

What the Future of Smart Working Holds for Italian Society*

Minou Ella Mebane^a, Elvira Martini^a, Luca Greco^a, Claudia Furlan^b

Abstract

Current literature focuses mostly on the advantages and disadvantages of smart working (SW); more research is needed to understand if people perceive that in the future, SW will bring beneficial outcomes not only for companies or workers but also for society and improve quality of life. To help fill this research gap, the current study investigated how people perceived SW will impact aspects of society such as neighborhoods, environment, and communities, work-life balance and economy (through the increase in female employment). Two hundred fifty-six smart workers participated in this research. Our principal findings reveal that SW could promote a better quality of life: participants mostly believe that in the future SW will contribute to diminishing CO2 emissions, reducing traffic, decongesting crowded areas, and to revitalizing social life in dormitory neighborhoods. Participants had less confidence that SW would help close the work gender gap, reducing barriers to women's entry into the workforce and increasing work opportunities for housewives. Women, moreover, were less convinced than men that through SW they would obtain a better work-life balance.

Keywords: smart working, future, organization, environment, quality of life.

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^a University G. Fortunato, Italy.

^b Department of Statistical Sciences, University of Padova, Italy.

Corresponding author:
Elvira Martini
E-mail: e.martini@unifortunato.eu

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1. Introduction

The Future of Work Forum 2023 points that today ‘Any space where work is done efficiently is the workplace, often unconstrained by the traditional definition of a place’. Agile work is one of the most central elements of the future organization of work in Italy and beyond. As our communities slowly return to normality, there are numerous reasons to that the Covid period working from home experience will leave a lasting imprint (Adascalitei et al., 2022). By 2025, IDC, 2022 (International Data Corporation) predicts that 65% of large companies will consider the online (or virtual) presence of the workforce as on the same level as face to face presence. Also a recent report of the Smart Working Observatory at Milan Polytechnic (2023), confirms that smart working is expected to grow in the future, but points out that in some cases is still faces business resistance, for example more than half of the Italian SME plan to abandon smart working. Since regulations and habits have changed dramatically in the last years after the Covid 19 crisis, it’s important to understand what participants think will happen to smart working diffusion in the long run. The current literature focuses mostly on the benefits of using ICT to support work from home during the pandemic and on advantages and disadvantages of flexible work (Fortuna et al. 2023), fewer researches have explored potential future transformations of society. In light of this radical shift in the nature of work, the aim of this study is to investigate how people perceive smart working will change society in the future.

Smart working can be defined as a working model without precise time or place constraints: the work activity can take place in whole or in part outside the premises of companies, even without a fixed workstation, possibly with the aid of telematic tools (Labartino, 2020).

The concept of Smart working became very popular during the pandemic since it enabled many businesses and employees to continue working in an unsettling context that involved the entire world. According the Eurofound’s Living, Working and COVID 19 survey, in July 2020 in the EU 48% of the employees were working from home (Adascalitei et al., 2022). In this essay we will use the two terms, *smart and agile work*, indistinctly and to indicate a new model of work organization based on flexibility in terms of hours and places, as well as flexibility in the activities and personnel employed. More precisely, smart working is a purely Italian expression. In Europe, and the rest of the world, these remote working practices are generally referred to as “agile working” models. The European Parliament itself with the resolution of 13/9/2016 (general principle No. 48) states that it supports “agile working”. The resolution highlights the social benefits by affirming the importance of work-life balance to support demographic recovery, preserve social security

systems and promote the well-being and development of people and society as a whole. The Italian legislation on smart working is also configured as the Law on Agile Work. Agile working is therefore a universal term, which can be declined in different wordings based on the country and the reference legislation. We are talking about Smart Working in Italy, Flexible Working in the United Kingdom and the Netherlands, Telework in France, Work 4.0 in Germany, New Ways of Working in Belgium, and so on (Smart Working Observatory). Although already defined at the normative level by the Agile Work Law (No. 81/2017), the concept of smart working is, to date, still unclear. Smart working is not an English term for teleworking but something different. Teleworking, in fact, is a real contractual form regulated by a different set of rules, and it entails the relocation of the place of work (ILO, 2020). It is not based on the principles of flexibility. The main difference between smart working and teleworking lies in the underlying concept on which the practice is based. In the case of teleworking, the worker has a fixed workstation that is, however, in a different location from the company. It is characterized, therefore, by a greater rigidity that is reflected not only in terms of space but also in terms of time. Schedules are more rigid and, as a rule, mirror those established for personnel performing the same tasks within the company. Here too, a written agreement between the employee and employer is required. The possibility of working away from the traditional offices began to be discussed when telephones were fixed and, consequently, teleworking could only be carried out in a specific place - the employee's home - in the same way and at the same times as colleagues remaining in the company. Subsequently, the personal computer, the Internet, and the smartphone made it possible to work anywhere and at any time while staying interconnected with bosses, colleagues, co-workers, and customers, via network and company platforms. This explains why, In Italy, the old concept referred to as teleworking was replaced by the new concept of smart working for practical purposes (Martini, E. et al., 2023, pp. 420-421)¹.

In 2017, Italy was in the lowest in rankings for smart working among the 27 European countries with respect to the number (Eurofound, 2017). A few

¹ For an interesting reading on the topic, see Torre T. (2023). *Il futuro del lavoro si chiama "Smart Working"? Riflessioni e prospettive. Prospettive in Organizzazione*, where teleworkability is also defined as "the possibility of providing remote work inputs in a given economic process" (Sostero et al., 2020, p. 29). This notion refers mainly to the task-activity (more or less teleworkable), although the analysis can (or perhaps more appropriately should) also concern the worker (more or less suitable to perform the services requested of him remotely). In this sense, the issue of teleworkability qualifies as a choice concerning both the social and technical dimensions at the same time

years before the pandemic, in 2019, Italy was still behind the other countries since 95% of the workers had never worked from home compared to an average Eurozone of 85%. Covid-19 was the detonator of the agile work explosion all over the world. In the United Kingdom, Australia, and France, during the lockdown, 47% of employees worked from home (Oecd, 2021). In 2020 in the United States, nearly half of all paid workers were in smart working between April and December 2020, versus 5% before the pandemic (Bick & Blandin, 2021). In Italy, COVID-19 triggered a dramatic increase in smart working. Data from the Smart Working Observatory of the Milan Polytechnic estimated that there were 570,000 smart workers in Italy before the pandemic. In the shutdown caused by the pandemic, estimates place the number of Italians working from home or remotely at over 8 million (De Masi, 2020). The massive introduction of smart working impacted the global economic organization. According the Eurofound's Living, Working and COVID 19 survey, in July 2020 in the EU 48% of the employees were working from home (Adascalitei et al., 2022). SW constituted a turning point for the future of work because it compelled companies to experiment with and adopt new work arrangements, speeding up a transformation of the labor organizational system that in normal periods would have taken decades (Corso, 2020).

Since its peak during the 2020 lockdown, the number of smart working workers in Italy has stabilized to about 2 million (Istat, 2023; 2024). This mode of work has become an essential element in the life of many companies and workers. However, its adoption and regulation continues to evolve. As far as SW is concerned, the general legal framework has been established in Italy by Law No. 81/2017, which left the parties to execute individual agreements to work from remote. The unions have increasingly asked companies for collective remote working agreements. During the Pandemic in 2021 an agreement was signed between the Government and the main Italian trade unions (CGIL, CISL and UIL) establishing the SW will be regulated by the national collective agreements of the public sector (Loi, 2021). In 2023, in Italy the Budget Law extended the possibility of adopting smart working until 30 June 2023, also suggesting that smart working will maintain an important position in the future. Although many experts believe that smart working is destined to become permanent in the Italian working landscape, the expectations of a further renewal in terms of agile working have been officially disregarded by the Milleproroghe 2024 Decree. In the case of public employees, the deadline had already been set last 31 December 2023, remaining in force for fragile workers and subject to organizational allocation by the responsible manager. Differently, for private sector employees, the stop arrived on March 31, 2024 and was applied to vulnerable subjects and parents of children under 14 years of age. Starting from 1 April 2024 it will again be mandatory to sign an agreement with

the company which will be kept for 5 years for testing purposes. In any case, experts indicate the likelihood of further extensions for the most vulnerable workers after June 2024, but also the possibility of new rules that will accompany this way of working towards greater stability and regulation.

2. Improving the quality of life: the direction of smart working

Smart working emerges as an opportunity to rethink work and organizational processes, this prelude cannot rely on emergency logics. Rather, this epochal change requires the convergence of two profiles: one, aimed at the present, of analysis of the phenomenon; the other, aimed at the future, concerning the vision on development scenarios (Reggio et al., 2020). An analysis of the literature reveals, however, that most studies have considered the benefits and negative aspects of SW, fewer have focused on the future scenarios of SW. In Italy most research on the future of SW tend to investigate if SW will continue to be popular after the emergency period and its impact on the wellbeing of workers, work organization and productivity. An Ipsos (2022) survey based on firms in Milan analyzed what future people expected smart working would have after the pandemic. From this study, it emerged that 12% of the companies wanted to expand smart working in the future, 23% will halt or suspend smart working, while 65% expect the current situation to remain unchanged. Also in another study that took place in Hungary, based on 1500 employees and 200 employers, it emerged that people expect smart work to prevail over on-site work (Kotsis et al., 2021). From the survey, it was found that to foster productivity, in the future, remote workers will need to work better in collaborative tasks. Concerning personal well-being, the survey revealed that there will be more opportunities for a better life due to the time saved. Employees underlined that in the future, factors that could promote well-being could be: more flexibility in the hours worked, a better work environment, home office subsidies, work autonomy, and creating workout opportunities. Also, employers pointed out that to promote the well-being of workers in the future, it will be important to focus on: flexibility in the hours worked, frequent touchpoints led by managers, health checks, home office subsidies, a better work environment, and mandatory working days from the office. The research also revealed that time management should be improved to further benefit from Smart Work. For example, activities should be planned in the future, considering time and space dimensions and information sharing. With respect to space, respondents thought that offices will remain, however, they believe they will face competition from other locations to host individual and group projects and so will need to better meet the demands of those who will use

them for particular tasks. Since technology can be time-consuming, to support smart working responders pointed out that it is crucial to comprehend and select which digital tools are needed and would be helpful to the organization. Respondents believed that smart working was a cost-saving opportunity (e.g., reduction of travel), but that to further reduce costs, there will be a need for long-term investment (for example, efficiency in office use, shared offices). Finally, according to the survey, leaders needed to adapt to the new modalities of working to promote the long-term success of their team (Kotsis et al., 2021). A recent research based on the Los Angeles metropolitan area suggest that if there were a permanent increase in working from home, travel times will decrease and traffic congestion diminish, jobs will relocate to the core of the urban areas but residents will tend to move to the suburban areas and the average real estate prices will drop (Delventhal et al., 2022). Other research (Crisucolo et al., 2021) confirmed that 40% of managers and 70% of employees imagine there will be more smart workers in the future than in the pre-pandemic period. The preferred working mode was hybrid: 2-3 days of smart working per week. Both managers and workers suggested that it was important to coordinate the team's schedule during office days. Organizing meetings could increase knowledge exchange and socialization, mitigating the isolation effect of telework. Furthermore, workers and managers maintain that companies should invest more in ICT equipment and ICT and soft skill training (Crisucolo et al., 2021). Also, Barrero and colleagues (2021), which have investigated, through a survey involving 30,000 working-age Americans, the reason why smart working will continue to be present after the restrictions have been lifted, found that employers expected workers in the future to work from home for 20 percent of full workdays. Desires to work part-time from home were pervasive across age, education, gender, and income. Workers maintained they would be willing to accept pay cuts in exchange for the opportunity to be partially in smart working.

The survey revealed that they would accept a 7% pay cut in exchange for the possibility of working from home two or three days per week after the pandemic. According to the research of Barrero and colleagues (2021), the forced smart work experimentation with the new technology will have long-term effects even after the emergency is over since the pandemic shoved aside issues that had previously hampered remote work, resulting in knowledge that would have been much more difficult to acquire prior to the Covid-19 pandemic. During the pandemic, millions of people learned how to better utilize videoconferencing softwares and remote collaboration tools, sound systems, superior pcs, etc., to enhance smart working abilities. The typical employee invested 15 hours of time and \$561 in home appliances to facilitate smart working. Furthermore, the pandemic organizations also improved back-

end systems and technologies that allow employees to work remotely. According to the authors, employees and companies are now better equipped to work from home due to these pandemic-driven investments. Overall, Barrero and colleagues (2021) maintain that since these investments are durable, they can play a part in the continuation of the shift towards smart working caused by the pandemic. Two-thirds of respondents reported that the perception of smart working has improved during the pandemic. Their data shows that the negative stigma associated with working from home diminished during the pandemic. According to the authors, this could favor the persistence of smart working in the future. Moreover, a shorter work commute was among the significant advantages that workers perceived of a post-pandemic shift to smart working (on average, Americans spend 55 minutes commuting to work daily (Flynn, 2022)). The transition to smart working will also have highly disparate geographical impacts, reducing the wealth of cities with high rates of inward commute to work. If there were a permanent increase in working from home, travel times will decrease and traffic congestion diminish, jobs will relocate to the core of the urban areas but residents will tend to move to the suburban areas and real estate prices will drop the center but increase in the suburbs (Delventhal et al., 2022). Also a recent study (Brueckner et al., 2023) revealed that work from home (WFH) negatively impacted housing prices and rents in high-productivity counties due to workers moving to cheaper areas during the pandemic. The pandemic in Italy significantly increased demand for homes in less densely populated areas, primarily due to a shift in consumer preferences toward larger, single-family homes with outdoor spaces (Guglielminetti et al., 2021). According to the study of Jansen and colleagues (2024) based in the Italian context, some people live in certain neighborhoods because of commuting unity needs and stable adoption of smart working remote work could increase the likelihood of relocating. The freedom of residential choice could bring workers also to live closer to their families. Adult children in SW could move closer to the elderly parents and assist them more easily. Being able to move near their families could facilitate informal childcare by grandparents. Moreover SW diminishes the necessity for long-distance marriages or relationships by allowing a couple to live together while working in different places (Lee, 2023). Large cities' expenditures on shopping, meals, amusement, and personal services, will decrease by 5 to 10 percent versus pre-pandemic levels, as the workers that reduce their commutes will spend less on services and entertainment near their urban workplaces (Barrero et al., 2021). Also, other studies revealed that with the diffusion of remote work, high-skill workers working from home would reduce their spending on local services (Althoff et al., 2020). The transition to smart working in the future will commercial advantage other towns/neighborhoods where people live (during

the Covid-19 crisis, many of the clients of hairdressers, health clubs, pubs, restaurants, and coffee bars, moved from neighborhoods near workplaces to those where people lived) (De Fraja et al., 2021). According to the study of Jansen and colleagues (2024) based in the Italian context, some people live in certain neighborhoods because of community needs and stable adoption of remote work could increase the likelihood of relocating.

Barrero and colleagues (2021) maintain that promoting smart working in the future will increase productivity by almost 5% with respect to pre-pandemic levels. In their survey, 40% of the people who participated declared that they were more productive while smart working. Also according to study the survey conducted by Deole Adrian and collaborators (2023) employees work more productively in a teleworking environment. However, other studies (Gibbs et al., 2023) on productivity instead showed that remote working lowered the level productivity of information technology professionals. Overall, according to Barrero and colleagues (2021), the advantages of a shift towards smart working, though widely understood, will mainly benefit well-educated and highly-paid workers

Only in the last years, studies have focused on the impact of smart working on the environment. A recent systematic review of Hook and colleagues (2020) based on 39 empirical articles underlines that despite most research examined suggesting that smart working is positively associated to reduction of energy use, more rigorous studies that consider a wider range of indicators (e.g. energy consumption at home, extra-trips) generally find less savings. The authors conclude that although smart working has been considered an energy-saving activity, its actual or potential benefits are still not clear (Hook et al., 2020). Also O'Brien and Yazdani Aliabadib (2020) and Lee (2023) have maintained that when studying the effects of smart working on the environment it's important to consider also its rebound effects that erode or eliminate the potential energy savings from telework (e.g. home office energy use; non-working trips). Several authors have indicated that the adoption of smart working reduces traffic dramatically (Hopkins & McKay, 2019). Other studies point out that higher energy usage at home could render the energy savings from staying home entirely or partially meaningless (Perez et al., 2004). A recent study in Italy of Enea (the National Agency for New Technologies, Energy and Sustainable Economic Development) on the environmental impact of distance working (Roberto et al., 2023) based on four Italian cities - Rome, Turin, Bologna and Trento - in the four-year period 2015 – 2018 revealed that every worker who spent two days a week outside the office avoided the emission of 600 kg of CO₂ in a year (this result is particularly interesting considering that in Italy transport produces more than 25% of total national emissions of greenhouse gases: 93% comes from the road, with cars in first place). Furthermore, their research

revealed that on smart working days, 24.8% of the sample said they had chosen more sustainable means, such as public transport or cycling. Agile work and, in general, forms of distance work can become an effective tool for promoting ecological behaviors (Roberto et al., 2023).

Research conducted in Italy by Inps that involved more than 11,400 respondents, reveals that women are less willing than men to work remotely in the future (27,9% of women versus 32,5% of men) (Biasi et al., 2021). Biasi and colleagues (2021) hypothesize that women's lower appreciation of smart working may be attributable to the fact that they assumed greater domestic and care responsibilities than men when working remotely. Also, recent research by Ipsos (2022) confirmed that Italian women in smart working were less satisfied concerning the family-work balance. Other European studies have shown, instead, that women appreciate remote working more than men (Baert et al., 2020; Rasiene et al., 2020; Charalampous et al., 2019). Due to perceived role conflict, changes in employment relationship dynamics, and career opportunity limitations, men evaluated working from home more negatively than women (Raišienė et al., 2020). Additionally, a recent Italian study (Bonacini et al., 2021) focused on how a future increase in remote work could impact income. Their findings reveal that a positive shift in working from home would increase average labor income. However, this potential benefit would favor mostly male, older, well-educated, and well-compensated employees.

According to Torre and Sarti's (2019) comprehensive review, the literature on smart working is quite recent and before the pandemic, the field of study seemed to be dispersed and hardly explored. Studies have tended to focus on the advantages and disadvantages of smart working in the work field analyzing for example its effect on productivity, labor cost, absenteeism, and turnover (e.g. Barazzetta, 2019; Bou Shakra, 2019). Smart working has an impact not only on the corporate and personal domains but also on society and collective domains. Smart working can influence the economic sectors that involve workers (Reggio et al., 2020). Recent research by Fortuna and colleagues (2023) highlighted that smart working could impact people's lifestyles and spending habits (e.g. restaurants and bars losing customers at lunch).

Several studies focused on the advantages and disadvantages of smart working (e.g., Bolisani et al., 2020; Hassan, 2016; Sarti & Torre, 2017; Mallia & Ferris, 2000); fewer studies have concentrated on how people perceive the future of smart working will impact the society and the community. In his recent enthralling research De Masi, 2020, analyzed the opinion of eleven experts on smart working in Italy, 441 ideas were generated on the future of smart working; drawing from some of the ideas that these experts offered on smart working and advantages for the collectivity, this study attempts to further understand how people perceive smart working will impact the quality of life

and different aspects of society such as neighborhoods, environment, workforces and investigates whether smart working is destined to grow in the future (as an exclusive modality or mixed with in-person working).

3. Methodology and main findings

This contribution is an upgrade of a previous work, concerning the relationship between smart working and gender division, by E. Martini, L. Greco, and M. E. Mebane published in the Italian Sociological Review in 2023. As was also reported in the previous article, a convenience sample of smart workers was collected through an online survey that was carried out by administering a questionnaire on the platform provided by Google Forms App. The convenience sample under study provides diversified opinions and direct experiences by age, gender, socio-economic conditions, or political line. The survey started in mid-2021 and closed at the end of the same year. In total, 294 questionnaires were returned (all of the interviewees are of Italian nationality and for this reason it was chosen, as explained above, to use the term *smart working* and not *agile working*, to formulate the questions in the questionnaire). The sample comprised 68.4% women and 31.6% men; almost half of the interviewees (59.4%) were married and had children; nearly all had a degree or post-graduate degree; the majority of the sample (77.6%) declared to have an average socio-economic condition.

It is worth noting that the use of a convenience sample could introduce distortions into our reasoning, as women showed a greater propensity in taking part in the survey. However, it was deemed fair in the following to consider descriptive analyses of the main characteristics and their associations.

All the information has been collected in a spreadsheet and pre-processed in an appropriate fashion to aid statistical analyses.

First of all, the level of heterogeneity among responses has been measured using the Shannon entropy index: the closer the index to 1, the more variability there is among the frequencies of responses to each item and the less concentration of answers on one or few attributes. It is desirable that the index values are all sufficiently high, that is that for each item we do not observe an index value remarkably smaller than the mean index value. On the contrary, there is the need to aggregate some categories. The inclusion of items whose answers are concentrated on one or few attributes can badly affect the analyses leading to eventually spurious associations. In the following, we are mainly concerned with the study of paired associations between answers to selected questions of interest from the survey and the other characteristics of interest of the respondents. When items are measured through a five attributes Likert

Scale, the Kruskal-Wallis test has been used to test the presence of significant associations. In other situations where the items result in a qualitative answer on a nominal scale, the significance of paired associations has been tested according to the Pearson test. Its use is justified as now, answers can be summarized using two-way contingency tables, after cross-classifying units according to the different answers. In all cases, decision rules are based on a given 0.10 significance level.

3.1 Questionnaire

If in the first phase of the research project (2023), we choose to analyze the impact of the pandemic and the affirmation of the practice of smart working on the division of gender roles within the family, in this second analysis we focus on two ‘perceptive’ questions (the answers to which are naturally affected by the fact that in 2021 the pandemic phase had not yet been completely overcome):

- n. 24, to understand what the interviewees’ perception is of how smart working will bring changes in the future on a series of aspects of society (environment, mobility, inclusion, ecc.);
- n. 25 with which we want to understand what way of working the interviewees would like for the future.

Below we analyze the two questions individually.

Question n. 24

The first aim of the study concerns question n. 24, that is to understand if ‘participants perceive that the diffusion of smart working will bring changes in the future to the following aspects of society’. Question n.24 is structured into the following items (the label of the items, which will be used in Table 2 and Figure 1, are given between square brackets):

1. *reduced cost of living* [cost]
2. *better organization of workers’ days* [organization]
3. *salaries will be more commensurate with the results pursued* [salary]
4. *rethink the criteria of performance remuneration evaluation* [remuneration]
5. *contact with people other than those in the office and greater integration within one’s community* [community]
6. *return to life in dormitory neighborhoods and provincial cities emptied by the process of concentration toward megacities* [dormitory]
7. *reduced traffic and CO2 emissions* [emissions]
8. *reduced real estate costs* [real estate]
9. *revitalized social life in neighborhoods and towns* [social life]
10. *decongesting crowded areas* [decongesting]

11. *reducing barriers to women's entry into the workforce [female workforce]*
12. *job opportunities for housewives [housewives]*
13. *growing cultural attitude to environmental protection [environment]*
14. *better division of housework and leisure time [leisure]*
15. *growing hangouts like Starbucks and museum cafe-bars, since not all workers want to work at home [hangout].*

The attitude concerning each of the above aspects has been measured by collecting answers according to a Likert scale structured into five attributes measuring the degree of agreement/disagreement with the given item.

A second dimension of interest on the path to understanding how smart working can shape our future has been identified by question n.25, asking 'what situation people wish for in the future'. The available answers are:

1. increased use of smart working,
2. complete return to in-person work,
3. mixed situation, part working at home, part smart working,
4. co-working (shared work among several professionals with different skills who come together to work in the same physical space),
5. near-working (work 15 minutes from home in the premises provided by the company),
6. bring your own device (BYOD) to work anywhere there is a Wi-Fi connection,
7. other.

In the following, let us consider some of the main characteristics of the respondents. The number of respondents available for the analyses is 256. Concerning the sex, 176 respondents are females, 79 males and 1 did not answer. The distribution of the interviewees by age is given in Table 1: 68% of the respondents are aged 40-59 and 21% are less than forty years old.

Table 1: distribution of the respondents by age.

Age (years)	25-34	35-39	40-49	50-59	60+	Total
n. of resp.	26	28	82	89	28	254
%	10	11	32	36	11	100

The 28% of the respondents are from Northern Italy, 47% from Central Italy and the rest from Southern Italy. The majority are married or married with children (59%), while the singles represent the 16%. Most of the respondents have a bachelor's degree, master's degree or PhD (82%). The 80% declared to be in a medium economic status, 9% in a low status and 11% in high status. The 44% of the respondents are employed in the public administration, and the 32% in private companies.

The distribution of attitudes for each item is given in Table 2. The last column gives the Shannon entropy index H : the average value of the index is about 0.89 with a standard deviation 0.08. We notice that only item number seven shows a low entropy index compared to the others. The reason is that only eight subjects gave the answer disagree or very much disagree.

Table 2: Distribution of attitudes for each item of question 24. The last column gives the Shannon entropy index.

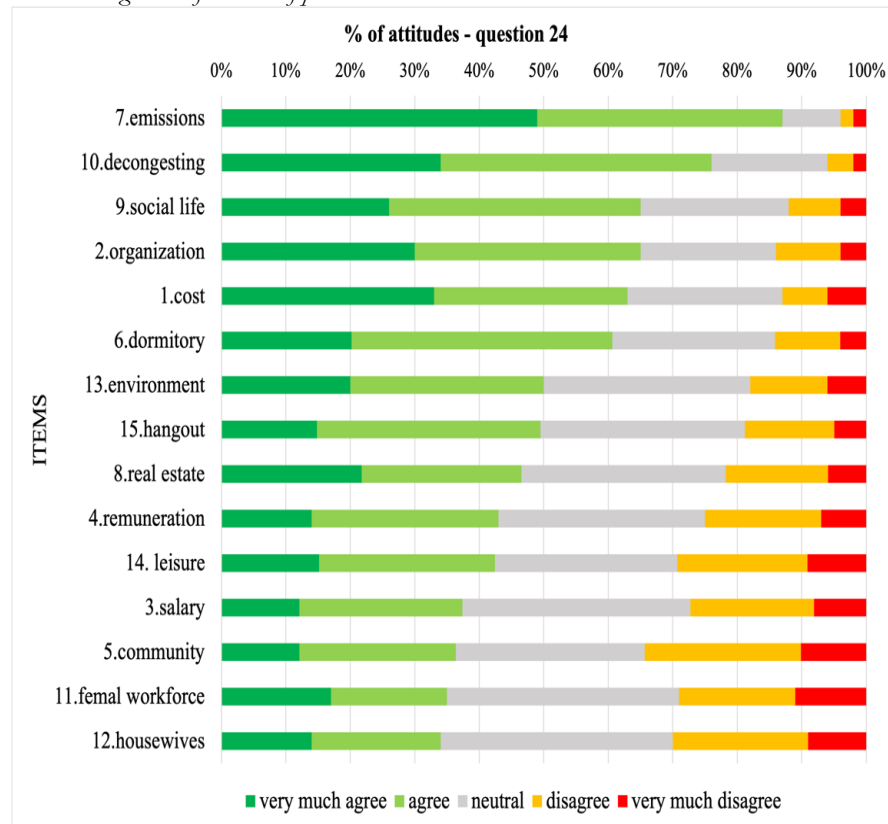
Items question 24	Very much agree	Agree	Neutral	Disagree	Very much disagree	H
1.cost	33%	30%	24%	7%	6%	0.88
2.organization	30%	35%	21%	10%	4%	0.88
3.salary	12%	25%	35%	19%	8%	0.93
4.remuneration	14%	29%	32%	18%	7%	0.93
5.community	12%	24%	29%	24%	10%	0.95
6.dormitory	20%	40%	25%	10%	4%	0.87
7.emissions	49%	38%	9%	2%	2%	0.66
8.real estate	22%	25%	32%	16%	6%	0.93
9.social life	26%	39%	23%	8%	4%	0.86
10.decongesting	34%	42%	18%	4%	2%	0.78
11.female workforce	17%	18%	36%	18%	11%	0.95
12.housewives	14%	20%	36%	21%	9%	0.94
13.environment	20%	30%	32%	12%	6%	0.91
14.leisure	15%	27%	28%	20%	9%	0.96
15.hangout	15%	35%	32%	14%	5%	0.89

Figure 1 shows the distribution of the responses for each considered item. Items have been ordered by following the decreasing order of the rate of positive answers (that is the sum of the percentages of agree and very much agree). For example, items 7 and 10 are the first two items in the plot since they reach the largest percentage of positive answers (more than 75%). Items 9, 2, 1, 6, 13 show a rate between 50% and 75%. All the other items totalize a rate of positive answers between 25% and 50%.

The interest is to assess if attitudes are significantly associated with characteristics such as gender, age, place of residence, type and size of company, income status, presence and age of children, and household. The entries in Table 3 give the p-values corresponding to the significant associations found according to the Kruskal-Wallis test, whereas empty cells stand for lack of association at a 0.10 significance level. In summary, the number of significant associations per item goes from zero (items number 1, 10, 11, 12 do not show any significant associations with the features of interest) to three (items number 7 and 15). In the opposite direction, that is by looking at the entries in Table 3 by column rather than by row, the age of the youngest child and the time

devoted to household activities are those features showing the higher numbers of significant associations among the fifteen items. In contrast, type of company and income status do not influence the pattern of responses.

Figure 1. Distribution of attitudes for each item (question 24). Items have been ordered by following the decreasing order of the rate of positive answers.



In order to better understand the sentiment about the effect of smart working on the different aspects of society summarized in the fifteen items, let us describe and investigate more closely the nature of those more interesting associations given in Table 3 for each item.

Item n. 2 - better organization of workers' days. The respondents are classified into one of three categories: employee in public administration, employee in a private enterprise and other (professional office, private organizations and cooperatives). Those working in public administration give 75% of agree or very much agree answers. The percentage drops to 65.8% for those working in

private companies and 51.5% in the third group. For what concerns the presence of children, 69.3% of those with children show a positive (agree or very much agree) attitude toward smart working, whereas only 58% of those without children gave a positive answer.

Table 3. P-values corresponding to significant associations between items of question 24 and selected variables of interest. Empty cells correspond to lack of association (p-values larger than 0.10).

Items question 24	Gender	Age	Place of residence	Type of company	Size of company	Income status	Presence of children	Age of youngest child	Household
1									
2				0.06			0.09		
3								0.07	
4								0.02	0.07
5									0.06
6			0.01						0.03
7	0.09				0.06		0.04		
8	0.04							0.01	
9								0.06	0.06
10									
11									
12									
13									0.04
14	0.04								
15		0.05						0.07	0.07

Item n. 6 - return to life in dormitory neighborhoods and provincial cities emptied by the process of concentration toward megacities. There is a significant association with the place of residence: Northern, Middle or Southern Italy. Respondents with a positive attitude are 70% in Northern and 64% in Middle Italy. This percentage drops to 45% in Southern Italy.

Item n. 7 - reduced traffic and CO2 emissions. The attitudes of respondents concerning the reduction of traffic and harmful emissions with the increasing diffusion of smart working are affected by gender, the dimension of the company, and the presence of children. The rate of positive answers is 88.5% for males and 86.1% for females, while that of neutral answers corresponds to 7.5% for men and 12.7% for women. Concerning the dimension of the company, the rate of very much agree or agree is 83.3% for those who work in a big company, 94.6% for employees in medium-sized companies, and 85.1% for small companies. About 92% of the respondents with children are very much agree or agree with the statement that smart working is related to the reduction in traffic and harmful emissions. The same rate reduces to 81% among the respondents without children. The presence of children increases confidence in the effect of smart working on reducing traffic and improving air quality.

Item n. 8 - reduced real estate costs. There is evidence supporting a different behavior of men and women: 50% of the women returned a positive attitude towards the reduction of real estate costs, whereas the rate is about 40% for men.

Item n. 9 - revitalized social life in neighborhoods and towns. The first association is with the age of the youngest child. We observe that the rate of very much agree or agree is larger when the youngest child is aged 0-6 (85.7%); when the youngest child is older than 6, the rate of positive answers decreases to 60%, and the percentage of neutral responses is remarkable higher. For what concerns the association with time spent in household activities, the level of agreement with the positive effect of smart working in revitalizing social life in neighborhoods and towns decreases with the number of hours devoted to household activities: a positive attitude was chosen by about 70%, 63% and 53% of the respondents when the number of hours corresponds to 0-1, 2-3 and 4 and more, respectively.

Item n. 14 - better division of house work and leisure time. There is evidence of a gender effect to the distribution of this item. The rate of positive answers is about 50% for men but only about 40% for women. In particular, women show a rate of negative answers equal to about 34% whereas this percentage is only 19% for men.

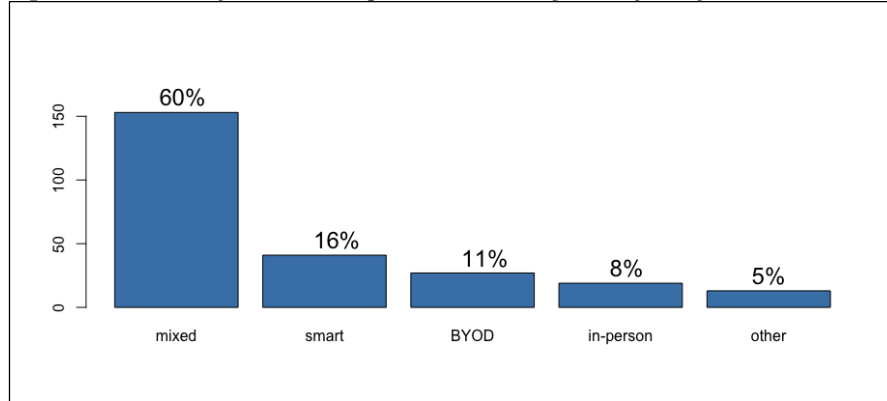
Item n. 15 - growing hangouts like Starbucks and museum cafe-bars, since not all workers want to work at home. For what concerns the dependence of the responses to age, we observe that the rate of positive answers drops for the respondents aged 50-59 (42.5%) and 60 and over (44.4%). For younger people, aged 25-19, 30-34, and 36-39, the rate grows to 66.6%, 63.2% and 53.1%, respectively.

Question 25:

Question 25 aims to investigate what way of working the interviewees would like for the future. Figure 2 gives the distribution of the answers. We decided to collapse the answers 4, 5, 7 into a single category (other), because of the small frequencies. As a result, the entropy index grew from 0.63 to 0.74 assessing higher heterogeneity. Most of the respondents prefer a mixed situation, both working at home and smart working. Only 8% wish a return to in-person working.

Let us study the paired association between question 25 and the other variables of interests listed in Table 4. The entries in Table 4 give the p-values returned by the Pearson test of association, only when such p-values are smaller than the 0.10 significance level. The empty cells denote lack of association. From the inspection of Table 4, question 25 is significantly associated with age, income status and presence of children.

Figure 2. Distribution of the answers to question 25: what do you wish for the future?



Let us investigate in detail the profiles with respect to age, income status and the presence of children. The rate of respondents willing for a mixed situation is 64%, 33%, 64%, 66%, 56% and 70% for people aged 25-34, 34-39, 40-49, 50-59, 60 and over, respectively. On the other hand, smart working is largely preferred in the age class 50-59 with a rate equal to 28%, whereas only 4% of the people aged 60 and over prefer smart working. We notice the peculiar behavior for those aged 60 and over with respect to those aged 50-59: the former give a very strong preference, indeed. The answer mixed becomes more frequent for growing income status: 50% of respondents declaring a low-income status wish mixed or smart working in the future, whereas the percentages are 60% and 71% for those in medium and high-income status, respectively. In a different fashion, smart working is mostly preferred by those in a medium income status with a rate of 18%.

Table 4. P-values corresponding to significant associations of between question 25 and selected variables of interest, at 0.10 significance level. Empty cells correspond to lack of association (and p-values larger than 0.10).

Variables	Gender	Age	Place of residence	Type of company	Size of company	Income status	Presence of children	Age of youngest child	Household
p-values		0.06				0.04	0.08		

To conclude the analysis, we observe that the percentage of respondents choosing smart working is higher in the presence of children: 20% compared to 10% of people without children. On the contrary, we do not record any remarkable difference among those choosing a mixed situation. Finally, as expected, people without children exhibit a larger rate of answers indicating a return in presence compared to those with children: 11% compared to 5%.

4. Discussion and conclusive reflections

Most European studies approached initially the theme of eWork examining the ICT potentials (Gareis et al., 2004; Adobati & Debernardi, 2022); more research is needed to understand if people perceive that smart working in the future will bring beneficial outcomes not only for the company or workers but also for society. Our research explored the perspectives on smart working and Italian society and it suggest that SW could have a positive impact on quality of life of our societies. The majority of smart workers perceive that the environmental quality life and social life of their communities will increase and work could also benefit. Our findings, in fact, reveal that participants mostly believe that in the future smart working will contribute to diminishing CO₂ emissions, reducing traffic, and decongesting crowded areas. These results are in line with previous research (e.g. O’Keefe et al., 2016) that has shown that remote working reduces the emission of carbon dioxide. Participants also strongly believe that smart working will contribute to revitalizing social life in the neighborhoods. Roberto and colleagues point out that smart working can have a positive impact on neighborhoods (e.g. Roberto et al., 2023). Mixed-use functional social neighborhoods offer residents the possibility to shop, work, and use services in the same residential community. They are a practical and effective way to revive and use urban areas (Swilling et al., 2018). In line with previous studies, our research shows that workers believe that smart working will improve the work organization (e.g. Bloom et al., 2015; Mascagna et al., 2019; Bloom et al., 2015; Lee, 2023). According to CIPD (Chartered Institute of Personnel and Development) (2008) smart working combines autonomy, flexibility, and teamwork to promote efficiency and effectiveness in achieving work objectives. Smart working can contribute to improving the organizational aspects since people can be more autonomous and adjust the schedule of their working day to suit their own needs, deciding when to start, stop, or take a break to spend time with their family. . The benefits of WFH also include the ability to set a flexible schedule and to create an individualized comfortable working environment, so even non-commuters benefit from WFH (Participants also expect that smart working can contribute to the revitalization of dormitory neighborhoods. The decentralization of labor activities could be a driving factor behind the urban re-generation of these neighborhoods which are often characterized by a degraded condition of urban landscape and a lack of identity and services (Felici et al., 2022). However, fewer participants believed that smart working constituted a suitable tool to promote a greater integration within one’s community. We can hypothesize that living more time in the neighborhood might not be enough as other factors may play an important role

in building a sense of community and feeling part of it, such as safety and a sense of belonging (McMillian & Chavis, 1986).

Nearly a third of participants didn't believe that in the future smart working will help reduce barriers to women's entry into the workforce and create job opportunities for housewives. These results are in part surprising as smart working is usually more diffused for highly skilled jobs (López-Igual & Rodríguez-Modroño, 2020) and women in Italy hold the majority of college degrees, we could have expected smart working to be perceived more as an opportunity for women's workforce. When housekeepers don't have a high level of education it might be instead harder for them to benefit from the opportunity offered by smart-working.

Women were more optimistic than men as they believed majorly that smart working could have powerful environmental benefits reducing CO2 emissions and reducing real estate costs. Women however were less convinced than men that smart working would favor better conciliation giving them more time for leisure activities. These results are consistent with an Ipsos (2022) study that found that Italian women in smart working were less happy with the balance between work and family chores. Our findings also show that for younger interviewees, the smart working solution will have a positive impact on the spread of Starbucks and meeting places, where they can work and socialize, with a consequent improvement in their quality of life.

Finally, the majority of survey respondents, when faced with what they would hope for the future, are sure they want a mixed situation. Despite the great advantages of smart working, workers opt for a hybrid model, with part of the work still carried out in person, to be able to maintain human relationships and feel part of the company and a team. Our findings are in line with previous research that indicate the people would prefer to continue working from home two or three days a week (Eurofund, 2020; Adascalitei et al., 2022). Overall our research is in line with previous studies that suggest that smart working could have a positive impact on the society in the future, cutting the CO2 costs as result of the global reduction of travel, contributing to a better liveability of metropolises that have seen an exponential increase in their inhabitants and could become more sustainable if people are able to work from second homes or one's cities of origin and contributing to a demographic repopulation of dormitory neighborhoods. However our study also indicates that smart working needs to be assessed more closely in relation to gender impact. Women have reported more than men that smart working will not allow a better balance between house work and leisure. The burden of time devoted to care and housework limits women's career progression and social personal development. Smart working can do little to challenge rooted gender stereotypes that characterize Italian society and impact the division housework

and child care. These results are in line with previous studies that suggest smart working can contribute to maintain traditional division of housework (Clawson & Gerstel, 2014; Chung & van der Lippe, 2020). In Italy these enduring cultural factor hinders women's economic autonomy and emancipation especially in the South. The last data reveals that gender gap in the workforce in Italy is significantly higher than other countries. Women's employment rate in Italy is the lowest among the EU states, approximately 14% points below the EU average (Camera dei Deputati, 2023). There is a strong need to promote more targeted gender policies, educational programs and intervention to bridge this work gap. More care service for children and elders are needed to improve work family balance and give to give women more time to spend on leisure activities. Our results also indicate that several participants did not believe that smart working will help women enter the work force, these findings are quite surprising, since flexible working arrangement give greater possibilities to enter the labour market. Based on these results, future policies in Italy on smart working need to address this gender issue and promote flexible work as a tool that can help women to enter work, the Italian GDP per capita would be higher if gender employment gaps were to be diminished.

Our study also indicates that though most participants believed smart working could be a tool to revitalize dormitory neighborhood, less thought it could promote greater integration. To promote a better integration in these neighborhoods, smart working is not sufficient, more community based initiatives are needed to foster collaboration and networking by residents, local business, no-profit organizations. It is important to promote for example block parties or street parties to help people congregate and create a sense of community in neighborhoods that for long have been dormitories.

Overall our research in accordance with previous studies (Gajendran et al., 2015; Penna et al., 2020; Rödl & Partner, 2022) Martini et al., 2023) confirms that smart working is perceived a key factor capable of determining multiple effects not only work aspects but also on the society and environment in general.

In agreement with Roberto's et al. (2023), our findings reveal the smart working can expand its effects to multiple context such as environment, gender issues, welfare, mobility and revitalization of peripheral areas.

4.1 Limitations

Our research has several limitations, since it was based on gathering data based on a non probabilistic sampling schemes through an online survey that did not allowed any form of quota sampling. Actually, the use of a convenience

sample clearly introduced distortions in the analysis: for instance, women are about 70% of the respondents and the majority of participants are highly educated. Then, there is a clear uncertainty related to the characteristics of the population that the sample is supposed to represent that could make the sample in use unrepresentative of the broader community. However, since smart workers have internet access, the actual data gathering mechanism was the most practical choice. Then, in light of these considerations, our assessments regarding associations among the different characteristics of interest should be considered limited to the sample in use, from a purely descriptive perspective. However, despite these limitations, our findings share many traits with previous works on the topic, assessing its validity in a broader framework. In particular, it confirms the importance of promoting remote working through digital technologies (Gschwind & Vargas, 2019; OECD, 2001; Eurofound, 2020), since it has several positive impacts on society. Moreover, it is also vital to support the introduction of smart working with policies capable of contributing to the development of a sense of community and better integration of bedroom neighborhoods and gender sensitive policies.

4.2 Future research

De Masi underlined in 2020 how the coronavirus in Italy has also accelerated the Southworking phenomenon (De Masi, 2020) which remains a topic to be explored further. Due to the pandemic, thousands of workers from the South left the hardest-hit North to return to the South while continuing to practice their profession in smart-working. In Italy where the South/North migration is really strong (two million of people of migrated from the South the North in the last 15 years) Southworking could be crucial to invert this phenomenon. Southworking could contribute to repopulate southern towns and relaunch the south economy. There is a need of more research to understand if the impact of Southworking will last even after the end of the crise.

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