

Gijón, Covadonga; Ruíz-Rúa, Aurora; Fernández-Bonilla, Fernando

Conference Paper

Telework, perception and family partnership. The Spanish situation after Covid-19

32nd European Conference of the International Telecommunications Society (ITS): "Realising the digital decade in the European Union – Easier said than done?", Madrid, Spain, 19th - 20th June 2023

Provided in Cooperation with:

International Telecommunications Society (ITS)

Suggested Citation: Gijón, Covadonga; Ruíz-Rúa, Aurora; Fernández-Bonilla, Fernando (2023) : Telework, perception and family partnership. The Spanish situation after Covid-19, 32nd European Conference of the International Telecommunications Society (ITS): "Realising the digital decade in the European Union – Easier said than done?", Madrid, Spain, 19th - 20th June 2023, International Telecommunications Society (ITS), Calgary

This Version is available at:

<https://hdl.handle.net/10419/277965>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

Telework, perception and family partnership.

The Spanish situation after Covid-19

Covadonga Gijón

UNED

cgijon@cee.uned.es

Aurora Ruiz-Rúa

UNED

auroraruizrúa@cee.uned.es

Fernando Fernández-Bonilla

UNED

ffernande1641@alumno.uned.es

Abstract

Before and after the pandemic COVID-19 and with the expansion of high-speed internet during the recent decades, a growing number of people are working from home, teleworking. Yet there is no consensus on how working from home affects workers' satisfaction in the literature. Using data from 2020 and 2021 this paper examines the satisfaction of those people who are more or less hostile to teleworking. Apart from the general positive perception of telework and the contribution it has made to work-life balance, time management and the reduction of commuting, there are also many who feel lonelier than before and there is a perception that it is more difficult to disconnect from work while working from home. Although the positive not be ignored, teleworking seems does not favour the better educated or the self-employed, who have lower levels of satisfaction in relation to the other variables. In fact, the self-employed are less satisfied overall. Therefore, companies and the public sector must make every effort to enhance these synergies, support training programmes and ensure work-life balance for teleworkers. Further lines of research should be taken into account in order to obtain a more clear and multydisciplinary analysis of telework.

Keywords: Working at home, Telework, Consumers, Survey data, Econometric models.

1. Introduction

The Covid-19 pandemic has stimulated the digitisation of society and the connectivity of citizens in general (OECD, 2020). Businesses have also made great efforts to bring as much activity as possible to the online environment. This transition has also influenced workers who have seen how, due to Covid-19, they have had to work at home. But, in Spain, it has also meant a modernisation of the working environment and a way of preserving jobs by creating new legislation around it in terms of labour rights.

Telework is not only a logical response to job losses; it is also a form of innovation in the workplace, responding to a need and reducing costs. Telework is much more than a logical response to job losses, it is innovation and plays a fundamental role in the lives of citizens and businesses (Acs et al., 1990). If people are happy with innovation, they are more likely to adopt it and have higher job satisfaction. As Fonseca et al. (2019) explain, well-trained human capital is vital in the innovation process, depending on other factors such as remuneration and creativity. For the firm, innovation fosters efficiency.

Our study aims to analyse teleworkers' perceptions of this innovation, whether positive or negative. We consider the factors that lead them to each opinion, such as flexibility, comfort or concentration among the positive ones, and lack of personal contact, lack of means or saturation among the negative ones. We will then analyse the study between the socio-demographic situations of each individual and their jobs.

We will also focus on the perception of individuals as to whether or not they consider it to be positive for companies and family reconciliation. We will observe their positive or negative inclination towards all areas considering only this form of innovation.

This study will analyse the resistance or acceptance of this innovation in the way of working and analyse whether it would be positive according to workers if it were to be maintained in the future. To make this assumption a reality, an evaluation of the professionals 2 years after the implementation of this measure will be reflected in order to analyse its effectiveness and the well-being it has brought about. Knowing the assessment of those affected, the possible aid or policies that could be suggested from different areas of society, whether public administrations, companies, universities or consumer associations, will be discussed.

The following chapter of the paper presents the main theoretical background on which we formulated research hypotheses. Then we outline the research design and describe the data and data analysis methods used in our study. Next, we present the study results and relate them to the stated hypothesis. The last section discusses the results, putting them in the context of related work, and concludes the paper by outlining limitations, future research directions, and practical implications of our research.

2. Literature review.

At the beginning of 2020 nobody could imagine what was going to happen just a few months later, the worldwide public health crisis called COVID-19. In the absence of knowledge of adequate treatment or a vaccine, most countries quickly enforced self-isolation measures to stop the spread of the disease and release over-burdened health systems.

The Spanish Government declared a state of alert and a 14-day nationwide lockdown on March 16th, which was extended four times and ended on the 20th of June 2020 (RDL 463/2020, March 14th).

The concept of “teleworking” or “telecommuting” has been around to establish more flexibility in organizations (Haddon & Lewis, 1994). There is no universal agreement for the definition of Telework, but it is generally described to work “away from the office” by means of electronic connections, (Alizadeh, 2013). Malik et al. (2016) argue that this implies that employees can work not only from home but also from any other places that are not the normal office of the company (for example, a satellite office or an external location). This is the reason why some authors defined telework as smart working, regarded as an evolution of teleworking, emphasizing the potentially positive effects that this new modality is expected to bring about, for both companies and people (Kim et al., 2017).

During the pandemic time telework was adopted in organizations as a temporary working measure to ensure the continuity of private businesses and public administration services (Amankwah-Amoah et al., 2020; Anker, 2021; Bhumika, 2020; Palumbo, 2020; Tavares et al., 2020). Important conclusions for the case of Spain show

that satisfactory telework predicted higher levels of subjective well-being and self-reported performance over time (Blahopoulou et al., 2022).

According to estimates by the International Labor Organization (ILO, 2020), half of the workforce in high-income regions of the world, like North America and Western Europe, has been able to work from home throughout the pandemic. In Europe, 37% of the total workers began to telework in response to the spread of COVID-19 (Eurofound, 2020).

Telework as innovation.

Telework is not only a logical response to lockdown restrictions, traditionally it has been considered a form of innovation in the workplace, responding to a need, and reducing costs. Telework is innovation and a commitment to the adaptability of companies to a new situation (Mayo, 2009; Belzunegui et al., 2014). Innovation plays a fundamental role in the lives of citizens and businesses and is essential for their performance and survival (Cefis and Marili, 2006). Gijon et al., (2021) found for the Spanish's case that people have a better perception of innovation if they are training in innovation or have good Information and Communication Technology skills. Among the main results, there is evidence of a gender gap in the perception of innovation, as well as differences according to digital skills.

Innovation is also essential for users, and how we perceive it depends on its success and adaptation (Grimm et al., 2020). King et al. (2019) points out that innovation is a big part of our social network's perception and facilitates its proper development.

Jensen et al. (2017) find a relationship between innovativeness and job-related satisfaction. If people are happy with innovation, they are more likely to adopt it and have higher job satisfaction. As Fonseca et al. (2019) explain, well-trained human capital is vital in the innovation process, depending on other factors such as remuneration and creativity. For the firm, innovation fosters efficiency.

Telework and perceptions.

Earlier studies on teleworking during COVID-19 show that there is a gender gap in the adoption of teleworking adoption (Lyttelton et al., 2020). The authors explored the

gender disparity in the context of working from home using data of 784 parents in the USA. They found that mothers implementing Telework declared more anxiety and loneliness with depressed feelings in comparison to fathers implementing Telework. This would stem from the fact that telecommuting mothers take on heavier family responsibilities with more time spent on housework and childcare than telecommuting fathers. Such results would support a difference in the ways male and female teleworkers perceive it during the pandemic. In turn, the different perceptions may cause the gender-based difference in preferring to adopt telework post-COVID-19. (Lyttelton et al., 2020).

Thousands of employees and managers started to work from home (telework) during the pandemic, an uncertain situation (Kirchner et al., 2021). These Employees were facing two big challenges. The first challenge was handling emotional suffering because of infection fear, job insecurity, dismissal menace, financial problems, and the multiple effects of the crisis that threatened their well-being. The second challenge was to rapidly adjust to a new work environment and work demands in a matter of days (in Spain, it was mostly three days, from a Friday at work to Monday with telework) without any preparation, planning, or training time, sourcing from the IT equipment available at home, struggling between work and family demands, and trying to maintain high work performance. (Blahopoulou et al.,2022).

The effects of telework on employees' well-being are not conclusive or contradictory before and after COVID-19 (O'Neil et al., 2009; Joice et al., 2010; Anderson et al. 2015), some researchers emphasize the benefits of telework (Gajendran and Harrison 2007 and Giménez-Nadal et al., 2019) but in the first case, did not find in their meta-analysis of 38 investigations a positive effect on worker performance, and in the second, also with a contradictory relation between telework and performance, the homeworking benefits are limited and higher on male teleworkers than commuters in general. Song and Gao, 2020 with a similar study by Giménez-Nadal et al., 2019 and with the same database found that in general working at home has a negative effect on Subjective well-being (measured by happiness, pain, sadness, stress, tiredness, and meaningfulness). During the COVID-19 lockdown and in the case of Spain (Blahopoulou et al.,2022) found a positive direct effect in telework satisfaction on both subjective well-being and self-reported performance.

Telework and Inequality.

Teleworking from home combines the logic and structure of the traditional office with that of the private familial space of the individual. As such, it has the potential to reproduce gender and socioeconomic inequalities from the private sphere of the worker to her professional space and career (Chung and Van der Horst, 2018). Several studies have shown that the COVID-19 lockdown produces an important negative impact on female workers' employment and on their working hours (Adams-Prassl et al. 2022; Collins et al. 2021; Kristal and Yaish 2020), suggesting a wider gender gap in earnings. Apart from the gender inequality in employment and earnings, Cui et al. (2022) find that the COVID-19 disaster also leads to gender inequality in research productivity, telework can enhance workers' performance but depends on digital infrastructure (Dettling 2017).

3. Data and Methodology.

In order to carry out studies to analyse the position of individuals with regard to telework, as well as to estimate their satisfaction, it is important to define the available data and the appropriate methodology for estimation.

Data

The data intended to be used for the research come from the National Institute of Statistics, specifically from the Survey on Equipment and Use of Information and Communication Technologies in Households, for the years 2021 and 2022. The sample available for 2021 consists of 14839 observations (INE, 2021) and for 2022, of 15027 (INE, 2022). This survey is conducted annually and collects information on ICT equipment in Spanish households, as well as information on Spaniards' use of new technologies and the Internet. The survey is addressed to anyone over 10 years of age, focusing on individuals aged 16 to 74. The samples are representative of the Spanish population in terms of age, place of residence and sex.

Explain the variables to be used in this study and how they are coded, for a better understanding of the subsequent study. The following table summarises and explains the explanatory and dependent variables used.

Variable		Values
MALE	Male	Male = 1, otherwise = 0
AGE	Age	Age of all individuals
AGE2	Age ²	Age of all individuals squared
INCO	Income	Between 0 and 900 = 450, between 900 and 1600 = 1050, between 1600 and 2500 = 2500, between 2500 and 3000 = 2650 and above 3000 = 4000.
FORM	Formation	No studies = 1, Primary studies = 2, Secondary studies = 3, Post-Secondary= 4, Professional Formation = 5, Degree = 6, Masters = 7, PhD = 1,
TW	Tic-Worker	Tic worker = 1, otherwise = 0
ETR	e-Trust	Low trust = 1, Medium trust = 2,

		High trust = 3
SEMP	Selfemployed	Selfemployed = 1, otherwise = 0
STW	Satisfaction with Telework	Satisfaction with Telework = 1 - 10

Tabla 1. Variables of Interest

Before commenting on the variables explained in table 1, we will also explain their main statistics, represented in table 2. By main statistics we mean, mean, standard deviation, minimum and maximum values of the variable.

Variable	Obs	Mean	Std. Dev.	Min	Max
STW	1,030	8.115534	1.779172	0	10
MALE	15,027	0.4523857	0.4977443	0	1
AGE	15,027	54.9264	18.3764	16	101
AGE2	15,027	3354.579	2023.362	256	10201
FORM	13,867	3.577486	2.113256	1	8
ETR	12,279	0.5925564	0.4913786	0	1
TW	6,526	0.0372357	0.1893533	0	1
SEMP	15,027	0.0294137	0.1689688	0	1

Table 2. Descriptive stats

Looking at tables 1 and 2, we understand that most of the variables used are dichotomous, taking the unit value if the attribute in question is present in the individual and zero otherwise. These attributes would be the gender variable with a unit value if the respondent is male, the "self-employed variable", "e-confidence" and "ICT worker".

The remaining explanatory variables are either continuous, such as age, or of a wider response range, such as educational level. The dependent variable, satisfaction with telework, is a likert scale ranging from 0 to 10 and its mean is 8, indicating that the average satisfaction is quite high.

Once the variables are known, it will be interesting to know the relationships between the variables, for this purpose the correlation matrix, table 3, will be used. The correlation matrix for the year 2021 will be attached, this and the table for the following year are very similar, it is only important to consider that the relationship between the gender variable and the dependent variable changes sign from one year to another, indicating a change in the relationship.

	STW	MALE	AGE	AGE2	FORM	ETR	TW	SEMP
STW	1.0000							
MALE	-0.0703	1.0000						
AGE	-0.0978	0.0524	1.0000					
AGE2	-0.1064	0.0587	0.9889	1.0000				
FORM	-0.0677	0.0073	-0.0656	-0.0757	1.0000			
ETR	0.0636	0.0744	0.0050	-0.0025	0.0494	1.0000		
TW	0.1270	0.2430	-0.1184	-0.1200	-0.0744	0.0295	1.0000	
SEMP	-0.0814	0.0917	0.0575	0.0520	-0.1045	-0.0078	-0.0444	1.0000

Table 3. Correlation stats.

The correlation matrix, Table 3, shows that the only variables of the proposed variables positively related to the dependent variable would be the variables related to ICT use, "e-confidence" and "ICT worker", the rest are all negatively related, both the socio-demographic variable and the employment variable "Self-employed". The negative relationship between being male and the telework satisfaction variable indicates that the people who most enjoy teleworking are women. In addition to the orientation of the relationships of the dependent variable and the explanations, it is important to note that the relationship of the dependent variable does not exceed 0.7, so there is no multicollinearity, avoiding problems during the estimation.

Methodology

In order to carry out a complete study of satisfaction in the work environment, a descriptive analysis of the dependent variable "satisfaction with telework" was carried out, comparing the

frequencies of satisfaction levels year by year and distributing them according to different socio-demographic explanatory variables. In this way, profiles of individuals who are more or less satisfied with telework can be drawn up.

After describing the individuals who are more or less satisfied with telework, as well as describing the variable as a whole. We will focus on describing the variables of advantages and disadvantages, studying their frequencies and their relationship with a possible gender gap proposed in the literature review.

With this descriptive work done and a clear idea of the functioning of the dependent variable, we will proceed to an estimation of the dependent variable "satisfaction with telework" on the rest of the explanatory variables.

This estimation will be carried out using the OLS (Ordinary Least Squares) model to model consumer satisfaction because, although there is controversy about the suitability of this model when the dependent variable is ordinal, it seems necessary to use ordered probability models (such as logit or probit), it was considered appropriate since the satisfaction index used in the study takes integer values between 0 and 10. Ordered probability models are usually consistent in sign and level of significance with those obtained using OLS for response amplitudes such as the one presented here (Peel et al., 1998). Considering what is proposed in this paper.

Summing up, OLS regression is a statistical technique used to estimate the relationship between a dependent variable and one or more independent variables, allowing for a simple interpretation of the results (Wooldridge, 2015). In addition, OLS regressions use heteroskedasticity-consistent covariance matrix estimates (Eicker-White) to correct for possible heteroskedasticity in the data (Eicker, 1967).

4. Results.

In the results section, the results obtained after applying the methodologies explained in the previous section will be studied and discussed. It will be divided into three sub-sections: descriptive analysis of satisfaction with telework, estimation of satisfaction with telework and study on the perception of the advantages and disadvantages of telework.

Descriptive analysis of satisfaction with teleworking

The satisfaction measured in the survey from unity value, very negative experience, to ten value, pleasantly positive experience, has been grouped into 5 groups to be represented in a more attractive way. Group 1. Very dissatisfied, Group 2. Dissatisfied, Group 3. Very dissatisfied, Group 3. Dissatisfied, Group 3. Neutral, Group 4. Satisfied, Group 5. Very satisfied. With this grouping, the opinion of Spanish individuals towards teleworking in 2021 and 2022 can be seen more quickly in Figure 1.



Figure 1. Satisfaction with telework.

Spanish society, or in particular people who have had access to a telework option in their jobs, are generally satisfied with this way of working. They are generally more satisfied in 2022 than in 2021. In 2022, people who say they are "very satisfied" with teleworking exceed 50% of the population, and the blocks of individuals who are dissatisfied or neutral towards teleworking are reduced.

Therefore, there is most people who support this form of employment. What we do not know are the characteristics of the individuals who are very satisfied or dissatisfied. Figure 2 below looks at the distribution of individuals' satisfaction with telework in 2021.

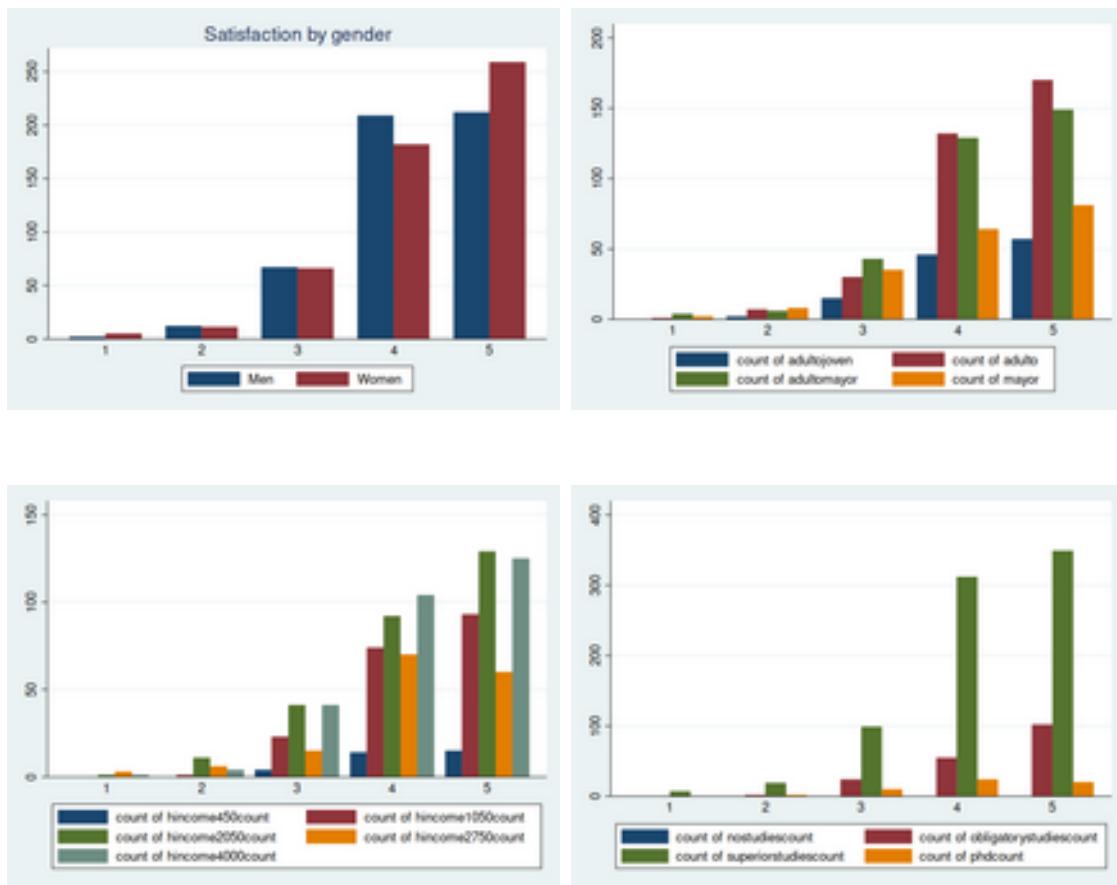


Figure 2. Satisfaction with telework by sociodemographic variables in 2021.

The distribution of satisfaction levels of Spanish citizens according to their degree of satisfaction with telework reflects the characteristics of individuals who are more or less satisfied.

Firstly, it can be interpreted that the distribution by educational level is similar and upwards. The same proportion of each educational level is found in each satisfaction stratum, so education would not characterise the profile of the satisfied or dissatisfied person. Income levels, on the other hand, provide more interesting data: people with lower-middle incomes are the most dissatisfied in absolute terms. However, this group will also be the most satisfied with their jobs in 2021. Upper middle income people dominate the 'satisfied' category, but it is the only one with more 'satisfied' than 'very satisfied'.

Finally, the two dimensions with the most striking results are age and gender. Firstly, people aged 35-55 are the most satisfied with telework, with the steepest jump from 'neutral' to 'satisfied', while young people are the least satisfied, with 'very satisfied'. In

terms of gender, women are the group most satisfied with telework, the Spanish data refuting the thesis that they are the main victims of the increase in double working hours and stress expressed in the literature.

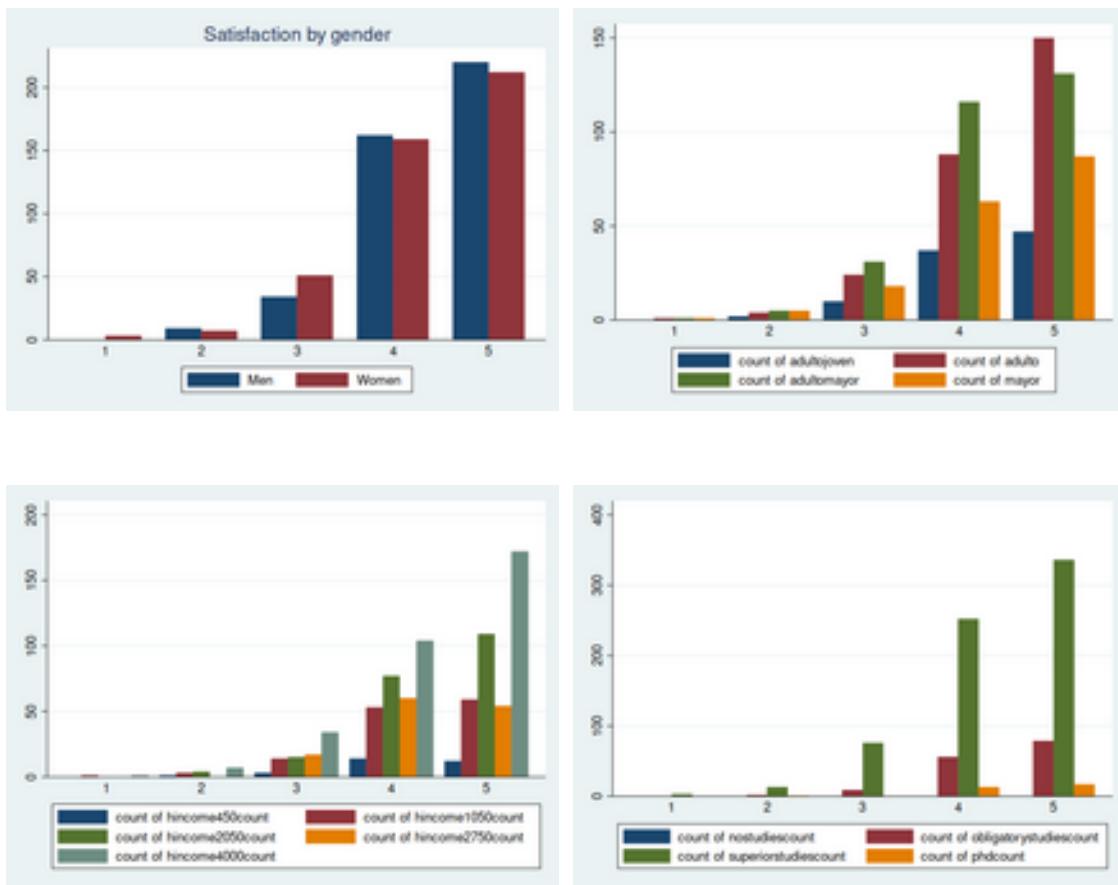


Figure 3. Satisfaction with telework by sociodemographic variables in 2022.

However, in 2022, as Figure 3 shows, there is little to say about the relationship between education and job satisfaction, it's the same than the prior year and it will be better analysed in the model.

Firstly, of those people still teleworking in 2022, it highlights the predominance of the more affluent as not only the most satisfied but also the predominant group, so that teleworking may gradually become only an option for people in well-paid jobs to the detriment of those in lower-paid jobs, many of whom have already returned to face-to-face work. It also highlights that in 2022 the most satisfied people will be older people aged 55-75, who have increased their overall satisfaction to the detriment of younger people, many of whom are no longer teleworking.

Finally, the gender perspective on the satisfaction measure in 2022 shows that men are now the most satisfied overall, in contrast to women who were the most satisfied in 2021, with women now leading both the dissatisfied and the very dissatisfied.

The conclusions that can be drawn from the comparison of the two years would be that of a change in trend due to a shift in the subjects of teleworking, from a more cross-population activity in 2021, with women and adults aged 35-55 leading the satisfaction lists, to a practice of older, high-income, male individuals in 2022, who in turn become the archetype of the most satisfied.

Estimating the satisfaction with teleworking

After analysing the subgroup of teleworkers as indicated in the methodology and rejecting the ordered decision, logit and probit models because the satisfaction score ranges between 0 and 10, an OLS analysis of the dependent variable is carried out for the years 2021 and 2022. The results are presented in Table 4.

	Satisfaction with Telework - 2021	Satisfaction with Telework - 2022
Male	-0.327*** (0.033)	-
Age	0.059* (0.033)	-
Age²	-0.008** (0.00003)	-
Formation	-0.086*** (0.032)	-0.063** (0.036)
e-Trust	0.271** (0.132)	0.315* (0.171)
Tic Worker	0.616*** (0.129)	0.612*** (0.126)
Selfemployed	-0.577** (0.291)	-0.470* (0.251)

Const	7.570*** (0.743)	8.351*** (0.247)
n	1030	861
Prob > F	0.00	0.00
R-squared	0.05	0.034

Tabla 4. Linear Regression of Satisfaction with Teleworking

The results provide interesting insights into the population of teleworkers in both years. Firstly, as already observed in the descriptive analysis of the dependent variable, the population of teleworkers decreases from one year to the other due to the return to face-to-face work, from 1030 to 861 persons.

The joint significance of the model, the F statistic, indicates that the set of explanatory variables together explain the dependent variable well, but the R² is very low, which means that they do not explain much of the variability of the dependent variable, which is also observed in its constant, which is very significant and close to the mean.

As far as the analysis of the explanatory variables from one period to the next shows, the variables age and sex are no longer significant. In fact, according to the correlation matrix for the year 2022, gender would be positively related to satisfaction with telework, changing the prior tendency, from women being more satisfied with telework than men in 2021, to male being more prone to telework in 2022.

In 2021, age can be interpreted as a positive and significant influence on satisfaction with telework, with older people being more satisfied with telework than younger people. On the other hand, the other significant socio-demographic variables, gender and education level, would have a negative relationship. This means that women and people with a lower level of education are more satisfied with telework.

The relationship of the education variable is maintained and remains significant in the year 2022, it remains negative, the higher the education the greater the rejection of telework, this is surprising because, as observed in the year 2022, the profile of high-income levels predominates, this means that even with the predominance of this subgroup, the higher the level of education the lower the interest in telework.

As can be seen from the data, variables related to ICT use and employment have been included. These are significant in both periods and maintain the direction of their influence in the estimation. The variable " e-trust " has a positive and significant relationship with job satisfaction. The same is true for the variable 'ICT worker', which is simply a person who uses ICT at work and who is more likely to be satisfied with working from home. Thus, being proficient in the use of telecommunications is positive for being satisfied with teleworking.

This relationship cannot be extrapolated to the self-employed, who are very dissatisfied with teleworking, due to the high significance and coefficient of their variable.

The model therefore shows an age and gender gap, the latter in favour of women in 2021, a negative relationship between the individual's education and satisfaction, which is repeated when the individual is not an employee but self-employed, and a positive relationship between having digital skills and perceiving certain advantages in teleworking. This confirms much of what was seen in the descriptive analysis but opens up another perspective when we talk about finding positive and negative points. What are the perceived advantages and disadvantages of teleworking? Do people observe them?

Study on the perceived advantages and disadvantages of telework.

In the 2021 survey the INE asks about the advantages and disadvantages of teleworking, in this block it will be interpreted whether individuals also perceive them as advantages and disadvantages, which ones are clearer and how they relate to the gender of the individual, this is done given the gender gap found in this year's estimation. Next, Table 5 will reflect the advantages coded by the INE (INE, 2021) and, if individuals perceive them in the same way, Table 6 will do the same with the disadvantages.

	Time management	Conciliation	Time savings	Travel savings	Comfort	Better use of time
Not an advantage	11.75	12.00	32.46	5.68	22.02	12.84
Advantage	88.25	88.00	67.54	94.32	77.98	87.16

Table 5. Percentage of people who observe these advantages.

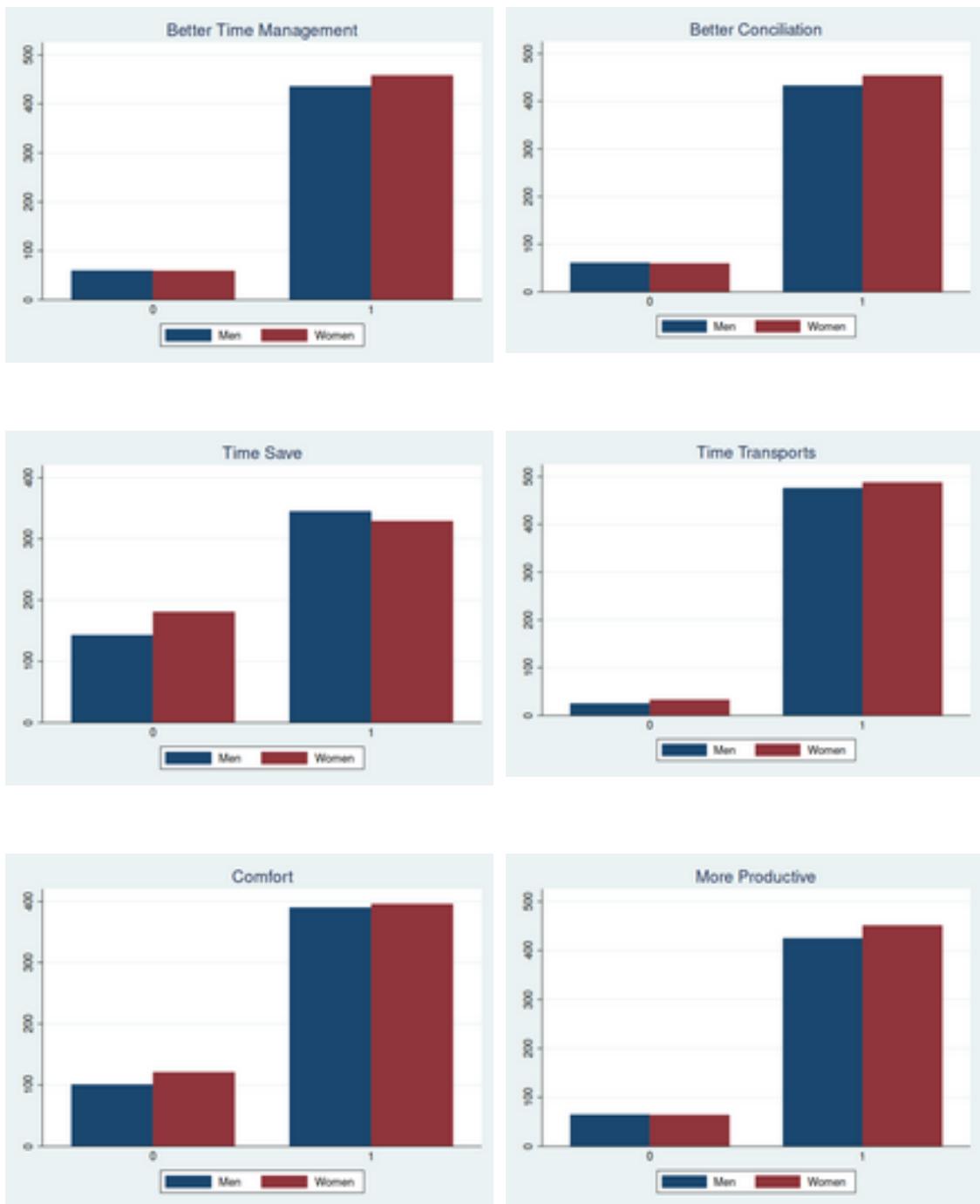


Figure 4. Perception of advantages by gender

The first two opinions are not gender-specific, as the answers are gender-neutral and equally distributed: both think that they now make better use of their time and are better able to reconcile work and family life. However, women consider themselves to be more productive in this situation than men.

Focusing on the negative answers, women also think that they save less time. Men, on the other hand, stress that teleworking is more convenient for them and that it helps them save on commuting.

In general, the opinions are very similar, but here attention is drawn to the values that make the indications focus on one side or the other. Now, it's time to turn to the analysis of the disadvantages to see if the consensus on the advantages holds.

	Bad organization	Work overload	No desconecti on	Lack of human contact	Lack of resources	Discomfort
Not an disadvantage	69.89	52.87	37.18	16.36	67.46	75.00
Disadvantage	31.11	47.13	62.82	83.64	32.54	25.00

Table 6. Percentage of people who observe these disadvantages.

Contrary to the results in Table 5, Table 6 shows that there is no consensus on the disadvantages proposed by INE.

The only disadvantages proposed as such by INE that resonate with Spanish citizens are "lack of human contact" and "no separation", which means that they feel that teleworking does not prevent them from working and that it is more lonely. This is complemented by a balanced view of "work overload", with half of the respondents feeling that they work more than before when teleworking.

The other key finding, before moving on to the gender study, is that individuals feel that they are better organised, more comfortable (75% of respondents) and have the same resources as before. Therefore, individuals deny that these are disadvantages, which is logical as they correspond to the advantages mentioned above.

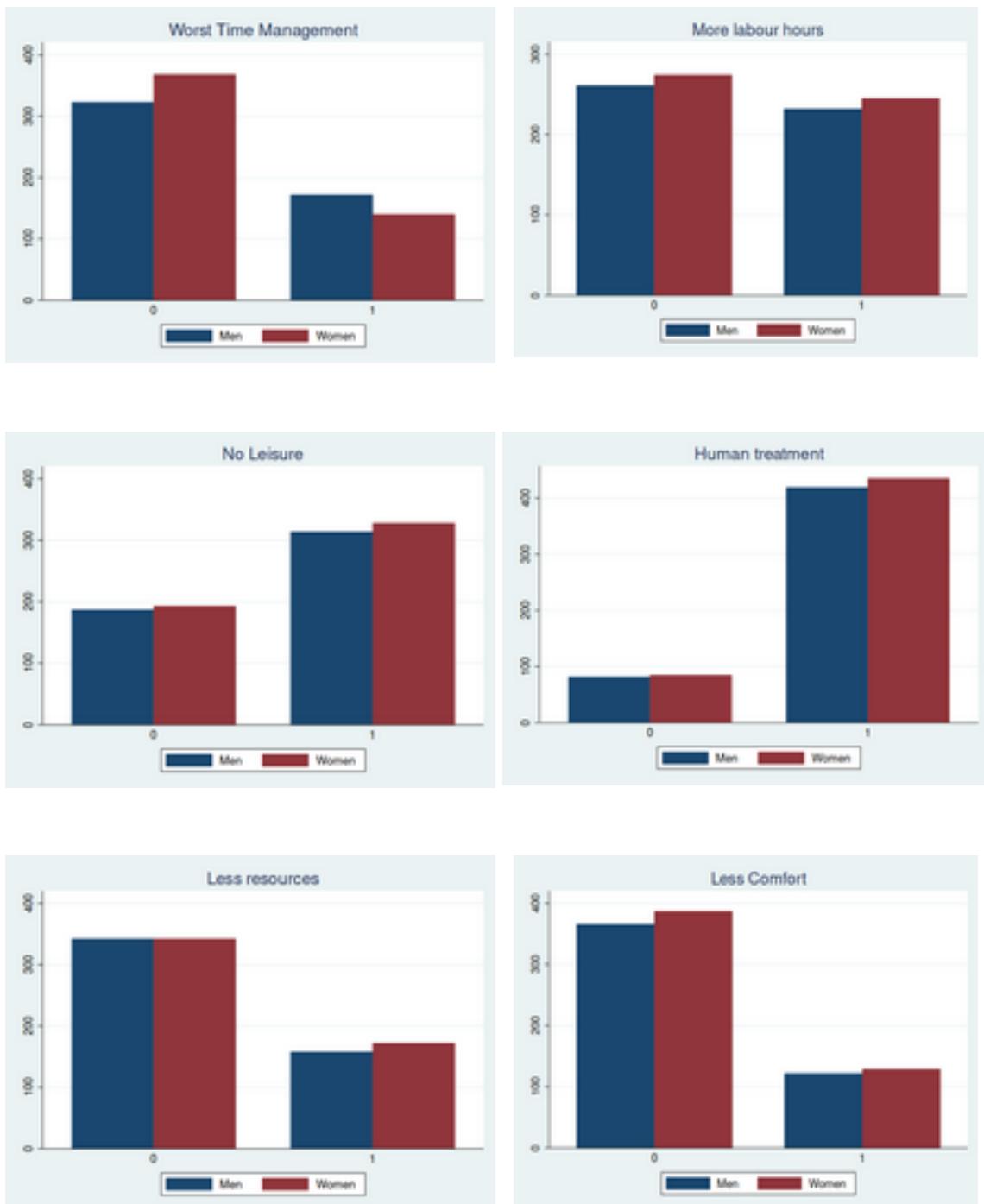


Figure 5. Perception of disadvantages by gender.

Figure 5 maintains what was seen in Figure 4, there is a general consensus on what is an advantage and what is a disadvantage regardless of the gender of the individual, although there are some details to comment on.

If one looks closely at all the tables in Figure 5, the perceived disadvantages are in the same proportion according to gender, with men and women similarly considering that

they suffer from a lack of humane treatment and that they cannot switch off from their work. In addition, they almost equally affirm and deny that they now work longer hours than before. This equal distribution coincides with the feeling of comfort and of having the same resources at their disposal; they all feel in the same way that they are more comfortable than before and that they have the necessary resources to be able to work.

The only clear difference between the sexes is in time management, with women clearly stating that they now have more control over their working time and therefore work-life balance, in line with Figure 4.

5. Conclusions

From the results obtained it is possible to make an analysis of those people who are more or less hostile to teleworking. Although it is clear that there is a generally positive perception of telework and the contribution it has made to work-life balance, time management and the reduction of commuting, there are also many who feel lonelier than before and there is a perception that it is more difficult to disconnect from work while working from home.

Although the positive views are overwhelmingly positive in both years and the negative views are negligible, they should not be ignored. This paper has never sought to deny the positive aspects of telework but has tried to explain who are the groups who benefit most from telework and how those who do not like telework or who, given their negative views, may at some point become averse to it. Therefore, policies are proposed, mainly from the private and public sectors, to support the existing positive opinion on telework, to ensure work-life balance and accessibility for those who use this form of employment.

From the descriptive analysis of satisfaction and the linear regression model, it can be confirm that, at least in 2021, there is a clear gender difference when it comes to the positive evaluation of work, with women being more comfortable with this modality than men, according to the advantages that they say they are better able to reconcile and are more productive. However, this positive influence disappears by 2022. Gender does not seem to influence this satisfaction and in fact seems to be more related to the male gender, although it is not more significant, a change in trend can be understood.

It also appears that teleworking does not favour the better educated or the self-employed, who have lower levels of satisfaction in relation to the other variables. In fact, the self-employed are less satisfied overall. This is not consistent with the variables relating to ICT use, e-trust, and the ICT-using employee, with those who are more digitally literate benefiting more from teleworking.

Therefore, companies and the public sector must make every effort to enhance these synergies, support training programmes and ensure work-life balance for teleworkers. This will encourage this way of working, which is widely accepted and seen as productive by the majority. Companies will have to ensure that users have sufficient

resources to develop their activities properly, and that they have a mix of options so that they do not feel cut off from human contact.

However, it is clear that this work has not covered all possible options and demonstrations, and future lines of research in this area should be considered. Firstly, the clear comparison between the probit and ordered logit models and OLS to make clear that the use of OLS is appropriate. The use of a survey of teleworkers to maintain the issues of advantages and disadvantages over time. And, to ensure the implementation of the measures, a business perspective analysis to analyse the advantages and disadvantages of teleworking, combine them with those of the employees and reach the best possible agreement for all.

Bibliografía

Acs, Z. & Audretsch, D. (1990). Innovation and Small Firms. Cambridge: MIT Press.

Abulibdeh, A. (2020). Can COVID-19 mitigation measures promote telework practices?. *Journal of Labor and Society*, 23(4), 551-576.

Adams-Prassl A., Boneva T, Golin M, Rauh, C. (2022). Work that can be done from home: Evidence on variation within and across occupations and industries. *Labour Econ.* 74:102083.

Ahrendt, D., Cabrita, J., Clerici, E., Hurley, J., Leončikas, T., Mascherini, M., ... & Sándor, E. (2020). Living, working and COVID-19. Eurofund.

Alizadeh, T. (2013). Planning implications of telework: a policy analysis of the Sydney metropolitan strategy. *Australian Planner*, 50(4), 304-315.

Amankwah-Amoah, J., Khan, Z., & Wood, G. (2020). COVID-19 and business failures: The paradoxes of experience, scale, and scope for theory and practice. *European Management Journal*, (in press). <https://doi.org/10.1016/j.emj.2020.09.002>

Anderson, A. J., Kaplan, S. A., & Vega, R. P. (2015). The impact of telework on emotional experience: When, and for whom, does telework improve daily affective well-being?. *European Journal of Work and Organizational Psychology*, 24(6), 882-897.

Anker, T. B. (2021). At the boundary: Post-COVID agenda for business and management research in Europe and beyond. *European Management Journal*, (in press). <https://doi.org/10.1016/j.emj.2021.01.003>

Belzunegui, Á., Erro, A., & Pastor, I. (2014). The telework as an organizational innovation in the entities of the third sector. *Journal of Electronic Commerce in Organizations (JECO)*, 12(1), 1-15.

Bhumika. (2020). Challenges for work-life balance during COVID19 induced nationwide lockdown: Exploring gender difference in emotional exhaustion in the Indian setting. *Gender in Management*, 35(7), 705–718. <https://doi.org/10.1108/GM-06-2020-0163>

Blahopoulou, J., Ortiz-Bonnin, S., Montañez-Juan, M., Torrens Espinosa, G., & García-Buades, M. E. (2022). Telework satisfaction, well-being and performance in the digital era. Lessons learned during COVID-19 lockdown in Spain. *Current Psychology*, 41(5), 2507-2520.

Cefis, E., & Marsili, O. (2006). Survivor: The role of innovation in firms' survival. *Research policy*, 35(5), 626-641.

Collins C, Landivar LC, Ruppanner L, Scarborough WJ (2021). COVID-19 and the gender gap in work hours. *Gend. Work. Organ.* 28 (S1):101-112.

Chung, H., & Van der Horst, M. (2018). Women's employment patterns after childbirth and the perceived access to and use of flexitime and teleworking. *Human relations*, 71(1), 47-72.

Cui R, Ding H, Zhu F (2022). Gender inequality in research productivity during the COVID-19 pandemic. *Manuf. Serv. Oper. Manag.* 24(2): 707-726.

Dettling LJ (2017). Broadband in the labor market: The impact of residential high-speed internet on married women's labor force participation. *ILR Review*. 70(2): 451-482.

Eicker, F. (1967, January). Limit theorems for regressions with unequal and dependent errors. In *Proceedings of the fifth Berkeley symposium on mathematical statistics and probability* (Vol. 1, No. 1, pp. 59-82).

Fonseca, T.; de Faria, P. & Lima, F. (2019). Human capital and innovation: the importance of the optimal organizational task structure. *Research Policy*, 49, 616627.
<https://doi.org/10.1016/j.respol.2018.10.010>

Gijón, C., Albarrán Lozano, I., & Molina, J. M. (2023). Perception of innovation in Spain. *Digital Policy, Regulation and Governance*, 25(3), 185-205.

Grimm, V.; Kretschmer, S. & Mehl, S. (2020). Green innovations: The organizational setup of pilot projects and its influence on consumer perceptions. *Energy Policy*, 142.
<https://doi.org/10.1016/j.enpol.2020.111474>

Haddon,L.,&Lewis,A.(1994).The experience of teleworking: An annotated review. *International Journal of Human Resource Management*,5(1),193-223.
<https://doi.org/10.1080/09585199400000010>

INE (2021). Survey on Equipment and Use of Information and Communication Technologies in Households 2021, National Statistics Institute. Retrieved from https://www.ine.es/dyngs/INEbase/es/operacion.htm?c=Estadistica_C&cid=1254736176741&menu=ultiDatos&idp=1254735976608

INE (2022). Survey on Equipment and Use of Information and Communication Technologies in Households 2022, National Statistics Institute. Retrieved from https://www.ine.es/dyngs/INEbase/es/operacion.htm?c=Estadistica_C&cid=1254736176741&menu=ultiDatos&idp=1254735976608

Jensen, K.-W.; Liu, Y. & Schøtt, T. (2017). Entrepreneurs innovation bringing job satisfaction, work-family balance, and life satisfaction: In China and around the world. International Journal of Innovation Studies, 1, 193-206.

<https://doi.org/10.1016/j.ijis.2017.11.002>

Joyce, K., Pabayo, R., Critchley, J. A., & Bambra, C. (2010). Flexible working conditions and their effects on employee health and wellbeing. Cochrane Database of Systematic Reviews, 2. <https://doi.org/10.1002/14651858.cd008009.pub2>

Kirchner, K., Ipsen, C., & Hansen, J. P. (2021). COVID-19 leadership challenges in knowledge work. Knowledge Management Research and Practice, 1–8. <https://doi.org/10.1080/14778238.2021.1877579>

King, B.; Fielke, S.; Bayne, K.; Klerkx, L. & Nettle, R. (2019). Navigating shades of social capital and trust leverage opportunities for rural innovation. Journal of Rural Studies, 68, 123-134. <https://doi.org/10.1016/j.jrurstud.2019.02.003>

Kristal T, Yaish M (2020). Does the coronavirus pandemic level the gender inequality curve?(It doesn't). Res. Soc. Stratif. Mobil. 68:100520

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

Monitor, I. L. O.- International Labor Organization (2020). COVID-19 and the world of work. Updated estimates and analysis, 27.

Moya, M. M., Alemán, J. L. M. & de Lema, D. G. P. (2011). La innovación en las pymes españolas: un estudio exploratorio. ICE: Revista de economía, (860), 99-114.

OECD (October 7, 2020) E-commerce in the time of COVID-19. Retrieved from https://read.oecd-ilibrary.org/view/?ref=137_137212-t0fjgnerdb&title=E-commerce-in-the-time-of-COVID-19

O'Neill, T.A., Hambley, L.A., Greidanus, N.S., MacDonnell, R. and Kline, T.J. (2009), "Predicting teleworker success: an exploration of personality, motivational, situational, and job characteristics", *New Technology, Work and Employment*, Vol. 24 No. 2, pp. 144-162.

Kim, Y. Y., Oh, S., Oh, H. M., & Lee, J. E. (2017). Factors on Successful Adoption of Smart Work: A Case Study through Time Geography and Communication Cube Perspectives. International Information Institute (Tokyo). *Information*, 20(2A), 699-712.

Lyttelton, T., Zang, E., & Musick, K. (2020). Gender differences in telecommuting and implications for inequality at home and work. *Available at SSRN 3645561*.

Malik, A., Rosenberger, Philip J, Fitzgerald, M., & Houlcroft, L. (2016). Factors affecting smart working: evidence from Australia. *International Journal of Manpower*, 37(6), 1042-1066

Palumbo, R. (2020). Let me go to the office! An investigation into the side effects of working from home on work-life balance. *International Journal of Public Sector Management*, 33(6-7), 771-790. <https://doi.org/10.1108/IJPSM-06-2020-0150> R

Peel, M. J., Goode, M. M., & Moutinho, L. A. (1998). Estimating consumer satisfaction: OLS versus ordered probability models. *International Journal of Commerce and Management*, 8(2), 75-93.

Song, Y., & Gao, J. (2020). Does telework stress employees out? A study on working at home and subjective well-being for wage/salary workers. *Journal of Happiness Studies*, 21(7), 2649-2668.

Tavares, F., Santos, E., Diogo, A., & Ratten, V. (2020). Teleworking in Portuguese communities during the COVID-19 pandemic. *Journal of Enterprising Communities*, July. <https://doi.org/10.1108/JEC-06-2020-0113>

Wooldridge, J. M. (2015). *Introductory econometrics: A modern approach*. Cengage learning.