively as workers' office ("In-presence"), as a combination of remote work and in-presence work ("Hybrid"), or (it can be) exclusively as workers' home ("Remote");
- "Daily working hours" involves the possibility of working from 9 am to 6 pm without any possibility of starting sooner/later or working a higher/lower number of hours ("fixed, 9:00-18:00), the possibility of starting sooner/later to work, but always for an amount of 8 hours for day ("fixed, when you prefer"), or the opportunity to start

perform working activities whenever an individual prefers, and for a number of hours determined by himself ("flexible, when you prefer").

After having determined the attributes related to the temporal and spatial dimension of work, we have decided to introduce an attribute describing an important work-related factor that literature has identified as affecting teleworking behaviour: **commuting distance**.

Worth noting that this factor is related to both the dimensions cited above, because it can be examined in terms of its "temporal" aspect, which looks at the time required to travel to the workplace, and its "spatial" aspect, since employees must cover a specific distance to reach their job location. This factor is extremely important also taking into account the specific context we want to study -the Italian workplace- as this Nation has a strong in-presence culture which results in millions of employees commuting every day to get to the office (Jansen et al., 2024). Moreover, recent studies conducted by researchers for the European Commission (Armoogum et al., 2022) demonstrated that the average time for European workers spent commuting after the pandemic is around 60/70 minutes, including both the outbound and return trip; hence, we set a duration of 35 minutes (only to get there), as tolerable and realistic threshold for workers. In conclusion, we established two levels for the attribute "Commuting distance", on the basis of what just explained: "under 35 minutes for one-trip" and "over 35 minutes for one-trip". We expect that, especially in case of commuting distance over the chosen threshold, individuals prefer to choose flexible arrangements.

The fourth attribute established concerns the **salary** ("income") workers would earn getting the job described by each alternative; this attribute is extremely useful, since it allows us to study the value assigned to different forms of work flexibility. In fact, we will be able to assess the extent to which workers are willing to sacrifice a portion of their wage to join flexible working arrangements (*Willingness to Pay*), by introducing random decreases in their salary. As suggested by previous studies (Jost & Möser, 2023), we decided to express this attribute using percentages rather than absolute values, in order to avoid the potential bias of respondents with different income levels (due to different industries or occupations in real life) that might be influenced by the relevance of the proposed amount they should forgo to gain more flexible jobs. Therefore, the income levels chosen are: "current salary", "-10% of your current salary" and "-20% of your current salary".

The last attribute established regards the frequency and intensity of technology tools adoption ("Use of technology") in executing working activities. This attribute is relevant because it can significantly impact the level of work flexibility. For instance, a high level of technology use might facilitate remote work or at least more flexible scheduling, while a lower use could lower these opportunities. Furthermore, the use of advanced technologies might help workers

in a more effective and efficient execution of their tasks, increasing productivity and their ability to manage time. This attribute is composed of three levels: “low”, “medium” and “high”, depending on how much employees use technology during their routinary working days.

All the attributes and their related levels just conveyed are summarised in Figure 3.2.

Job Characteristics	Description
Working place	The place where your weekly working activities are located. It can be: - **in-presence** (you work only at the office, every day), - **hybrid** (you combine remote work with in-presence work, at least 1-2 days for each alternative) - **remote** (you work only from home)
Daily working hours	The number of hours you have to work and their distribution during the day. It can be: - **fixed, 9:00-18:00 (**You work 8 hours a day, starting at 9:00 and ending at 18:00) - **fixed, when you prefer** (You work an average of 8 hours a day, but starting your working activities when you prefer) - **flexible, when you prefer** (You freely choose the number of hours and when starting to work)
Commuting distance	The time it takes you, one way, to get to the office. It can be: - **under 35 minutes for one-trip** - **over 35 minutes for one-trip**
Income	The annual salary you receive getting this job. It can be: - **equal to your current salary** (Please, assume that your current salary is good, and if you are not currently working, imagine receiving a good salary) - **10% lower compared to the current salary** - **20% lower compared to the current salary**
Use of technology	The degree of automation in the job, referring to the frequency and intensity with which the job requires the use of technological tools (e.g., computers, artificial intelligence, machinery, tablets, robots). If you are working, refer to your current job; otherwise, imagine a job with various levels of automation. The use of technology can be: - **low** - **medium** - **high**

Figure 3.2: Attributes and Levels used in the DCE. Source: The Survey.

Third stage: construction of tasks and preference elicitation

After the establishment of all the attributes and related levels, the following step is to decide the way alternatives will be presented to respondents and how they have to choose.
In our experiment, each choice set will present two alternatives, and each alternative will always be defined by all the five attributes, adopting a full-profile task. Moreover, the opt-out option has been chosen: respondents will have the possibility to choose between two alternatives as well as to choose "None of the alternatives", in order to design a more realistic and theoretically credible scenario (Kontoleon & Yabe, 2003), where individuals are not necessarily forced to choose an unwanted alternative. Finally, with this decision, we will be able to better measure the true attractiveness of the alternatives and to assess individuals' preferences in absolute terms. An example of a choice task with an opt-out option is shown in Figure 3.3.

Job characteristics	Alternative A	Alternative B
Working place	Remote	Hybrid
Daily working hours	Flexible, when you prefer	Fixed, when you prefer
Commuting distance	Over 35 minutes	Over 35 minutes
Income	-20% of your current salary	-10% of your current salary
Use of technology	High	High

* 12. Based on the previous table, which option would you choose?

- ◯ Alternative A
- ◯ Alternative B
- ◯ None of the previous ones

Figure 3.3. Example of choice task. Source: The Survey.

Fourth stage: experimental design

Another crucial step of the DCE design is the experimental design, that is the systematic method adopted to create and present choice sets to respondents.
There are two ways for using this method: a full factorial design and a fractional factorial design. As stated in the study by Mangham et al. (2009), a full factorial design involves the generation of a number of choice sets with all possible combinations of attributes and levels, allowing to estimate all the interactions and effects between attributes; on the other hand, the fractional factorial design requires that the number of generated choice sets be reduced compared to the previous option, as long as the principles of orthogonality and balance are respected. The orthogonality principle, as explained by Mangham et al. (2009), requires that all the attributes in the generated choice sets are statistically independent (hence, uncorrelated), while the balance principle involves that all the levels occur with the same frequency, avoiding variance in the parameters estimates. We have chosen a fractional factorial design, in order to avoid generating an excessive number of choice tasks, which could have reduced the respondents' ability to stay focused and provide reliable answers; in fact, given the number of 5 attributes and 14 levels, the overall number of alternatives generated with a full factorial design ($3^4 \times 2 = 162$) would be too high. Previous studies (Hanson et al., 2005) suggest that the limit for the number of choice sets should be 18, therefore we decided to design 12 choice sets, generated using the statistical software R-Studio.

Sixth stage: instrument design

The questionnaire is divided into 4 sections: in the first one, some essential Demographic information is requested to segment the sample and analyse it based on specific individual characteristics; in the second part, the experiment is introduced, with a detailed explanation provided to the respondents about all the attributes, levels, and instructions on how to complete the survey. In the third section, a couple of questions concerning time management, workload, and career goals are provided. Finally, in the fourth section of the questionnaire, additional details about participants' living conditions, employment type and status, salary, and commonly used working skills are gathered. The total time required for completing the survey, as calculated by the platform used for its design, is around 15 minutes.

Seventh stage: data collection

At this stage, a crucial consideration must be done concerning the sample size; after a review of previous papers on DCE (Sarikhani et al., 2021; Alwosheel et al., 2018), we realised that the rule of thumb is commonly applied. Following this rule, there should be at least 10 observations for each attribute: hence, having 5 attributes as in our case, the minimum sample size should be around 50. Anyway, in order to conduct a more precise experiment with stronger evidence, able to provide valuable insights for policymakers, we targeted the number of 200 respondents, that is 4 times the minimum requested. Moreover, as already stated before, we aim to analyse respondents' preferences under the same cultural and legal conditions; therefore, given our intention to specifically investigate the Italian context, we decided to collect responses exclusively from individuals based in Italy, focusing on those aged 25 to 64 to ensure feedback from people within the working-age population.
To design the questionnaire and collect data, we used the online platform SurveyMonkey, conducting an online survey completely held in Italian (respondents' mother tongue), since we wanted to collect answers in the most reliable and valid way.

3.3 Statistical analysis

As established in the study by Sarikhani et al. (2021), Discrete Choice Experiments involve the use of random utility theory; the attributes established in our experiment become variables to be included in the utility function. Coefficients of the function are estimated assuming that the error term follows a logistic distribution. More in detail, according to utility theory, each alternative *j* provides individuals *n* with a certain level of utility *Unj,* composed of two factors: a systematic part *Vnj*, which depends on the attributes of alternative *j* and the characteristics of the individual *n)*, and a casual part, namely the error term εnj, which reflects all the unobservable factors influencing the choice. The utility *U* given to an individual *n* can be obtained as described in Figure 3.4.

$$Un = Vn + \varepsilon_n = a_1 + \beta_1 x_{1n} + \beta_1 x_{1n} + \ldots + \beta_m x_{mni} + \varepsilon_n$$

Figure 3.4: Utility function. Source: Sarikhani et al. (2021). A protocol for developing a discrete choice experiment to elicit preferences of general practitioners for the choice of specialty. *Value in Health Regional Issues, 25*, 80-89.

Naturally, individuals seek to maximise their utility by selecting the alternative with the most favourable combination of attribute levels. Thus, when faced with two alternatives, *j* and *k*, a rational individual will choose the alternative *j* only if it offers higher utility compared to alternative *k*.

The statistical model used for analysing DCE is a regression model such as the logit model, where it is assumed that the errors εnj are independent. The attributes of the alternatives and the characteristics of individuals are used to estimate the model's coefficients. Furthermore, the coefficients β have to be estimated and indicate the relative importance of each attribute level in making a choice between alternatives. If a coefficient β has a positive sign, an increase in the value of that attribute will increase the probability of its related alternative to be chosen.

Last, this model allows researchers to estimate the Willingness to Pay, calculated as a ratio between the coefficient of a specific attribute and the coefficient of the cost (in our study, the negative variation in wage); WTP permits quantifying how much individuals are willing to pay for improvements in a specific attribute.

3.4 Results

As already mentioned, the aim was to collect 200 answers roughly, which was four times the minimum requested on the basis of our attributes. At the end of the response collection phase, 219 respondents participated in the first part of the questionnaire related to demographic information, decreasing slightly in the other parts of the survey. The minimum number of complete questionnaires was 202, which is beyond our expectations and reinforces the strength of our findings. Table 1 reports demographic information about the sample participants, while Table 2 contains further information concerning the employment profile.

Table 1: Demographic characteristics.

Demographics	**N**	**%**		**N**	**%**
Gender			**Work style**		
Men	94	42.92%	Mainly in team	68	35.42%
Women	124	56.62%	Mainly independent	124	64.58%
Other	1	0.46%			
Age			**Living location**		
25-34	59	26.94%	Urban	97	48.02%
35-44	71	32.42%	Suburban	71	35.15%
45-54	61	27.85%	Rural	31	15.35%
55 or more	28	12.79%	Isolated	3	1.49%
Marital status			**Education**		
Unmarried	75	34.25%	No education	2	0.99%
Cohabitant	44	20.09%	Primary school	6	2.97%
Married	89	40.64%	Middle school	16	7.92%
Divorced	10	4.57%	High school	79	39.11%
Widowed	1	0.46%	Bachelor’s d.	45	22.28%
			Master’s d.	42	20.79%
			PHD or similar	12	5.94%
Children in house					
Yes	85	38.81%			
No	134	61.19%			

As can be observed, women respondents were in a number higher than men, while the age group more involved in the participation was the one between 30 and 44 years.
Moreover, we sought to understand the characteristics of respondents' residences, as literature suggests that factors such as building features (Bath et al., 2013) and the presence of children (Jang et al., 2006) in the household may influence workers' decisions to adopt flexible solutions. Results show that almost 62% of respondents don’t have children (under 14 years) in their same household, and the relative majority (48.02%) lives in urban areas, which

provide them with a comprehensive array of services such as restaurants, efficient transportations.

Table 2: Employment Profile.

Work Characteristics	**N**	**%**		**N**	**%**
Employment status			**Remote work frequency**		
Unemployed	25	12.38%	Never (always office)	108	55.96%
Student	4	1.98%	Hybrid (1 or 2 days)	37	19.17%
Employed (part-time)	49	24.26%	Hybrid (3 or 4 days)	30	15.54%
Employed (full-time)	119	58.91%	Remote (always from home)	18	9.33%
Retired/inactive	5	2.48%			
Salary (monthly)			**Risk perception due to automation**		
Below 1500 €	76	39.79%	Low	69	35.57%
Between 1500 and 2000 €	55	28.80%	Medium	94	48.45%
Between 2000 and 2500 €	29	15.18%	High	31	15.98%
Between 2500 and 3000 €	12	6.28%			
Above 3000 €	19	9.95%			
Employment type			**Firm size**		
Entrepreneur or freelancer	25	12.95%	Work alone	30	15,54%
Manager	24	12.44%	Under 10 workers	46	23,83%
Professionals	35	18.13%	10-49 workers	39	20,21%
Clerical and Service workers	57	29.53%	50-249 workers	29	15,03%
Skilled labour	24	12.44%	250-999 workers	17	8,81%
Other/Manual labour	28	14.51%	1000 workers or more	32	16,58%
Previous smart working experience			**Work style**		
Yes	97	50.26%	Mainly in team	68	35.42%
No	96	49.74%	Mainly independent	124	64.58%

An interesting data is provided by the table describing employment profile (Table 2): almost half of the respondents (49.74%) have never had prior experience with smart working, and the absolute majority (55.96%) do not participate in flexible work arrangements such as remote

work. These low levels of smart working adoption among respondents suggests that while there is a general trend of changing preferences among workers in Italy, providing them with concrete and effective opportunities for flexible work is more complex; the causes might depend on the nature of working activities, as well as organisational culture and employer resistance.
Moreover, we asked respondents the size of the firm and their industry, since also these might be factors affecting the adoption rate of flexible arrangements. In any case, the fact that flexible work arrangements are currently underutilised in small organisations, as well as in certain industries, does not mean that the topic is of no interest to the workers in question, and therefore does not affect the analysis of preferences we aim to conduct. We observe that the majority of respondents (23,83%) work in small companies, while the second largest group (20,21%) works in companies with less than 50 employees. Hence, respondents work especially within small and medium enterprises, where the expected implementation of flexible working practices should be lower compared to larger companies, as demonstrated by the research described in the first chapter (Osservatorio sullo Smart working del Politecnico di Milano, 2020).

Regarding the industry where workers mostly operate, Table 3 shows the results on the basis of our respondents' sample. Somehow surprisingly, the majority of respondents, that is 20%, work in industries not identified in the options provided, choosing therefore the "other" option. After it, the two most chosen industries were manufacturing, represented by 11,18% of respondents, and Information Technology with a percentage of 10,59.

A further important question regards the perceived risk of job substitution in the next 5 years, due to increasing technological advancements and automation; as recent studies (Mckinsey, 2023) these changes are leading to a growing shift in the demand for skills. Hence, our curiosity is to verify whether such a high or low perception might affect respondents' preferences and decision in terms of work flexibility. After having requested the main skills commonly adopted at work, we asked respondents to what extent they perceive their job is at risk of being replaced by new technologies within the next 5 years. The results indicate that almost half of respondents (48,45%) perceive a medium risk to be substituted, and 35% of them perceive it as low; this evidence suggests that our respondents, on average, don't perceive a high risk of job replacement in the next few years .

Table 3: Workers' industry.

In what industry do you work most predominantly?	**N**	**%**
Agriculture, Forestry, Fishing and Hunting	5	2,94%
Mining, Extraction of Quarry Materials and Extraction of Oil and Gas	1	0,59%
Public Services or Construction	5	2,94%
Manufacturing	19	11,18%
Wholesale and Retail Trade	13	7,65%
Transport and Warehousing	7	4,12%
Information Technology and Technology	18	10,59%
Finance and Insurance	12	7,06%
Real Estate, Rentals and Leases	4	2,35%
Professional, Scientific and Technical Services	9	5,29%
Administrative and Support Services and Waste Management and Remediation Services	3	1,76%
Educational Services	10	5,88%
Health and Social Assistance	12	7,06%
Arts, Entertainment and Recreational Activities	4	2,35%
Accommodation and Food Services	9	5,29%
Public Administration	5	2,94%
Other	34	20,00%

Once all the responses were collected, the results were imported into IBM SPSS statistical software to perform the discrete choice experiment. First of all, the dataset has been converted into a "long format", that is a data structure in which each observation is represented in a single row, with each respondent having multiple rows for different measurements or conditions. More in detail, given the number of 12 choice sets and 3 alternatives for each of them (A, B or none of the previous), we designed a dataset with 36 rows for respondents. Since the total number of complete responses in the choice sets part was 202, we obtained 7272 rows in total.

The dependent variable represented the respondents' choice among three options in the Discrete Choice Experiment: Alternative A, Alternative B, and None of the previous ones. In our analysis, the variable was coded as a dummy variable, where each of the alternatives indicated a value of 1 if the alternative was chosen by the respondent and a value of 0 if the alternative was not chosen.
The independent variables that might increase (or decrease) the probability of a certain alternative to be chosen, were derived from the attributes of the discrete choice experiment. All the levels and attributes mentioned before were coded as numeric dummy variables, where each variable took a value of 1 if the observation corresponded to a specific situation, and 0 if it did not.
In addition to the independent variables, the following control variables were included in the analysis (as covariates variables) to account for potential confounding effects:

- gender: converted into a dummy variable, where a value of 1 indicates male respondents and a value of 2 indicates female respondents
- age: organised into four age groups and subsequently coded numerically (25-34= 1, 35-44=2, 45-54=3, 55 or Older=4)
- Risk replacement perception: converted the three levels into numeric values (low=1, medium=2 and high=3).

All the variables were assigned numeric values to facilitate analysis and interpretation. These control variables were incorporated to ensure a more accurate understanding of the preferences expressed by the respondents, allowing for a clearer interpretation of the impact of the independent variables on their choices. We conducted a multinomial logistic regression, in order to estimate the coefficients of the attributes and their overall impact on the decision to choose or not choose a specific alternative.

The results show that not all the attributes were significantly different from zero, hence not all of them were relevant in explaining respondents' preferences in terms of work arrangements. More in detail, all the 3 parameters related to "Use of technology" reported values significantly higher than 0.05 (0.9, 0.8, 0.7), suggesting that their influence on the dependent variable (the choice between alternative work arrangements) is minimal.
Moreover, also the attribute "Daily working hours" has reported a significance slightly above the threshold (0.058) in its level "Fixed 9:00-18:00", indicating that the fixed work setting without any flexible opportunities influences only in part the final decision.

Dependent variable	Choice					
Independent variables	B	S.E.	Wald	gl	Sign.	Exp(B)
Working place						
in-presence	0,601	0,115	27,405	1	0,000	1,824
hybrid	0,755	0,113	44,891	1	0,000	2,128
remote	1,163	0,107	117,910	1	0,000	3,201
Working hours						
fixed	-0,052	0,093	0,311	1	0,058	0,949
fixed when pref.	0,111	0,081	1,858	1	0,017	1,117
flexible	0,107	0,078	1,847	1	0,018	1,077
Commuting distance						
under 35 min	0,204	0,078	6,853	1	0,009	1,226
over 35 min	0,181	0,064	7,840	1	0,009	1,054
Income						
same salary	1,079	0,079	186,807	1	0,000	2,942
- 10% salary	0,549	0,088	39,174	1	0,000	1,732
- 20% salary	0,572	1,125	0,258	1	0,000	0,577
Use of technology						
low use	-0,029	0,084	0,122	1	0,727	0,971
medium use	-0,017	0,092	0,034	1	0,853	0,983
high use	-1,417	1,210	1,259	1	0,979	1,029
Control variables						
substitution risk	-0,026	0,044	0,354	1	0,552	0,974
gender	0,009	0,061	0,022	1	0,884	1,000
age	0,002	0,037	0,002	1	0,966	1,002
Constant	-1,786	0,058	950,681	1	0,000	0,168

Table 4: Parameters estimates, obtained running a multinomial logistic regression.

Looking at the coefficient values, we decide to neglect from the analysis those related to “Use of technology”, given their p-values, while we still include “Fixed 9:00-18:00” since its value was just above the threshold of 0.05. First of all, evidence shows that all the coefficients but one (“Fixed, 9:00-18:00”) have a positive sign, therefore an increase in their variable positively affects the probability of the dependent variable to belong to the “chosen” category.

In other words, the higher the value of coefficients, the greater the increase in the probability that respondents will choose the alternative associated with that independent variable.
The variables with higher coefficients are “Remote” and “Hybrid”, suggesting that the variables related to the spatial flexibility are more important than the ones connected to the temporal dimension. The other variable showing a very high coefficient is “Same salary”, demonstrating that respondents consider also the monetary supply as a crucial factor.
As mentioned above, the only negative coefficient is “Fixed, 9:00-18:00”, indicating a slightly negative effect on the probability to belong to the chosen alternative.
The control variables included in the model (age, gender and substitution risk) are not statistically significant, indicating that they do not have a relevant impact on respondents’ choices in the analysed context.

Further insights emerge observing the column of exponentials: exponentials of coefficients indicate the odds-ratio, namely the odds of an event change (in this case, belonging to the “chosen” category of the dependent variable) for each unit increase in the corresponding independent variable. The variables with a value < 1 are representing a decrease in the probability of belonging to the chosen category: “Fixed 9:00-18:00” has an odds-ratio of 0.949, hence it reflects a 5% decrease in the probability, while “20% lower of your current salary” reflects a 43% decrease in that probability.

Conversely, all the other variables have a value above 1 (again, we don’t consider “Use of technology” given its minimal significance), indicating an increase in the probability; furthermore, the variables with the higher odd-ratio are again the ones related to “Hybrid”, “Remote” and “Equal to your current salary”, with increases more than 100% higher. Interestingly, the odds-ratio for the variable “Distance under 35 minutes” is higher than the ones representing temporal flexibility (“Fixed, when you prefer” and “Flexible”), suggesting than respondents prefer to have a lower commuting distance rather than travelling for more than 35 minutes, although being allowed to manage their starting time or the distribution of hours along the day.

Another relevant analysis can be performed calculating the Willingness to Pay (WTP), that is the value assigned by individuals to a specific variable in relation to monetary costs; the higher the WTP, the greater the perceived value of the effects of the variables. WTP can be easily calculated by dividing the coefficient of a specific variable by the coefficient of the monetary attributes. In our case, we studied respondents’ willingness to pay for the attributes

related to temporal flexibility (“Daily working hours”) and spatial flexibility (“Working place”), in order to obtain the extent to which respondents would sacrifice a portion of their salary to get more flexible conditions at work; the mentioned attributes have been divided by all the 3 levels of the monetary coefficient, in order to analyse any changes in front of a decrease in the wage provided, starting from the level “Current salary”.

Dependent variable	Choice		
Independent variables	**WTP_Same**	**WTP_10%**	**WTP_20%**
Working place			
in-presence	0,557	1,0939	1,0508
hybrid	0,700	1,3747	1,3205
remote	1,078	2,1175	2,0339
Working hours			
fixed	-0,048	-0,0948	-0,091
fixed when pref	0,103	0,2015	0,1936
flexible	0,099	1,948	0,1871

Table 5: Willingness to pay for the attributes related to time and space flexibility.

As can be seen from Table 5, in general all the attributes related to time and space flexibility (except “Fixed”, which has negative values) show an increase in WTP when moving from the current salary (“WTP_Same”) to a monetary coefficient of -10% (“WTP_10%”); this suggests that respondents are willing to give up a larger portion of their salary to obtain improvements in the variables chosen (more work flexibility).
However, for all the attributes investigated we observe a small decrease in the WTP when shifting from a reduction of 10% to 20% of the salary, suggesting that, in the event of a further decrease in salary, workers become more prudent about the portion of their salary they are willing to sacrifice.

More specifically, analysing each attribute, we observe that in the case of spatial flexibility, remote work has the highest WTP compared to “In-presence” and “Hybrid”, indicating that when this option is provided, they are willing to sacrifice a larger portion of their salary. Moreover, “Hybrid” emerges as an appreciated flexible option, reporting higher levels of WTP compared to the “In-presence” variable.

On the other hand, looking at the temporal dimension of work flexibility, two important observations must be made; the first one concerns the negative sign of the "Fixed" variable, meaning that respondents are not willing to sacrifice any part of their wage to have an increase in that level. The other insight comes out by comparing the WTP of the attributes "Fixed, when you prefer" and "Flexible"; as shown, the option involving a fixed schedule with flexible entry time has higher value of willingness to pay, hence respondents would sacrifice a higher portion of salary for choosing that situation compared to the total flexible one.

As described in the methodology, one of our main interests concerns the perceived risk of job substitution. We decided to perform an analysis adopting the variable "substitution risk" as a selection criterion, comparing those who perceive a high risk versus those who perceive a low risk. We used as independent variables only the ones related to temporal and spatial flexibility, not including the variables related to commuting distance, salary and the non-significant ones related to use of technology, in order to avoid a too complex model; as in the previous case, we put in the model age and gender as control variables.
The evidence collected in Table 6 and Table 7 (Both in the Appendix) demonstrate that for all the respondents the variables related to spatial flexible arrangements ("Hybrid" and "Remote") are statistically significant and with positive coefficients. This means that workplace flexibility is generally positively valued by everyone, regardless of the perceived risk.
On the other hand, analysing the variables related to temporal flexibility, the situation changes; in the low perceived risk group, fixed working hours are not a significant variable, whereas flexible hour variables ("Fixed when preferred" and "Flexible") are both significant and have positive coefficients. This demonstrates that flexible working hours are also highly valued by these workers, who tend to prefer autonomous management of their working time, likely because they feel secure in their roles and seek a greater work-life balance.
Shifting the focus to the group that perceives a high risk of job replacement, the variables related to flexible working hours are not significant anymore; this might indicate that these workers do not place much importance on flexible hours, probably because their priority is to get job security, and they are willing to accept fixed hours in order to keep the job.

Further insights are coming out analysing our data on the basis of age.
We have investigated differences dividing our sample in two groups: in the first one respondents under 35 years have been included, while in the other all the respondents with

more than 35 years. As shown in Tables 8 and 9 in the Appendix, the variable "age" has been set as a selection variable, while all the independent and control variables adopted in the main model have been used again.
Results confirm the significance of space flexibility for both groups, but a relevant observation concerns the value of hybrid: in the model with respondents below 35 years, hybrid has a coefficient slightly higher than the remote one, while in the other age group completely remote work still remains more appreciated. In other words, young respondents demonstrate to prefer hybrid work to remote work. Moreover, in the model representing solely younger respondents' preferences, all the coefficients related to space are higher than in the other one, suggesting that younger respondents care more about the work location in choosing (or not) a specific alternative.

The second important distinction is represented by the temporal dimension of work: in the model selecting respondents under 35 years, all the variables related to this dimension are not significant, while in the other group are significantly different from zero and positively affect the dependent variable (except the "fixed" variable). This suggests that, for younger respondents, time flexible solutions are not relevant in preferring a specific work setting. Further differences can be noted comparing the parameters related to commuting distance, still non significant variables in the model regarding younger respondents.
Lastly, as in the first model discussed (without any selection variable), the variables related to "Use of technology" are not-significantly different from zero.

Since one of the most recurring themes in literature on work flexibility entails a comparison of individuals' preferences on the basis of their gender, we have decided to also perform an analysis along the same line; hence, we estimated again all the parameters including "gender" as selection variable.

As can be seen in the appendix (Table 10 and Table 11), parameters estimates are slightly different from the aggregate model; more in detail, both the separated models confirm the non-significance of the variables concerning the use of technology, but in the model including exclusively male respondents, also all the variables related to the temporal dimension of work flexibility are no longer significant in explaining respondents' preferences.

Moreover, coefficients related to commuting distance in the men's model seem to be significant only in part, since their significance is just above the 0.05 threshold.

Another interesting observation can be done comparing the coefficient of “in-presence” work: in the case of men it appears as higher than women, suggesting that the former appreciate more the work in-presence as well.

Looking at the Willingness to Pay calculated in the 2 separated groups (Table 12 and Table 13, Appendix), further evidence is coming out. As in the aggregate model, the willingness increases sharply when shifting from the “current salary” level to the “-10%” one, while in the monetary level “-20%” decreases slightly compared to the previous one, still remaining higher than the reference level (“current salary”).

First of all, the higher propensity of men to work in presence (compared to the same attitude in the women’s model) is confirmed by a higher willingness to pay; furthermore, also in the case hybrid work, men show a higher WTP compared to women, but the difference is not as pronounced as in the previous case.
Regarding the completely remote work, both sexes demonstrate to appreciate it, being also available to sacrifice the higher portion of salary compared to the previous work arrangements of the spatial dimension, even though men show a slightly higher willingness.

Overall, the values of Willingness to Pay from the separated models show that a decrease in salary -shifting from the “current” status to the 10% and 20% reduction- leads to an increase in WTP for both groups across all attributes. This implies that, as wages drop, respondents become more willing to sacrifice additional income in order to improve their working conditions.

As mentioned in the methodology section, our main research question regards workers' preferences regarding work flexibility. We have observed that all the variables related to flexible working conditions have a positive effect on the dependent variable, hence the presence of flexible arrangements increases the probability that employees choose a specific work setting. First of all, our findings suggest that respondents are more likely to choose a specific scenario on the basis of spatial variables. In other words, flexible solutions such as hybrid or remote work have a stronger impact on the probability that a specific work setting would be chosen, compared to the variables representing temporal flexible arrangements. Within spatial flexibility, investigating whether employees value a hybrid work setting more than a fully remote one, our evidence suggests that respondents appreciated more a fully remote setting, reporting higher coefficients, odds-ratio and willingness to pay. Moreover, this

result has been confirmed by dividing the aggregate model in 2 models on the basis of respondents' gender.

The second question was if employees perceiving a high risk of substitution, due to technological advancements and automation, have a lower preference for flexible arrangements. Our results indicate that, regardless of the perceived risk, everybody appreciates flexible solutions related to the spatial dimension of work. Conversely, analysing the temporal dimension, we found that employees perceiving high replacement risk don't place value on flexible hours, likely because their priority is to keep a stable employment even accepting time-related stressors.

Finally, in determining individuals' willingness to pay for greater work flexibility, we have seen that respondents are willing to sacrifice a portion of their salary in order to secure more flexible working conditions, and that they are willing to give up a larger portion of their salary for gaining greater flexibility in their working location compared to the working hours, for all the income levels adopted as divisor.

Limitations

Our study provides interesting evidence, but some limitations should be taken into account; the first one, given our decision to specifically study the Italian workplace, findings should be contextualised and compared with those of other countries with similar geographical, cultural, and legislative characteristics (regarding flexible work). In general, it is believed that these results are not generalizable or applicable to a large number of countries.

Concerning the methodology adopted in designing the survey, we decided to skip a phase considered important by previous studies on DCEs (Hall, 2004), namely the pilot testing phase, in which potential respondents should be asked through qualitative interviews whether the selected attributes are adequate, clear, and relevant for the research purpose.

Moreover, we decided to run several times the logistic regression adopting “age”, “gender” and “substitution risk” as selection variables; this decision, even if formally correct, resulted in a comparison between very different samples in terms of size (especially in the cases of age and perceived risk), causing distortions in the parameter estimation, only partially mitigated by the presence of control variables. For instance, respondents who indicated a high perception of replacement risk were 15%, while their counterparts about 35%.
Similarly, dividing the sample between those under 35 and those over 35 created two samples with completely different proportions: the under-35 group made up about 27% of the total, while all others accounted for 73%.

Lastly, having included in the model variables such as the perception of risk, which is exposed to highly subjective responses, doesn’t guarantee reliable values, even though respondents were asked in the questionnaire to answer on the basis of the previous question, related to the skills most frequently used by them in the workplace.

Conclusions

This thesis aimed to deeply explore the theme of work flexibility: the theme has maximum relevance and timeliness, given spatial and temporal changes affecting contemporary workplace and the disruptive impact of recent events such as the COVID-19 pandemic.
In the first chapter, we demonstrated the current relevance of work flexibility for modern workers within the Italian context. Beyond showing the increase of "smart-workers" during the pandemic, we brought evidence that such a number has remained significantly high even after the emergency phase ended. Workers within the Italian context have nowadays a high level of awareness and attentiveness towards the theme of work flexibility and work-life balance, as demonstrated by several reports published by Deloitte, Randstad and Manpower. Anyway, in the current situation anything regarding flexible work in Italy can still happen, since the trends previously mentioned have not yet solidified: several companies are implementing solutions for enhancing flexible and agile work, while in some industries the situation has returned to pre-pandemic conditions.
In the second chapter, we performed a literature review adopting four different perspectives: we analysed the temporal and the spatial dimension of work, then investigated the factors that affect workers' propensity to adopt flexible working arrangements and the value they assign to flexible work solutions. Concerning the temporal dimension, since the era of seminal contributions, evidence stated that the stress level is lower for workers under flexible working hours arrangements. Another relevant finding is the significant relationship between performance and flexible schedules, indicating that greater flexibility in working hours is associated with increased employee performance. Moreover, alternative arrangements such as the compressed workweek have reported a positive influence on job satisfaction.
Regarding work space, the studies referenced show that working from home enhances employees' job satisfaction and strengthens their ability to maintain a healthy work-life balance, all without compromising their performance level.
In the part related to factors affecting telecommuting behaviour, we investigated the most relevant factors, dividing them into personal factors, family-related factors and external factors. Studies suggest that several factors have been already identified, especially those closer to the psychological and social dimension of individuals; conversely, regarding factors related to the external environment, such as job-related, it still remains significant scope for further research, focusing for instance on the impact played by services provided by the organisation where workers have to spend their time. Moreover, given the increasing risk of job replacement, partly due to the rising precariousness and partly due to an increase in

automation (especially for manual and basic cognitive jobs), it is deemed important to analyse how these factors may influence workers' preferences and choices regarding flexible work.
In the last part of the chapter, we brought evidence of workers' evaluations of flexible work arrangements: from the studies cited, it clearly appears that workers value flexibility and the option to work from home. This trend is particularly strong among women and younger workers, who have demonstrated a higher willingness to pay. Finally, the discrepancy in preferences between employees and employers highlights a significant obstacle to flexibility. Employees may be asked to forgo an excessive portion of their wages, or employers might choose not to offer flexible options at all.

The third chapter of the thesis presented the results from a discrete choice experiment, in order to elicit valuable information regarding employees' preferences in terms of work flexibility. The main question aimed to verify workers' preference about flexibility, providing a positive answer even though some differences must be clarified.
Overall, the surprising finding, in contrast to some recent research (Randstad, 2024), is that according to our respondents the spatial dimension of work flexibility is more important than the temporal one, as clearly demonstrated by our analysis. Within the space flexible solutions, respondents have demonstrated a stronger preference for remote settings compared to hybrid ones.
Regarding time flexibility, the option to work without any time flexibility has a negative effect on the probability to be chosen of a specific work setting, meaning that individuals are less likely to choose it if a totally fixed setting is provided. The second interesting insight related to temporal flexibility is that a fixed schedule with flexible starting times has been more appreciated than a completely flexible schedule: this might involve the fact that individuals want to have a certain degree of autonomy and flexibility, but without drastically changing their daily habits, perhaps also due to the need to establish a routine.

Furthermore, a factor identified as relevant by previous literature (Bhat et al., 2013), that is commuting distance, doesn't seem to have a particular effect on individuals' choice; anyway, the established threshold of 35 minutes only to get there might has been judged as low by our sample; alternatively, the effects of a commute longer than 35 minutes might have been mitigated by factors related to spatial and temporal flexibility.

Regarding the second research question, we understand that a perception of high substitution risk doesn't affect the preference for flexible place opportunities, while it constrains employees to not consider flexible hours as relevant and viable opportunities.
To conclude, policymakers as well as organisations should take into account the fact that today work flexibility is considered as one of the most important factors affecting the decision to accept or quit a job proposal. More in detail, since workers consider flexibility as an alternative currency, and they would like to be compensated in case of totally rigid work arrangements, modern organisations aiming to increase talent retention should provide them with flexible solutions or, alternatively, consider the possibility of increasing their salary. Moreover, the reinforcement of digital skills through the implementation of training programs will be crucial to develop further flexible solutions and avoid a huge number of job replacements.

On the other hand, governments and public institutions should encourage flexible work by maintaining relevant legislation and developing an incentive system to motivate small and medium enterprises to adopt flexible arrangements.
Lastly, given the need for a robust internet network and energy availability to utilise advanced technological tools, such institutions should ensure additional investments to strengthen digital infrastructure, even in the most remote areas of the country, ensuring that the move towards a stronger work flexibility is pursued.

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Appendix

Table 6: Parameters estimates, obtained running the regression with “high substitution risk” as selection variable.

Dependent variable Choice

Selection variable substitution risk = 1

Independent variables	B	S.E.	Wald	gl	Sign	Exp(B)
Working place						
in-presence	0,543	0,290	3,497	1	0,061	1,721
hybrid	1,093	0,283	14,902	1	0,000	2,984
remote	1,840	0,270	46,554	1	0,000	6,296
Working hours						
fixed	-0,417	0,231	3,270	1	0,071	0,659
fixed when pref	-0,250	0,206	1,483	1	0,223	0,779
flexible	-0,240	0,198	1,474	1	0,236	0,751
Control variables						
age	0,000	0,105	0,000	1	1,000	1,000
gender	0,000	0,157	0,000	1	1,000	1,000
Constant	-1,817	0,150	147,692	1	0,000	0,163

Table 7: Parameters estimates, obtained running the regression with “low substitution risk” as selection variable.

Dependent variable Choice

Selection variable substitution risk = 3

Independent variables	B	S.E.	Wald	gl	Sign.	Exp(B)
Working place						
in-presence	-0,023	0,204	0,013	1	0,911	0,977
hybrid	0,287	0,201	2,047	1	0,053	1,332
remote	0,558	0,190	8,634	1	0,003	1,747
Working hours						
fixed	0,159	0,161	0,973	1	0,324	1,172
fixed when pref	0,280	0,141	3,952	1	0,047	1,323
flexible	0,269	0,135	3,928	1	0,049	1,275
Control variables						
age	0,000	0,063	0,000	1	1,000	1,000
gender	0,000	0,097	0,000	1	1,000	1,000
Constant	-1,672	0,095	308,129	1	0,000	0,188

Table 8: Parameters estimates, obtained running the regression with “age=1” as selection variable.

Dependent variable	Choice					
Selection variable	age = 1					
Independent variables	**B**	**S.E.**	**Wald**	**gl**	**Sign.**	**Exp(B)**
Working place						
in-presence	1,308	0,305	18,375	1	0,000	3,700
hybrid	1,592	0,298	28,495	1	0,000	4,915
remote	1,535	0,289	28,299	1	0,000	4,643
Working hours						
fixed	-0,118	0,235	0,254	1	0,615	0,889
fixed when pref	0,185	0,202	0,838	1	0,360	1,203
flexible	0,178	0,194	0,833	1	0,381	1,159
Income						
same salary	0,994	0,200	24,706	1	0,000	2,701
-10% salary	0,649	0,221	8,661	1	0,003	1,914
-20% salary	0,675	2,825	0,052	1	0,003	0,637
Commuting distance						
under 35 min	0,040	0,196	0,042	1	0,837	1,041
over 35 min	0,035	0,161	0,048	1	0,837	0,894
Use of technology						
low use	0,021	0,212	0,010	1	0,922	1,021
medium use	-0,045	0,233	0,038	1	0,846	0,956
high use	3,751	3,064	1,407	1	0,970	0,999
Control variables						
substitution risk	0,002	0,100	0,000	1	0,984	1,002
gender	-0,007	0,145	0,003	1	0,959	0,993
Constant	-2,257	0,368	37,595	1	0,000	0,105

Table 9: Parameters estimates, obtained running the regression with “age>1” as selection variable.

Dependent variable Choice

Selection variable age > 1

Independent variables	**B**	**S.E.**	**Wald**	**gl**	**Sign.**	**Exp(B)**
Working place						
in-presence	0,486	0,124	15,225	1	0,000	1,625
hybrid	0,616	0,122	25,328	1	0,000	1,852
remote	1,111	0,116	91,873	1	0,000	3,037
Working hours						
fixed	-0,040	0,102	0,157	1	0,069	0,960
fixed when pref	0,098	0,089	1,202	1	0,027	1,102
flexible	0,094	0,085	1,194	1	0,028	1,060
Income						
same salary	1,098	0,086	162,595	1	0,000	2,998
-10% salary	0,531	0,096	30,728	1	0,000	1,701
-20% salary	0,553	1,227	0,184	1	0,000	0,566
Commuting distance						
under 35 min	0,235	0,085	7,637	1	0,006	1,265
over 35 min	0,208	0,069	8,736	1	0,006	1,086
Use of technology						
low use	-0,040	0,092	0,187	1	0,666	0,961
medium use	-0,012	0,101	0,014	1	0,905	0,988
high use	-1,000	1,328	0,518	1	1,038	1,033
Control variables						
gender	0,000	0,058	0,000	1	1,000	1,000
substitution risk	0,000	0,043	0,000	1	1,000	1,000
Constant	-1,715	0,142	144,987	1	0,000	0,180

Table 10: Parameters estimates, obtained running the regression with “male” as selection variable.

Dependent variable	Choice					
Selection variable	gender = 1					
Independent variables	B	S.E.	Wald	gl	Sign.	Exp(B)
Working place						
in-presence	0,649	0,176	13,644	1	0,000	1,914
hybrid	0,753	0,173	19,004	1	0,000	2,124
remote	1,168	0,164	50,491	1	0,000	3,214
Working hours						
fixed	0,000	0,143	0,000	1	0,999	1,000
fixed when pref	0,100	0,124	0,649	1	0,420	1,105
flexible	0,096	0,119	0,645	1	0,444	1,065
Commuting distance						
under 35 min	0,230	0,120	3,706	1	0,054	1,259
over 35 min	0,204	0,098	4,239	1	0,054	1,082
Income						
same_salary	0,939	0,121	60,545	1	0,000	2,556
-10% salary	0,503	0,135	13,900	1	0,000	1,653
-20% salary	0,524	1,725	0,091	1	0,000	0,333
Use of technology						
low use	0,047	0,129	0,130	1	0,718	1,048
medium use	-0,101	0,142	0,510	1	0,475	0,904
high use	-8,418	1,867	19,817	1	0,520	0,946
Control variables						
substitution risk	0,000	0,065	0,000	1	1,000	1,000
age	0,000	0,056	0,000	1	1,000	1,000
Constant	-1,766	0,089	396,67	1	0,000	0,171

Table 11: Parameters estimates, obtained running the regression with “female” as selection variable.

Dependent variable	Choice
Selection variable	gender = 2

Independent variables	B	S.E.	Wald	gl	Sign.	Exp(B)
Working place						
in-presence	0,565	0,152	13,844	1	0,000	1,759
hybrid	0,755	0,149	25,748	1	0,000	2,129
remote	1,160	0,141	67,323	1	0,000	3,189
Working hours						
fixed	-0,092	0,123	0,556	1	0,001	0,912
fixed when pref	0,119	0,107	1,231	1	0,001	1,127
flexible	0,114	0,102	1,223	1	0,001	1,086
Commuting distance						
under 35 min	0,185	0,103	3,243	1	0,000	1,203
over 35 min	0,164	0,084	3,709	1	0,000	1,033
Income						
same salary	1,185	0,105	128,159	1	0,000	3,269
-10% salary	0,584	0,116	25,430	1	0,000	1,793
-20% salary	0,608	1,482	0,166	1	0,000	0,361
Use of technology						
low use	-0,086	0,111	0,591	1	0,442	0,918
medium use	0,045	0,122	0,138	1	0,710	1,046
high use	3,750	1,604	1,394	1	0,777	1,094
Control variables						
substitution risk	0,000	0,049	0,000	1	0,994	1,000
age	0,003	0,050	0,003	1	0,954	1,003
Constant	-1,801	0,077	553,945	1	0,000	0,165

Table 12: WTP for significant variables, obtained running the regression with “male” as selection variable.

Dependent variable	Choice		
Selection variable	gender = 1		
Independent Variable	**WTP_Same**	**WTP_10%**	**WTP_20%**
Working place			
in-presence	0,69167	1,29158	1,23893
hybrid	0,80244	1,49843	1,43734
remote	1,24403	2,32302	2,22832

Table 13: WTP for significant variables, obtained running the regression with “female” as selection variable.

Dependent variable	Choice		
Selection variable	gender = 2		
Independent variable	**WTP_Same**	**WTP_10%**	**WTP_20%**
Working place			
in-presence	0,47657	0,96729	0,92852
hybrid	0,63774	1,29442	1,24253
remote	0,97904	1,98715	1,90749