

Division in Gender Roles During the Pandemic Crisis and Smart (Agile) Working*

Martini Elvira^a, Greco Luca^a, Mebane Minou Ella^a

Abstract

Gender inequality in domestic work still remains a major global issue, and it is particularly strong in Italy. Recent research (Istat, 2019) showed that Italy is the country with the greatest gender gap differences in Europe concerning time devoted to unpaid work. Agile work has recently received gotten considerable a lot of attention as being a possible solution to work-family conflict. During the COVID-19 crisis, Italy had one of the highest rises in the number of people partaking in agile work (Eurofound, 2020). Before the pandemic, only 10% of Italian people worked from home at least several times a week (compared to 15.8% on average in the EU-27), whereas 39.9% started working from home during the first wave of the pandemic (compared to 36.5% on average in the EU-27). This increase in agile working was higher for women (4.1% more than men) (RFL, 2020). Can forced agile working help to rebalance the roles of men and women in the Italian family? To try to answer this question, through this study, we aimed to ascertain if the massive gender disparity that characterizes Italy persisted during the lockdown when couples were compelled to stay home.

Keywords: agile working, smart working, gender roles, work-life balance.

1. Introduction

Gender inequality in childcare and domestic labor is still an issue. Italian women engage more than men in childcare, housework, and cooking. In Italy in 2016, 97% of women (aged 25-49) cared for children on a daily basis,

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compared to 73% of men. In the same period in the E.U., 93% of women took care of their children compared to 69% of men.

The inequalities between men and women become wider when it comes to home tasks. In Italy, 81% of women do household activities and cook compared to 20% of men. This percentage is higher than the E.U. average (78% of women and 32% of men) (Istat, 2020). Recent research (Istat, 2019) showed that with respect to time devoted to unpaid work, Italy is the country with the highest gender differences in Europe. On average, Italian women dedicate three hours more daily to these activities than men. Several studies have found that fathers are more involved in their children's care than in the past, particularly in entertainment and recreational activities (Saraceno & Naldini, 2013; Crespi & Ruspini, 2016). However, childcare and domestic duties remain mostly female (Carriero & Todesco, 2016; Cunha et.al., 2016).

Some research underlines that time spent on domestic duties is related to educational level in opposing ways for women and men. While women with greater levels of education spend less time on home duties, males with higher levels of education spend more time on housework (Eige, 2021).

Furthermore, income level is related to time spent on domestic work: those with greater salaries tend to spend less time on work since they can afford to outsource household chores (ORSEU, 2013). Household tasks are frequently outsourced by highly trained, hired women (Eige, 2021). However, despite rising levels of money and education, women continue to spend more time than men on ordinary household labor (Carriero & Todesco, 2016).

Women tend to feel more involved in family chores. Numerous studies have shown boys and girls assimilate the conventional gender roles that exist in society from an early age (Jackson, 2007). Gender roles are very important to understand work-home family roles. Wood and Eagly (2010) define gender roles as common beliefs that apply to individuals on the basis of their socially identified sex which serve as a foundation for most societies' division of labor. The home sphere and the household are assumed to be a woman's main responsibilities. These roles tend to be internalized, and women may perceive and judge the unequal household division positively.

In 2020, Italy along with the whole world, witnessed the greatest organizational experiment ever attempted in the history of Italy: suddenly, millions of employees, managers, and entrepreneurs stopped working in offices, as they had done for decades, and began working from home. During the COVID-19 crisis, Italy had one of the greatest rises in the share of people in smart working (Eurofund, 2020). Before the pandemic, only 10% of Italians worked from home at least several times a week (compared to 15.8% on average in the EU-27), whereas 39.9% started working from home during the first wave (compared to 36.5% on average in the EU-27). In 2016, roughly 30% of large

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organizations were participating in organized smart working programs, according to the Smart Working Observatory at Milan Polytechnic (2020). In 2019, this percentage had risen to 58%. According to data from the Bank of Italy, over 14% of private sector workers worked remotely in the first half of 2020, up from less than 1,5 % a year earlier (Depalo & Giorgi, 2021). The increase in smart working according was higher for women during the pandemic (4.1% more than men) (RFL, 2020).

The Covid-19 pandemic greatly affected Italian households with school and daycare closures. It had the potential to increase or diminish gender differences in childcare and housework. Can forced flexible working help rebalance the roles of men and women in the family? Several authors have hypothesized that flexible working could encourage men to be more involved in home and care chores (Angelici & Profeta, 2020). In Germany, during the pandemic, the father's involvement in the majority of childcare increased (5% to 13%) (D.W., 2022).

In our research, we wanted to ascertain if the massive gender disparity that characterizes Italy persisted during the lockdown when couples were compelled to stay home in smart working. We also aimed to explore whether there was a positive association between higher levels of education and higher levels of income (socio-economic status) and a more equal distribution of gender roles. Lastly, we also aimed to investigate if partners judged the division of labor positively or negatively during the lockdown.

2. For a new work organization model: agile work

Scientific and technological progress, organizational innovations, mass literacy, increased travel, traffic, and mass media, the importance of knowledge over production (Foray, 2006; Rullani, 2004a, 2004b), the pre-eminence of the production of intangible goods over material ones (Codeluppi, 2007, 2008, 2021): all this, has defined, in recent decades, a totally revolutionized social order, the characteristics of which, unprecedented in human history, have marked the transition from an industrial society to a new model of society. This is not a new phase of an old process, but a new society, a 'knowledge' society, which is based on connection and recomposition between work and life, between home and office, between quantity and quality, between ethics and business, between goods and services, and which is constituted by structures and cultures opposed to previous ones, with space and time completely unstructured (De Masi, 2020).

In this scenario, the role of workers, who are increasingly knowledge-based (Drucker, 1969), is also profoundly changing. As machines absorb repetitive

and executive work (whether physical or intellectual), workers are left with the monopoly of ideational work, which, by its very nature, is not fixed and constricted by time and, therefore, is perfectly reconcilable with the deconstruction of the workspace. “Available technologies realize (already here and now) the ancient dream of ubiquity while intellectualized work - information - is susceptible, by its nature, to maximum real-time decentralization” (De Masi, 2020, p. 46). In other words, the workplace is no longer an independent variable of the organizational theorem, and the rigidly synchronized timetable is no longer a real requirement of production. De Masi illustrates clearly how in the post-industrial society, we are increasingly moving towards a “liberation from work characterized by two progressive phenomena: jobless growth (more technology fewer people employed) and the growth of the intellectual work of white-collar and creative workers, as opposed to the decrease of the physical work of blue-collar workers. This means that an increasing number of workers will perform tasks suitable for teleworking and that the hours worked by each smart worker will decrease over time (2020, p. 112). In contrast to unemployment, the progressive liberation from work admits to much more accessible and happier forms of life because a decrease in work can be accompanied by an increase in the production of wealth, the fair distribution of both *smart working* or *agile work*, in more general terms. 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. Smartworking 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. It is not based on the

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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 platforms¹. This explains why, in Italy, the old concept referred to as teleworking was replaced by the new concept of smart working for practical purposes.

On an empirical level, the modest diffusion of smart working before the pandemic corresponded to needs that were vastly different from that of making time a 'chosen' time (Zanfrini, 2021, p. 2), a time of slowness, creativity, and sharing²: the Italian experience recounts that the work-from-home solution corresponded, above all, to the objective of making work for the market reconcilable with family work, nevertheless ending up by imposing an interpretation of the relationship between family and work as a (female) gender problem, as well as an issue of power, conflict and gender dualism (Martini & Vita, 2020).

As of 2020, the perspective has certainly changed, but not without evoking contrasting feelings. On the one hand, the continuation of the pandemic has led companies and workers to consolidate models that in the previous year had been introduced in an emergency form and logic; on the other hand, however, the prolongation of limitations due to the health emergency and therefore the impossibility of moving to the much hoped-for normality has led to the growth of phenomena of isolation, loss of identity, and brought a decline in engagement and technostress. All these factors led smart working to be

¹ In this regard, see the company policy BYOD: Bring your own device.

² Although known and partially applied, until the outbreak of the pandemic, there has been a certain reluctance to implement the smart or flexible working formula on a permanent basis, while Covid-19 has demonstrated to public opinion the obsolescence - if not the danger - of a conception of work based on the physical mobility of employees, in an increasingly globalized and interconnected world.

assimilated with the pathological and, for many, psychologically exhausting experience of working full time from home, ignoring the fact that the spirit of smart working certainly cannot be reduced to the experience of forced and emergency remote work carried out during the pandemic period. Rather, it must be understood as a new managerial philosophy based on restoring flexibility and autonomy to people in the choice of spaces, times, and tools to be used for greater accountability for results. Autonomy, flexibility, empowerment, talent enhancement, and trust become the key principles of this new approach (Corso, 2019). The health emergency has made it possible to best practice the added value of flexibility by combining it with the rediscovery of face-to-face collaboration's social and organizational significance. By ceasing to be considered a synonym for working from home and the forced remotization of relationships, smart working can finally be assessed for what it really is: a revolution of the meaning of being at work, an instrument of innovation and modernization that pushes for a rethinking of managerial processes and systems under the banner of flexibility and meritocracy, offering workers greater autonomy and accountability for results (Smart Working Observatory, 2021).

3. Agile work and work-life balance

Agile work has recently gotten a lot of attention as a possible solution to work-family conflict. Even a White House report highlighted how agile work is vital to reducing work and family conflict (Executive Office of the President Council of Economic Advisors, 2010). Several researchers have argued that theoretically, agile work should translate into a better work-life balance. Agile workers have control over when they work and more flexibility and control over the time boundaries between work and family spheres, allowing for less conflict between the two spheres (Clark, 2001; Goldenhar, 2003). Working from home should potentially help people to better address family and work demands. However, an analysis of the empirical research on agile work and the work-family balance offers contradictory findings (Allen et al., 2013). Some studies have shown that working from home is positively associated with better work-family balance (Kelly et al., 2014; Michel et al., 2011). Other evidence, instead, suggests that working from home tends to increase work-family conflict (Golden et al., 2006; Allen et al., 2013). Since the physical boundaries between work and nonwork domains are eliminated, agile work, rather than supporting the family-work balance, can lead to increased multitasking and boundary-blurring (Schieman & Young, 2010; Glavin & Schieman, 2012). Numerous theories arose on why working from home might increase workers' work-family conflict. Agile work, rather than contracting the work sphere, may

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increase it, resulting in paid work intruding into family time. There are two main explanations (Kelliher & Anderson, 2010; Chung & Van der Horst, 2018; Lott, 2020) for enforced intensification: employers give more flexibility on the one hand, but on the other hand, enforce intensification by increasing workload; or gift exchange, workers feeling compelled to repay employers for the gift of flexibility.

Recent evidence suggests the effect of agile working on work-to-family balance may differ for men and women. Data of EWCTS (European Working Conditions Telephone Survey) has shown that women undertake more unpaid work such as housework and caring for children (Eurofound, 2022). The gender gap might be influenced by the fact that women are often still more responsible for housework and childcare (van der Lippe et al., 2018).

Although there have been some developments, gender roles are still embedded in many societies. Male gender roles involve being the breadwinner (Miani & Hoorens, 2014; Knight & Brinton, 2017; Scott & Clery, 2013); female gender roles include being the homemaker and caretaker of the children and ill relatives (Hochschild & Machung, 2003; Bianchi et al., 2012; Hook, 2006; Dotti Sani & Treas, 2016). These traditional gender roles may influence how agile working is carried out and viewed by society (Chung & van der Lippe, 2020). For example, several studies have shown that males in agile working are more likely than women to increase their working hours (Glass & Noonan, 2016; Lott & Chung, 2016). Other research, on the other hand, emphasized that women tend to use agile working more for caregiving purposes (Singley & Hynes, 2005; Sullivan & Lewis, 2001; Hilbrecht et al., 2013).

Clawson and Gerstel (2014) theorize that flexible working allows workers to fulfill the social normative roles prescribed within societies. Several qualitative studies have shown that women in agile work are expected to carry out domestic work (Sullivan & Lewis, 2001; Hilbrecht et al., 2013; Shaw et al., 2003). Men, instead, tend to use work flexibility to raise their job intensity and performance-related remuneration without changing their family arrangements. As a result, employment flexibility has the potential to reinforce established gender norms (Lott & Chung, 2016; Sullivan & Lewis, 2001; Chung & Lippe, 2018). Lott and Chung (2016) longitudinal research revealed that even when women are in agile work for a longer time, they are still less likely than men to gain any financial rewards.

In countries where traditional gender norms are more prevalent, there are greater expectations that fathers in agile work still protect their work spheres and prioritize them over family time/care roles. At the same time, mothers are expected to use their flexible work for care purposes, even when it is explicitly requested for other more performance-enhancing purposes. Flexible working can potentially reinforce the gender gap in the job market because of the

preconceived notions that people will have regarding women's flexibility in the workplace, hindering gender equality (Chung & Lippe, 2018). However, recent studies (Angelici & Profeta, 2020) revealed that even in Italy, a country with a strong masculine culture, work flexibility improved the well-being and work-life balance, especially of women.

4. Research methodology

The research work involved a long phase of reflection on the method of data collection. We, therefore, prepared a questionnaire, divided it into five sections, and set it up using the Google Forms App. This tool allowed us to collect information from users through a personalized online survey. The data was then compiled and automatically linked to a spreadsheet with the answers provided by the users involved in the study.

The selection of the interviewees was also the subject of careful analysis. In the specific case of smart working workers, the reference population was quite large. Therefore, it seemed appropriate to make a selection, which led to the identification of a sample to be interviewed, which was not representative but was the result of evaluations of convenience and practicality. The reasoned sample thus involved the most accessible or informed subjects concerning the survey topic, with diversified opinions and direct experiences, even if opposite and contrasting, for example, by political line, age, gender, or socio-economic condition.

The administration of the questionnaire, which began in mid-2021, ended with the collection of the last answers 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.

As expected, all interviewees declared that they had been working remotely for about a year (coinciding with the start of the pandemic). There is a lot of information returned and photographed by reading the data. Still, in this first phase of the research project, we have chosen to analyze the impact of the pandemic and the emergence of the practice of smart working on the division of gender roles within the family.

Therefore, we isolated and subjected to statistical analysis the answers given to the following questions:

9. *If you have children, how much time do you dedicate to their care daily?*
10. *How many hours a day do you devote to household activities?*
11. *Does your partner have a job?*
12. *If you have a partner, is he smart working?*
15. *If you have a partner, have there been conflicts due to the redistribution of care and domestic work and the new way of working?*
16. *If you have a partner, how satisfied are you with the distribution of your family's household burdens?*

More specifically, we described and tested the statistical association between the above-mentioned characteristics of interest in the survey.

We used the median as location summary index and the interquartile range (IQR) for spread. When the interest lies on inferential procedures, non-parametric tests based on ranks have been used in order to avoid the misuse of procedures based on normality assumptions when they do not hold (and this is the case), and the classical Pearson test concerning the null hypothesis of independence among qualitative features.

First, we focused on the replies to questions number 9 (time spent on childcare) and number 10 (time spent on house care). The objective was to assess if there was any evidence of association between respondents' answers and other features such as gender, socio-economic status, and education level. Then, we focused on the replies to questions 15 (conflict due to the redistribution of care and domestic work and the new work mode) and 16 (satisfaction level for the distribution of family loads). The objective was to assess any association between the replies to each question with gender but also between both of them. The age of the children was also considered to investigate the effect of having children on the replies to questions 15 and 16.

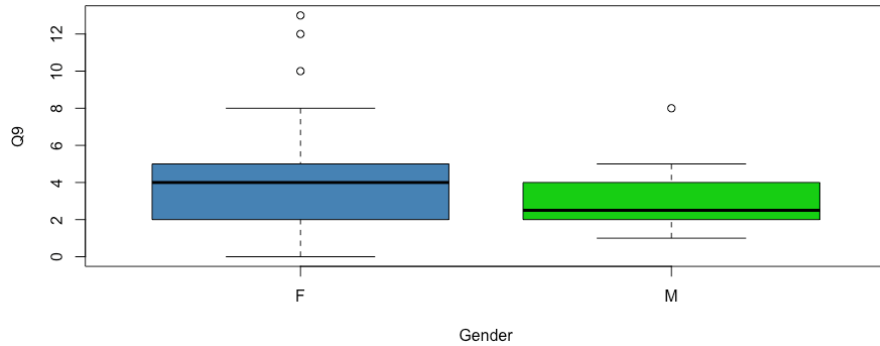
We noticed that the samples could differ for each task because of missing responses.

5. Data analysis and main results

We started the analysis using the answers to question n. 9, that is the time spent on childcare.

The number of respondents was 128. There were 98 females and 30 males. Focusing on the association between time spent on childcare and gender, the visual inspection of the box plots in Figure 1 shows that the distribution of times for females is shifted upward compared to males. The median time for females is greater (4 hours) than for males (2.5 hours).

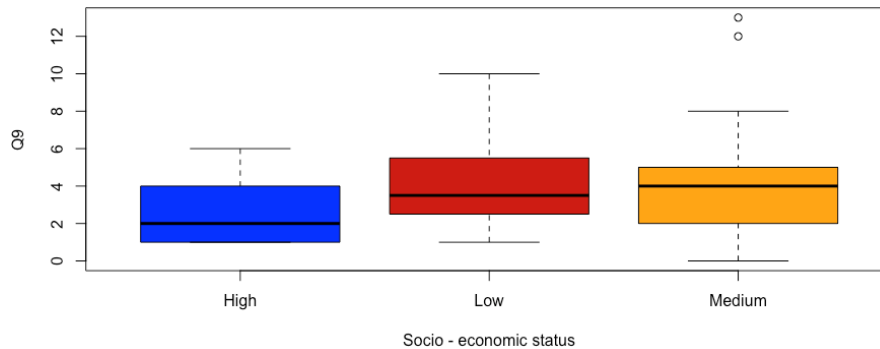
Figure 1: *bp_q9_time spent on childcare by gender.*



We also notice a larger variability for females (the interquartile range is 3 hours compared to 2 hours for men). The Wilcoxon rank sum test returns a *p-value* equal to 0.0027, giving strong evidence that childcare time is different between women and men.

We then investigated the association between childcare and socio-economic status. The latter feature has been designed into three attributes: low (12 subjects, 11 females), medium (99,75), and high (17,12). The box plots in Figure 2 indicate that when the respondent declares to be in high socio-economic status, then the distribution of time spent in childcare is shifted downward, whereas there are not any remarkable differences between the other two attributes.

Figure 2: *bp_q9_time spent on childcare by socio-economic status.*



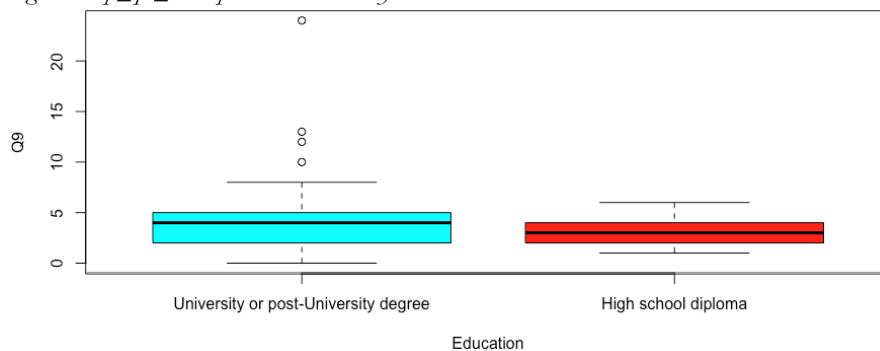
The median time is 2 hours (IQR=3) when the socio-economic status is high, 4 hours (IQR=3) when it is medium, and 3.5 hours (IQR=2.5) when it is low. The Kruskal-Wallis rank sum test allows us to test the hypothesis that the

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median time does not depend on the socio-economic status. The resulting *p-value* is 0.033; the association is significantly different from being null up to a significance level of 3.3%. It is of interest to test if gender plays an effective role in the study of the association between childcare time and socio-economic status. In order to perform a reliable analysis, we merged one class subject with low and medium socio-economic status since we had only one male with a low socio-economic status, and such a frequency would have invalidated the results. Then, the Wilcoxon rank sum test was performed on females and males separately: the result was non-significant for females, whereas it was strongly significant for males. We remarked that the median time for females in low or medium socio-economic status was 4 hours (IQR=2) and 3 hours (IQR=2) in the high socio-economic status group. The median time for males in low or medium socio-economic status was 3 hours (IQR=2), whereas we did not observe any variability in the replies for males in a high socio-economic condition since all of them declared to spend just one hour in childcare.

We then considered the variable education level. We had 109 respondents with a university degree or post-university degree and 19 with a high school diploma. Wilcoxon test proved that there was no difference in childcare time based on the considered education level, with a *p-value* equal to 0.5361. The distribution of time spent on childcare in the two groups is illustrated in Figure 3. Regarding gender, we have 84.7% of females with a Laurea degree and 86.7% of males. The lack of association between replies to question n. 9 and education level is still effective for each gender group separately.

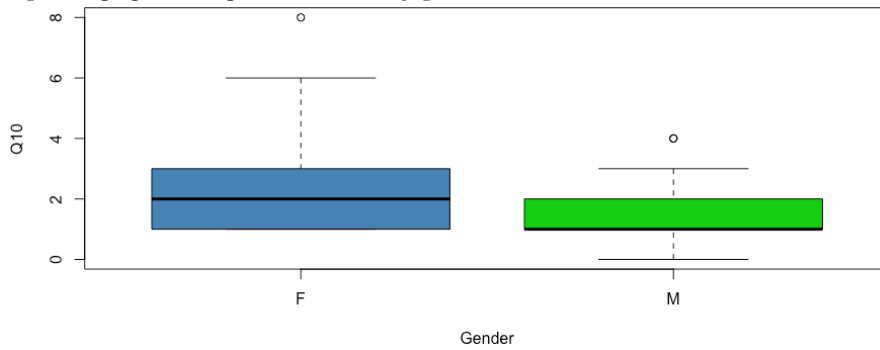
Figure 3: *bp_q9_time spent on childcare by education level.*



Then we moved our interest to answer question n.10, which constituted the time spent on house care; we studied the associations between time spent on house care and the features of gender, socio-economic status, and education level.

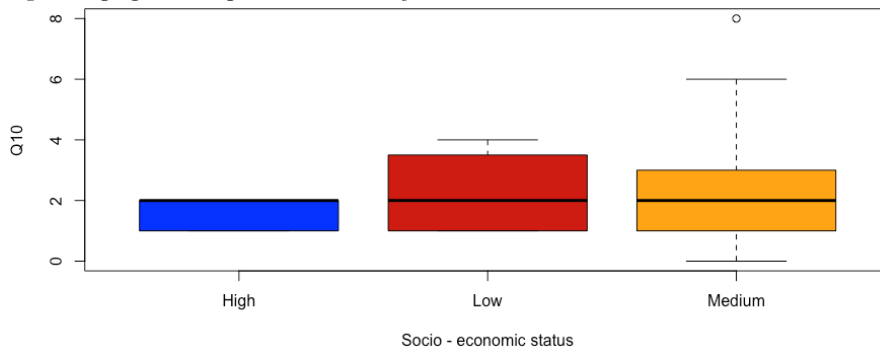
The sample was composed of 87 females and 41 males. By exploring Figure 4, we noticed that the distribution of time spent on house care for females shifted upwards with respect to males.

Figure 4: *bp_q10_time spent on house care by gender.*



The median time for females was 2 hours (IQR=2) and for males 1 hour (IQR=1). As the Wilcoxon rank sum test suggested, this difference is effective, returning a very small *p-value* equal to 0.001805. For what concerns the variable indicating socio-economic status, there were 15 respondents in the low status, 95 in the medium status, and 16 in the high status. The Kruskal-Wallis rank sum test gives a *p-value* of 0.2423, indicating that there was no difference in the location of the distribution of the replies between the three groups. The distributions are illustrated in Figure 5. The same non-significant result holds whether the subject is female or male.

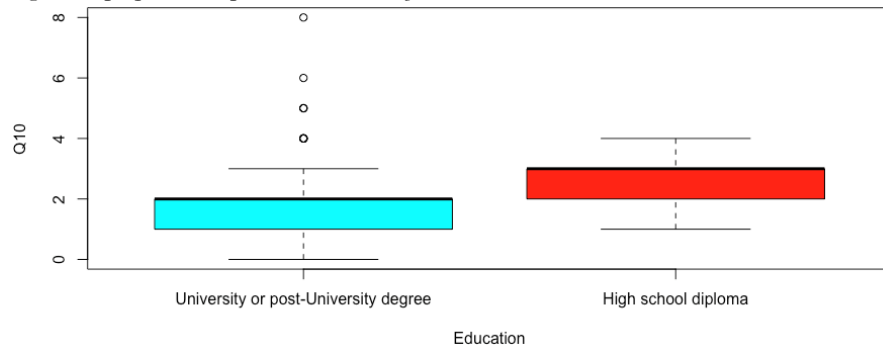
Figure 5: *bp_q10_time spent on house care by socio-economic status.*



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We then investigated the association with the variable education level. The distributions are given in Figure 6.

Figure 6: *bp_q10_time spent on house care by education level.*



The distribution of time spent on house care shifted upwards for subjects with high school diplomas. The Wilcoxon sum rank test confirmed this visual intuition of a difference in house-care time with a moderately low *p-value* equal to 0.02291. However, such a difference was effective for females (the *p-value* is 0.008494) but not males (the *p-value* is 0.7894).

Subsequently, we investigated the features concerning questions n. 15 (conflicts due to the redistribution of care and domestic work and the new way of working) and n. 16 (satisfaction with the distribution of family loads of your family).

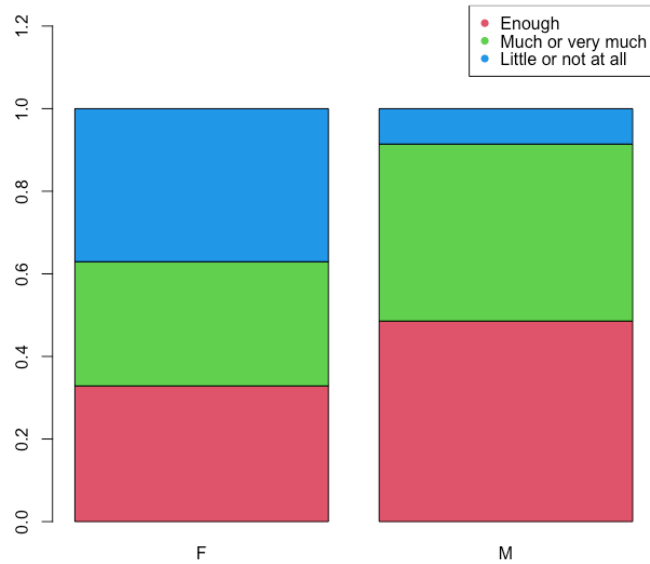
We were interested in finding different possible attitudes between females and males. Table 1 gives the joint distribution of 213 respondents according to their replies to question number 16 about satisfaction and gender.

Table 1. *Joint distribution of 203 respondents according to the reply to question number 16 and gender.*

	F	M
Little or not at all	53	6
Enough	47	34
Much or very much	43	30

Figure 7 gives the conditional distributions according to gender of the type of response to question n.16. Females were less satisfied than males. Based on the classical Pearson test, this association is strongly significative, with an almost null *p-value*.

Figure 7: *barplot_q16_satisfaction by gender.*



The same analysis was performed using the replies to question n.15 about an occurring conflict situation between the spouses. The joint distribution based on the responses to questions n.15 and the gender is given in Table 2.

Table 2. *Joint distribution of 213 respondents according to the reply to question number 15 and gender.*

	F	M
Not at all	70	37
Little	42	28
Enough, much, or very much	31	5

In order to study the different possible attitudes between females and males, we considered the conditional distributions displayed in Figure 8. The conditional frequencies suggest that females are more likely to identify conflict situations than males. The effectiveness of this association is confirmed by the Pearson test that returns a *p-value* equal to 0.022.

The Pearson test also returned a strong evidence supporting an association between the responses to questions number 15 and number 16. From Table 3, we observed that a high level of satisfaction was mostly associated with the absence of a conflictual situation, and, on the contrary, unsatisfactory situations occurred mostly with the presence of conflicts due to the distribution of house loads. This association is significant, whatever the gender.

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Figure 8: *barplot_q15_conflicts by gender.*

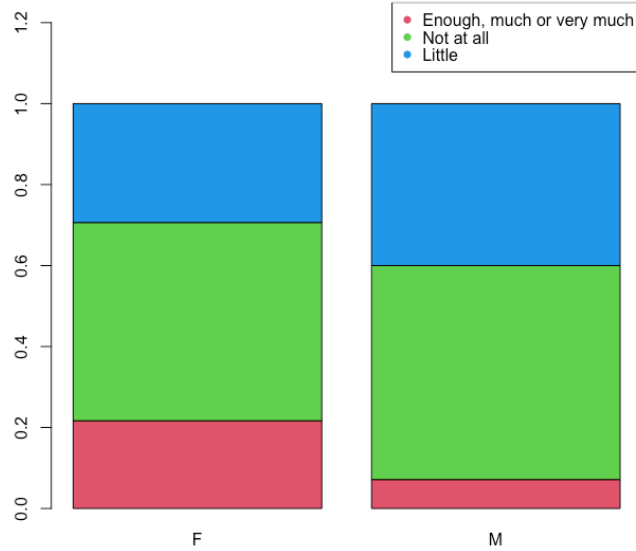


Table 3. *Joint distribution of 213 respondents according to the reply to question number 15 and number 16.*

q15	q16		
	Little or not at all	Enough	Much or very much
Not at all	20	36	51
Little	13	37	20
Enough or much or very much	26	8	2

As the last step of our analysis, we also considered the question of the survey concerning the presence of children. Responses were then related to the answers to questions n.15 and n.16. We received replies from 177 subjects: 27 without and 150 with children. Table 4 gives the joint distribution of answers to question n.16 and the presence of children.

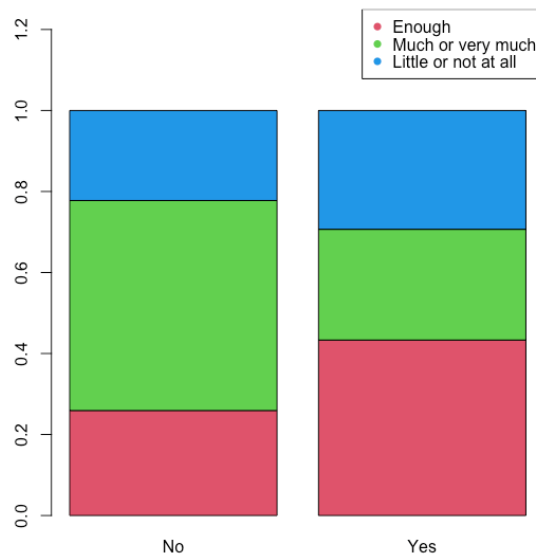
Table 4. *Joint distribution of 177 respondents according to the reply to question number 16 and the presence of children.*

	Yes	No
Little or not at all	6	44
Enough	7	65
Much or very much	14	41

Figure 9 displays the conditional distributions within subjects with and without children. It is evident that the absence of children increases the chance

of having high satisfaction. The Pearson test supported the argument of a dependence between answers and the presence of children with a *p-value* of 0.038 (we concluded that the dependence was statistically significant for levels not smaller than 3.8%).

Figure 9: *barplot_q16_satisfaction by children.*



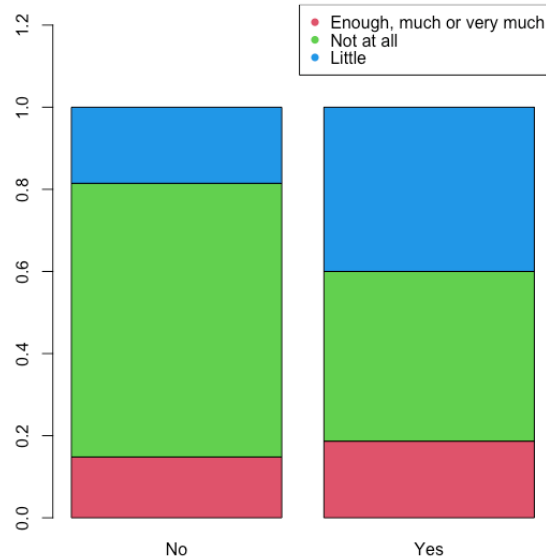
The same analysis was conducted relating answers to question number 15 to the presence of children. The joint distribution is given in Table 5, and conditional distributions are displayed in Figure 10.

Table 5. *Joint distribution of 177 respondents according to the reply to question number 15 and the presence of children.*

	No	Yes
Not at all	18	62
Little	6	60
Enough, much, or very much	4	28

Again, subjects without children show a larger rate of replies claiming that there are no conflicts. The Pearson test returned a *p-value* of 0.0426, supporting such an evidence at a 5% significance level. However, the occurrence of smaller than five frequencies suggested obtaining the *p-value* by means of bootstrap: the bootstrap *p-value* is about 4%.

Figure 10: *barplot_q15_conflicts by children.*



6. Conclusions and future research directions

Gender disparities in family work and informal childcare are still present. It is widely acknowledged that the increase in women’s participation in work over the past few decades has not been accompanied by a proportional increase in men’s involvement in household work and childcare. Italy (Istat, 2019) is the country with the highest gender difference over time dedicated to unpaid work in Europe. Women’s participation in the job market is hindered by care responsibilities; women tend to take more time off to take care of relatives and work for longer unpaid hours. This unequal distribution of influences the possibility of pursuing a career (Ferrant et al., 2014). According to the U.N. (2013), the unequal distribution of care work represents a violation of women’s rights and a barrier to their economic empowerment.

Smart working could potentially help people to better cope with family and work demands. The Covid-19 pandemic gave families a valuable opportunity to redefine not only the ways of conducting work but also how to organize unpaid care work while working from home (Queisser, 2021).

Our research reveals that despite the presence of both partners at home, females continued to devote more time to home and care activities than males. Our data also showed that this period of smart working did not encourage men

to be more involved in home and care chores, as some authors hypothesized (Angelici & Profeta, 2020; Alon et al., 2020). Instead, these findings are in line with other studies that indicate that the burden of household chores during the pandemic was higher for women (Farré et al., 2020; Biroli et al., 2020; INAPP, 2020). Our data confirms that although there have been some positive developments (Crespi & Ruspini, 2016), gender role divisions are still present in Italian society. These findings corroborate with previous studies that suggest that Italy's fatherhood accentuates man's role as breadwinner rather than caretaker (Tanturri & Mencarini, 2009).

Moreover, contrary to expectations (e.g., Presser, 2001), education levels and income were not associated with time spent on housework. It can be hypothesized that restrictions during the middle and late phases of the pandemic made it harder even for wealthier families to delegate domestic work. In contrast to earlier findings (Schneider et al., 2018), males with higher socio-status tended to spend less time caring for their children. Even when we consider men's education and income level, the gender gap still persists. Women reported lower levels of satisfaction with respect to the distribution of childcare and domestic labor and were more keen to identify conflicts related to the distribution of unpaid work than men. These findings do not support previous research (Carriero & Todesco, 2016; Istat, 2019) that shows that though Italian women are aware of being more involved in domestic care than their male partners, they are satisfied with the traditional gender role distribution of unpaid work. In the Istat survey (2019), authors point out that Italian women tend to internalize gender roles; for example, 73% stated that they were contributing more than the partner in the management of domestic work, but 70% of women declared that they were satisfied or very satisfied with the division of labor in the house. Our findings begin to reveal a less linear image of women: though still continuing to carry a heavier load of family responsibilities, women are less satisfied with the division. We can hypothesize that since, during the pandemic, parents of both genders were spending more time at home together and were in the same work environment, the gender gap was more evident: women juggled with work and household chores and homeschooling while working from home, while men though in the same work condition, did not (or much less). Our research also reveals that people without children had higher levels of satisfaction with respect to the distribution of unpaid work and lower levels of conflict related to the distribution of care and domestic work. These findings corroborate with previous research that maintains that couples without children tend to divide paid and unpaid labor fairly evenly; however, when men and women become parents, their patterns become increasingly gender-specific (Barnes, 2015).

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Gender imbalances in informal childcare and family work are at the heart of the current socio-economic debate. The equal burden of family responsibilities is important not only for equity purposes but also to promote female market work and career opportunities for women. Overall, our research depicts a very unbalanced picture of Italian families. Our study confirms that there was a considerable gender difference in time use in unpaid work activities such as childcare and household chores- despite both partners' presence at home during the pandemic emergency. Traditional gender attitudes contribute to explaining this gap. Despite the trend, our findings also reveal that women's preferences were not completely aligned with gender norms. The forced smart working period may have increased women's recognition of the unequal distribution of housework. This is an important step towards gender equality since promoting more equity inside the families requires women's awareness about the gender gap and perceiving it as discriminatory.

Overall our research reveals that though smartworking could theoretically favor gender equality, data collected during the COVID-19 pandemic shows that this mode of working does not promote equal distribution of unequal paid work. There is a need to promote a smartworking culture that encourages care burden sharing (INAPP, 2020). It is important to address this issue at different levels, planning adequate training in raising awareness of gender biases, supporting hybrid workers, and monitoring the career progression of women and men (Eurofound, 2023).

Our research has several limitations; although the questionnaire was distributed to various smart workers, most participants have a high level of education, which is not very representative of the general population. Moreover, using online questionnaires to collect data can have several limits. However, the online questionnaire method appeared to be the most viable option due to the pandemic restrictions and the fact that smart workers have internet access.

Despite these limitations, the data has revealed some intriguing aspects of the division of gender roles: our research has shown that smart working during the pandemic did not represent for men a stimulus towards a full sharing of childcare and house care activities, but women tended to resent the traditional gender roles division. Future research in this field might investigate which strategies are effective in promoting a redistribution of unpaid care work.

Furthermore, the research made it possible to collect useful data to also understand the idea of the interviewees on the relationship between quality of work and quality of life and on the opportunity to reconsider the benefits of remote working also for the future. For example, future research should explore the role of various levels of couples' emotional satisfaction in increasing their propensity to behave with more equity. During COVID-19, couples who had

good relations before the pandemic improved their marriage, while couples with unsatisfactory relations had negative experiences that increased marital separation (Francescato & Tomai in press).

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