Are there differences in the perceived advantages and disadvantages of teleworking? The identification of distinct classes of teleworkers

Vicente Peñarroja

Universitat Oberta de Catalunya, Barcelona, Spain

Abstract

Purpose – Previous research has focused on the outcomes of telework, investigating the advantages and disadvantages of teleworking for employees. However, these investigations do not examine whether there are differences between teleworkers when evaluating the advantages and disadvantages of teleworking. The aim of this study is to identify of distinct classes of teleworkers based on the advantages and disadvantages that teleworking has for them.

Design/methodology/approach – This study used secondary survey data collected by the Spanish National Statistics Institute (INE). A sample of 842 people was used for this study. To identify the distinct classes of teleworkers, their perceived advantages and disadvantages of teleworking were analyzed using latent class analysis.

Findings – Three different classes of teleworkers were distinguished. Furthermore, sociodemographic covariates were incorporated into the latent class model, revealing that the composition of the classes varied in terms of education level, household income, and the amount of time spent on teleworking per week. This study also examined the influence of these emergent classes on employees' experience of teleworking.

Originality/value – This study contributes to previous research investigating if telework is advantageous or disadvantageous for teleworkers, acknowledging that teleworkers are not identical and may respond differently to teleworking.

Keywords Teleworking, Latent class analysis, Person-centered approach, Advantages, Disadvantages

Paper type Research paper

Introduction

Teleworking is a work practice in which people work physically separated from the location of their employer from a few hours per week to full-time, using information technology for communication and operation (Allen *et al.*, 2015). Teleworking is a phenomenon that has evolved since its origins in the 1970s toward new forms of work that are increasingly detached from a specific work location due to technological progress (Messenger and Gschwind, 2016). Although teleworking has traditionally been associated with working from home, technological advances make it possible to work from anywhere and at any time (López-Igual and Rodríguez-Modroño, 2020; Tran *et al.*, 2022).

Telework is not new, but it has revived in light of the COVID-19 pandemic. Before the pandemic, it was available to a relatively small number of workers and mostly part-time or on an occasional basis (Messenger, 2019). During the pandemic, teleworking increased abruptly,

with many employees working remotely for the first time. For example, in 2020, the prevalence of teleworking in the European Union (EU) rose from 12.3% to 48% due to the pandemic (Eurofound, 2020; Eurostat, 2021). After the pandemic, in the EU, while some employees have returned to the office full-time, others are engaged in flexible work arrangements that combine remote work and on-site work (Eurofound, 2023). In general, this trend has been observed in all countries that have comparable observations (OECD, 2021).

The pandemic has significantly reshaped various aspects of daily life, particularly altering workplace interactions. One of the most notable changes is the increased use of teleworking. As we move beyond the pandemic, it is important to evaluate how people's perceptions and attitudes towards teleworking have changed. Researchers are now studying the different experiences, conditions and preferences that workers have when it comes to teleworking (Asgari et al., 2023; Peñarroja, 2023; Weber et al., 2022). Issues such as whether or not teleworkers want to return to the office after the lockdowns (Appel-Meulenbroek et al., 2022) would not have arisen if not for the pandemic. The interest in investigating differences between teleworkers during the pandemic is also manifested in the study by Tao et al. (2023), who found that the benefits of teleworking on subjective well-being depended on the pre-pandemic commuting behaviors of each teleworker.

Recently, research on the differences between teleworkers has led to the identification of distinct profiles related to the management of work-home boundaries, the quality of teleworking experiences and individual preferences among teleworkers (e.g. Miglioretti et al., 2023; Urbanavičiūtė et al., 2023). Previous studies have focused on the outcomes of telework, investigating the advantages and disadvantages of teleworking for employees (e.g. Delanoeije et al., 2019; Golden and Eddleston, 2020; Kazekami, 2020). However, they do not examine whether telework is perceived as advantageous or disadvantageous based on the differences between teleworkers and their adaptation to it. Hence, it is necessary to conduct studies that recognize individual differences in telework evaluations. The present study applies a person-centered approach to identify distinct classes of teleworkers based on how they evaluate the advantages and disadvantages of teleworking. This will offer a more comprehensive understanding of the varied experiences within this work arrangement. Additionally, the study examines the influence of these emergent classes on the evaluation of the teleworking experience, allowing for an assessment of whether certain individuals tend to evaluate teleworking more favorably or unfavorably and whether the teleworkers' classes are characterized by sociodemographic variables. Thus, this study contributes to previous research acknowledging that teleworkers are not identical and may respond differently to teleworking.

Advantages and disadvantages of teleworking as indicators of teleworker classes

The variable-centered approach has been predominantly in previous studies on the outcomes of telework. From this approach, research shows that teleworking can have several advantages but also disadvantages for teleworkers (e.g. Delanoeije et al., 2019; Felstead and Henseke, 2017; Golden and Eddleston, 2020; Kazekami, 2020). Two recent studies have devoted efforts to systematize the numerous advantages and disadvantages of teleworking. Ipsen et al. (2021) found that advantages included improved work-life balance, work efficiency and work control, while disadvantages encompassed home office constraints, work uncertainties and inadequate tools. Ingusci et al. (2023) showed that he benefits of remote working include greater autonomy and flexibility, greater work-life balance, money and time savings, stress reduction, better relationships with colleagues and supervisors, increased job satisfaction and better use of available technology. The disadvantages include isolation, difficulty in receiving recognition for work, difficulty in advancing in one's career and less protection, difficulty in accessing documents from the office and information from colleagues,

difficulty in maintaining relationships with colleagues, feeling constantly monitored and difficulty in concentrating. This paradoxical nature of mutually incompatible consequences of teleworking for employees is known as "teleworking paradox" (Gajendran and Harrison, 2007). The teleworking paradox refers to the challenges and risks teleworkers face (e.g. social isolation), despite the benefits for workers (e.g. greater autonomy and lower work-family conflict).

To reconcile the advantages and disadvantages of teleworking, some scholars have underscored the importance of identifying the conditions under which telework yields potential advantages and drawbacks (e.g. Ficapal-Cusí et al., 2023; Kazekami, 2020). The theory of person-environment fit offers a theoretical framework that assists in reconciling the pros and cons of teleworking for different people. The person-environment fit theory underscores the congruence, match, or fit between the attributes of the person and the environment for optimal functioning and positive outcomes (Van Vianen, 2018). The fit can result from the alignment of environmental demands and individual abilities or the fulfillment of individual needs by the supplies of the work environment (Edwards et al., 1998; Kristof, 1996). The theory also acknowledges that fit is not static and requires ongoing assessment and adjustment as individuals and environments change. Based on this theory, it can be argued that if an individual fits well with teleworking, he/she will benefit from it. On the other hand, if he/she does not fit well with teleworking, he/she may feel like it has disadvantages.

Research has predominantly focused on analyzing whether the outcomes of telework are advantageous or disadvantageous, neglecting the heterogeneity of teleworkers. When it comes to telework, whether it is perceived as advantageous or disadvantageous may vary depending on the individual differences of teleworkers and their adjustment to telework. Distinct individuals may have different evaluations of the same telework characteristics. What may be advantageous for one person may not be for another and vice versa. A person-centered approach can be useful to gain a better understanding of these differences. The person-centered approach is a novel method to study teleworking that can help identify potential teleworker classes that meaningfully differ in terms of complex combinations of observed variables (Miglioretti et al., 2023). Thus, based on a person-centered approach, the present study aims to explore whether classes of teleworkers can be identified based on their evaluation of the advantages and disadvantages of teleworking. For instance, some individuals may assess teleworking as having only advantages or disadvantages, while others acknowledge both. Based on this rationale, the research question proposed is:

RQ1. Are there different teleworker classes based on the advantages and disadvantages of teleworking?

Sociodemographic characteristics and teleworking experience of teleworker classes
Previous research has provided evidence suggesting that sociodemographic characteristics may influence workers' experience of teleworking. There is empirical evidence showing gender-based dissimilarities in teleworking. Compared to men, women are more likely to work from home than working from more than one place (López-Igual and Rodríguez-Modroño, 2020). Nguyen and Armoogum (2021) found that women were more likely to have a positive perception of telework and were more likely to prefer home-based working in the future during the pandemic lockdown in Hanoi. These authors also found that women's perceptions of teleworking were predominantly shaped by factors related to family, in contrast to men, whose views were strongly influenced by attributes associated with their work. Gender inequalities in childcare and household responsibilities (Chung and van der Horst, 2018), combined with the pre-pandemic trend of men in jobs with a telework option (Asgari et al., 2023), may explain these findings.

Regarding age, Nakrošienė *et al.* (2019) found that older employees perceived fewer advantages of teleworking. Zhang *et al.* (2020) found that individuals aged more than 35 years old engaged more in teleworking than those aged between 18 and 34. Research conducted during the pandemic shows that younger and older age groups perceived lower benefits (e.g. time saving, quality of life improvement) and higher barriers (e.g. lack of appropriate technology, distraction from other household members) to teleworking compared to middle-aged individuals (Tahlyan *et al.*, 2022). For younger individuals, this could be tied to the loss of networking opportunities crucial for career advancement or the prevalence of jobs unsuitable for remote work. For older individuals, challenges may stem from workplace attachment, the complexity of managing teams in senior roles and potential limitations in adapting to technology for routine work activities.

The prevalence of home-based teleworking increases with education (Haider and Anwar, 2023; Ollo-López *et al.*, 2021) and among those who switched to teleworking during the pandemic (Haider and Anwar, 2023). Highly qualified employees usually work in knowledge-based services and creative industries and are attracted and retained by organizations offering telework opportunities.

Sweet and Scott (2022) found that a higher household income was associated with a higher probability of teleworking, making this relationship stronger for full-time than part-time workers. He and Hu (2015) also found that a high household income was associated with a higher likelihood of teleworking. Moreover, they also investigated the driving factors of teleworking segmentation by income group. For the high-income group, the driving factors were the worker's age, male employment in the communications sector and the presence of children in the household.

The perceived benefits were lower for individuals living alone and individuals with children attending school from home (Tahlyan *et al.*, 2022). Reiffer *et al.* (2023) found that people with children in the household were more likely to choose to telework during the pandemic. This study also found that working from home is discouraged by the presence of a partner in a household of two adults without children. Parents are less likely to telework compared to those without children (Zhang *et al.*, 2020). These findings highlight that having other individuals in the household may lead to increased distractions from work. This could further strengthen the perception of the drawbacks associated with working from home. However, those with childcare responsibilities benefit from working from home.

These studies indicate that preferences for teleworking, attitudes toward teleworking and the likelihood of engaging in telework vary among different sociodemographic variables. Furthermore, in general, it is possible to conclude that the perception of advantages and disadvantages depends on the characteristics and conditions of each individual and their adjustment to teleworking.

Drawing on previous research, the present study examines how sociodemographic variables are associated with teleworker classes based on the perceived advantages and disadvantages of teleworking is still lacking. To investigate this, the present study will analyze age, gender, living situation, education level, degree of urbanization, monthly household income and the number of days teleworking each week. The purpose is to determine if sociodemographic indicators can characterize teleworker classes. In doing so, we offer a new and more holistic approach to analyzing the link between teleworkers' sociodemographic characteristics on the one hand and the advantages and disadvantages on the other. Accordingly, this research question proposed is:

RQ2a. To what extent are teleworker classes differently associated with sociodemographic variables?

In addition, the implications of belonging to different classes of teleworkers on the evaluation of the telework experience are also examined. Previous findings suggest that telework

outcomes are influenced by the perceived advantages and disadvantages of teleworking. Tahlyan *et al.* (2022) found that perceived benefits are related to higher satisfaction with teleworking. Moreover, satisfaction with teleworking is related to working when sick, the supervisor's trust and the suitability of working place at home (Nakrošienė *et al.*, 2019). Regarding the classes on the advantages and disadvantages of teleworking, it can be expected that if someone perceives that teleworking offers more benefits than drawbacks, they are more likely to assess telework positively. On the other hand, if someone perceives that teleworking has more disadvantages than advantages, they are more likely to assess telework negatively. According to this, it is explored whether different classes have different outcomes in terms of evaluation of the teleworking.

RQ2b. To what extent are teleworker classes differently associated with the teleworking experience?

Method
Data
This study used secondary survey data collected by the National Statistics Institute (the INE (2021) is in charge of large-scale statistical operations – demography, economy and society-in Spain) from May 25th to August 23rd, 2021. The survey on equipment and use of information and communication technologies in households is an annual survey conducted by the INE since 2002, following the methodological recommendations of the European Union Statistics Office (Eurostat). The data is collected through telephone interviews conducted within the national territory of Spain. This survey aims to gather comparative data from households regarding the presence of communication equipment for accessing and exchanging information, as well as the utilization patterns of these technologies by household members. The main themes covered in this survey include the use of the Internet, use of e-government, use of e-commerce, computer skills and confidence in the Internet, privacy and protection of personal data, online school and telework. In this study, the data about telework and the sociodemographic attributes of the participants is examined.

A sample of 15,027 households was surveyed. However, for the present study, only respondents who telework were selected. After having eliminated the cases with missing values, a sub-sample of 842 units was used in this study. Among the participants, 51.3% were women. The average age was 45.34 years old ($SD = 10.04$). Most of the participants live as a couple (59.7%) and live in densely populated areas (70.3%). In terms of education, most of the participants have a university degree or higher (67.6%). 53.1% of the sample reported a monthly household net income of less than 2,500 euros. The most frequent ranges of households' net monthly income were between 1,600 and 2,500 euros (29.5%) and 3,000 or more euros (29.7%). Additionally, the majority (62%) indicated that they teleworked 3 or more days per week.

Variables
Teleworking advantages and disadvantages. A set of 12 dichotomous items were measured: 6 advantages and 6 disadvantages (Table 1). In the case of advantages, the following question was used: "*What do you consider to be the main advantages of teleworking?*" The following question was used for disadvantages: "*What do you consider to be the main disadvantages of teleworking?*" Response options were "*Yes*", "*No*" and "*Don't know*"/"*no answer*". Participants who answered with "*Don't know*"/"*no answer*" were omitted from the analysis.

Sociodemographic characteristics. Age, sex (dichotomous variable; 0 = "female", 1 = "male"), living together (dichotomous variable; 0 = "No", 1 = "Yes"), education level attained, degree of urbanization, net monthly household income and number of teleworking

Advantages

1	Gestión propia del tiempo de trabajo [Self-management of working time]
2	Aprovechamiento/ahorro de tiempo [Use/saving of time]
3	Conciliación con vida familiar/personal [Better work-life balance]
4	Ahorro de dinero [Money saving]
5	Evitar desplazamientos [Avoid commuting]
6	Comodidad de trabajar en el hogar [Convenience of working from home]

Disadvantages

1	Peor organización *y* coordinación del teletrabajo [Worse telework organization and coordination]
2	Sobrecarga laboral [Work overload]
3	No desconexión laboral [No disconnection from work]
4	Falta de contacto social con compañeros [Lack of social contact with colleagues]
5	Falta de recursos técnicos (equipo, conexión) [Lack of tools (equipment, connection)]
6	Incomodidad de trabajar desde el hogar [Inconvenience of working from home]

Source(s): Author's own creation

Table 1.
Advantages and disadvantages of teleworking

days a week were included as covariates in the latent class model to predict class membership. The following variables were operationalized as dummy variables (the comparisons between categories are indicated within parenthesis): education level (0 = "pre-university education", 1 = "university degree"), degree of urbanization (dummy 1: 0 = "densely populated areas", 1 = "intermediate populated areas"; dummy 2: 0 = "densely populated areas", 1 = "thinly populated areas"), net monthly household income (dummy 1: 0 = "less than 900 euros", 1 = "from 900 to 1,600 euros"; dummy 2: 0 = "less than 900 euros", 1 = "from 1,600 to 2,500 euros"; dummy 3: 0 = "less than 900 euros", 1 = "from 2,500 to 3,000"; dummy 4: 0 = "less than 900 euros", 1 = "3,000 or more euros") and the number of teleworking days per week (dummy 1: 0 = "telework every day and occasionally go to the workplace", 1 = "telework from 2 to 4 days per week"; dummy 2: 0 = "telework every day and occasionally go to the workplace", 1 = "telework 1.5 days or less per week").

General evaluation of the teleworking experience was measured with a single question: "On a scale from 0 to 10, with 0 being very negative and 10 being very positive, how would you rate your experience with teleworking in general?".

Analytical strategy

This study explores unobserved subgroups based on teleworking advantages and disadvantages (research question 1) using latent class analysis (LCA) in Mplus 7 (Muthén and Muthén, 1998-2012). LCA is a statistical method used to identify unmeasured classes or groups within a population. LCA allows researchers to identify groups of people that are alike each other based on their responses to a set of categorical indicator variables (Nylund-Gibson and Choi, 2018). The robust maximum likelihood estimation (MLR) method was used. 12 dichotomous (yes/no) observed advantages and disadvantages were analyzed. The decision of how many classes to retain in an LCA is based on statistical fit indices, substantive interpretability and classification diagnostics (Nylund *et al.*, 2007). Fit indices of the estimated latent class models are examined to evaluate the model with the number of classes that fits the data best. Thus, models that show smaller Bayesian Information Criterion (BIC) and sample-size adjusted BIC (SABIC) were preferred over models with greater values in these fit indices (Nylund-Gibson and Choi, 2018). The p values associated with the Lo-Mendell-Rubin likelihood ratio test (LMR-LRT) were considered to assess whether adding a class

significantly improves fit over a k–1 model (or a more parsimonious model) (Nylund-Gibson and Choi, 2018). Finally, the entropy of the latent class model was considered to evaluate the quality of the classification of individuals into classes (Weller *et al.*, 2020).

Regarding research question 2a, multinomial logistic regression analysis was conducted to predict latent class membership by sociodemographic data. Mplus performs an automated three-step method for latent class predictor variables. The first step estimates the latent class model using only latent class indicator variables. The most likely class variable is created in a second step based on latent class posterior probabilities obtained during the first step. In the third step, the most likely class is regressed on predictor variables considering the misclassification in the second step.

Lastly, to test whether different classes of teleworkers show different levels in the evaluation of their teleworking experience (research question 2b), this variable was included as a distal outcome of the latent classes in the mixture model. To achieve this, Mplus was used to follow a sequential approach where the initial estimation involved an unconditional latent class measurement model. Following this, information about the most probable latent class membership was extracted and utilized in a subsequent model to estimate the connection between latent class membership and the distal outcome. The teleworking experience was compared among the three types of teleworkers (realistic, ambivalent and enthusiastic teleworkers) using the chi-square test.

Results

Latent class analysis

Research question 1 aimed to explore whether the advantages and disadvantages of teleworking comprised qualitatively different subgroups (or latent classes) among teleworkers. Models with 2–6 latent classes were estimated. Table 2 reports the results of the LCA and compares the fit indices of the estimated latent class models. BIC reaches its minimum value in the four-class model, whereas the six-class model has the lowest SABIC value; although the reduction of both indices decreases as the number of classes increases from the three-class model. According to the Lo–Mendell–Rubin likelihood ratio test (LMR-LRT) index, the three-class model is preferable over the two-class model and adding additional classes does not improve model fit. Moreover, the emergent classes of the three-class model are relatively large. The relative class proportions of the first, second and third classes are 0.41, 0.32 and 0.27. Entropy indicated a relatively good classification of individual cases into classes. In sum, the three-class model was chosen even though the BIC and SABIC fit indices did not yield the best results for this model.

Table 3 reports the conditional probabilities of answering "yes" to each item for each class of the three-class. Members of the first class are more likely to answer "yes" to the advantages and three disadvantages ("work overload", "no disconnection from work" and "lack of social contact with colleagues"). Thus, for this class, teleworking has more advantages than disadvantages,

K^a	LL^b	BIC^c	$SABIC^d$	$LMR\text{-}LRT^e$	Entropy
2-class	−4765.60	9699.60	9620.21	$p < 0.001$	0.72
3-class	−4681.74	9619.44	9498.76	$p < 0.01$	0.76
4-class	−4630.96	9605.45	9443.49	$p = 0.09$	0.75
5-class	−4594.70	9620.48	9417.24	$p = 0.29$	0.75
6-class	−4569.96	9658.57	9414.04	$p = 0.64$	0.77

Note(s): [a]Number of classes; [b]Log-likelihood; [c]Bayesian information criterion; [d]Sample-Size adjusted BIC; [e]Lo-Mendell-Rubin adjusted LRT test
Source(s): Author's own creation

	3-class model		
	Class 1	Class 2	Class 3
Advantage 1	0.96	0.76	0.95
Advantage 2	0.99	0.65	0.96
Advantage 3	0.95	0.76	0.92
Advantage 4	0.78	0.41	0.88
Advantage 5	1.00	0.84	0.98
Advantage 6	0.98	0.38	0.93
Disadvantage 1	0.21	0.55	0.16
Disadvantage 2	0.63	0.58	0.06
Disadvantage 3	0.87	0.81	0.00
Disadvantage 4	0.88	0.93	0.71
Disadvantage 5	0.25	0.51	0.20
Disadvantage 6	0.07	0.64	0.09

Table 3.
Conditional item probabilities for the 3-class model

Note(s): This table reports the probability of answering "yes" to each question is shown for each type of teleworker ($P(X = Yes \mid y_1, \ldots, y_{12})$)
Source(s): Author's own creation

but they also recognize that teleworking has some drawbacks. Thus, members of this class are labeled realistic teleworkers. Members of the second class were more likely to answer affirmatively to all the disadvantages of teleworking. They were also more likely to answer "yes" to some advantages except for "money-saving" and "convenience of working from home". Thus, members of this class are labeled ambivalent teleworkers because they have mixed feelings about teleworking, although they perceive more disadvantages than advantages. Finally, members of the third class are more likely to answer "yes" to the six advantages and "no" to the six disadvantages, except for "lack of social contact with colleagues". Thus, members of class-3 are labeled enthusiastic teleworkers because they are mainly positive about teleworking.

Covariates of teleworker classes
After having established the different classes on the advantages and disadvantages of teleworking, the effects of covariates on predicting latent class membership are examined (research question 2a). Table 4 reports each predictor variable's logistic regression coefficients and

	Class 1/Class 3		Class 1/Class 2		Class 2/Class 3	
Covariates	Logit	OR	Logit	OR	Logit	OR
Sex	−0.01	0.99	0.26	1.30	−0.26	0.77
Age	0.00	1.00	−0.01	0.99	0.01	1.01
Education 1	0.44*	1.55	0.08	1.08	0.36	1.43
Income 1	1.44*	4.22	0.52	1.68	0.92	2.51
Income 2	1.45*	4.26	0.37	1.45	1.08†	2.94
Income 3	1.16†	3.19	0.06	1.06	1.10†	3.00
Income 4	1.33*	3.78	0.28	1.32	1.05†	2.86
Urbanisation 1	−0.22	0.80	0.19	1.21	−0.41	0.66
Urbanisation 2	−0.36	0.70	−0.49	0.61	0.13	1.14
Teleworking 1	−0.42†	0.66	−1.02***	0.36	0.60*	1.82
Teleworking 2	0.56*	1.75	−0.90**	0.41	1.45***	4.26

Table 4.
Results for the multinomial logistic regression of latent classes of teleworkers

Note(s): *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$; †$p < 0.10$
Class 1: realistic; Class 2: ambivalent and Class 3: enthusiastic
Source(s): Author's own creation

odds ratios. These coefficients indicate the strength and direction of the relationship between each predictor variable and the outcome variable, relative to the chosen reference category. Education level was significantly related to class membership. Compared to enthusiastic teleworkers (class 3), realistic teleworkers (class 1) have a higher education level (university vs pre-university studies). The effect of household income is also statistically significant, showing that realistic teleworkers have a higher household income than the enthusiastic ones. More concretely, dummy variables showed that respondents whose household income ranged from 900 to 1,600 (Income 1), from 1,600 to 2,500 (Income 2) and 3,000 or more euros per month (Income 4) were more likely to be in the realistic class than those earning less than 900 euros per month (reference category of household income). The influence of the household income category ranging from 2,500 to less than 3,000 euros per month (Income 3) was marginally significant. Although the effects were marginally significant, ambivalent teleworkers (class 2) tend to have a higher household income than the enthusiastic ones. The number of telework days a week significantly predicted membership of the realistic class and the ambivalent class compared with the enthusiastic class and membership of the realistic class compared with the ambivalent class. More concretely, compared with the enthusiastic class, those who telework 1.5 days or less per week (Teleworking 2) are more likely to be in the realistic class than those who telework every day and occasionally go to the workplace. Results also show that those who telework 1.5 days or less per week are less likely to be in the realistic class compared with the ambivalent class than those who telework every day and occasionally go to the workplace. Similarly, those who telework from 2 to 4 days per week (Teleworking 1) are less likely to be in the realistic class compared with the ambivalent one than those who telework every day and occasionally go to the workplace. Moreover, compared to enthusiastic teleworkers, ambivalent teleworkers are more likely to telework 1.5 days or less per week (Teleworking 2) or from 2 to 4 days per week (Teleworking 1) than those who telework every day and occasionally go to the workplace. In sum, compared to enthusiastic teleworkers, realistic teleworkers are characterized by a higher level of education, a higher household income and a lower proportion of teleworking per week. Moreover, the proportion of teleworking carried out by realistic is lower than that of enthusiastic teleworkers. Enthusiasts tend to be those who always telework and go to the office occasionally. Ambivalent teleworkers tend to telework less often than the realistic ones.

The teleworking experience among teleworker classes

Regarding research question 2b, the chi-square test shows statistically significant differences in the comparisons between realistic and ambivalent teleworkers (chi-square test = 103.08; $p < 0.001$), between realistic and enthusiastic teleworkers (chi-square test = 8.05; $p < 0.01$) and between ambivalent and enthusiastic teleworkers (chi-square test = 145.86; $p < 0.001$). The mean value for realistic teleworkers is 8.50, for ambivalent teleworkers is 6.67 and for enthusiastic teleworkers is 9.12.

Discussion

This study aimed to explore classes of teleworkers that differ based on the pattern of responses given to the advantages and disadvantages of telework. Three distinct classes emerged from the data. The class of realistic teleworkers is composed of respondents who perceive the positive aspects associated with teleworking, but also acknowledge some of the negative ones. The class of ambivalent teleworkers is composed of individuals who have mixed feelings about teleworking, although the negative ones prevail. The enthusiastic teleworker class consists of individuals who find teleworking to be mostly advantageous.

Previous research has concentrated on identifying the factors that promote or hinder successful telework with the aim of facilitating its adoption (Gohoungodji *et al.*, 2023). The

adoption of teleworking is accompanied by a set of different advantages and disadvantages for individuals (Ingusci *et al.*, 2023; Ipsen *et al.*, 2021). However, telework has often been examined using a variable-centered approach in the literature. The present study has taken an empirical approach that reveals a different perspective in the analysis of the advantages and disadvantages of teleworking. More concretely, this study empirically shows that different classes of teleworkers emerge when the advantages and disadvantages of teleworking are analyzed from a person-centered method. Members of the same class tend to perceive the same advantages and disadvantages but in a different way than the members of the other classes. For instance, individuals from the realistic teleworkers class tend to experience the advantages of self-management of working time, savings of time and money, better work-life balance, avoiding commuting and working from home. At the same time, members of this class also experience the disadvantages of work overload, difficulties in disconnecting from work and social isolation. The class of ambivalent teleworkers exhibit a pattern of experiencing some advantages along with all the disadvantages. The class of enthusiastic teleworkers tends to experience all the advantages, with only the downside of social isolation.

Recent studies have looked at whether teleworking is beneficial or detrimental (Ficapal-Cusí *et al.*, 2023) and suggested changes in management and leadership styles (Contreras *et al.*, 2020). The present study offers a new way of analyzing the benefits and drawbacks of teleworking. By using a person-centered approach, teleworkers can be grouped into different classes based on their perceptions of the benefits and drawbacks of teleworking. This allows us to tailor telework policies to the specific needs of each class, ultimately improving the experience of teleworking. The findings of previous studies indicate that not all employees have a positive experience with teleworking, suggesting a need for specific interventions and training (Miglioretti *et al.*, 2023). For example, realistic and ambivalent teleworkers can have different needs compared to enthusiastic teleworkers. They may need specific guidance to maximize the benefits and mitigate potential drawbacks of teleworking.

Results from the present study offer an alternative explanation to the debates about the costs and benefits of teleworking. The phenomenon of mutually incompatible consequences of teleworking for employees is referred to as the teleworking paradox (Gajendran and Harrison, 2007). These authors conducted a meta-analysis of 46 studies revealing that teleworking had more benefits than costs. However, the present study reveals that this issue is more complex than previously thought and may only hold for enthusiastic and realistic teleworkers, not for ambivalent teleworkers. Thus, the conclusion on whether teleworking is more beneficial than detrimental may vary depending on the class of teleworkers. Their differences can be interpreted by how well they fit into their telework arrangement. This concept, based on the person-environment theoretical framework (Edwards *et al.*, 1998; Kristof, 1996; Van Vianen, 2018), suggests that enthusiastic teleworkers are the ones who fit in well with their telework setup, whereas there may be some areas of mismatch among enthusiastic and realistic teleworkers. However, a measure of fit between the person and teleworking is needed to test this hypothesis empirically.

Recent studies reveal that teleworkers can be categorized based on various aspects of teleworking such as working preference (Appel-Meulenbroek *et al.*, 2022), the quality of teleworking experiences (Miglioretti *et al.*, 2023), work-home boundary management (Urbanavičiūtė *et al.*, 2023) and pre-pandemic commuting behaviors (Tao *et al.*, 2023). These studies suggest diversity in teleworking experiences, conditions and preferences among teleworker profiles. The present study identifies distinct classes of teleworkers based on their perspectives on the advantages and disadvantages of teleworking, contributing to prior research in this domain.

Another significant contribution to the existing literature is the finding that classes of teleworkers are characterized by sociodemographic characteristics. The present study

showed that certain sociodemographic factors, such as education level, household income and the number of telework days per week, were significant predictors of class membership. More specifically, realistic teleworkers were found to have a higher level of education and greater household income compared to enthusiastic teleworkers. Variable-centered studies have suggested that higher education levels lead to more teleworking (e.g. Haider and Anwar, 2023; Ollo-López *et al.*, 2021), but this study suggests that having a university degree may also make employees more critical of telework and aware of its challenges. On the other hand, enthusiastic teleworkers tended to telework more days per week and go to the office occasionally. Although there are previous studies that show that people with higher incomes tend to telework more (He and Hu, 2015; Sweet and Scott, 2022), the results of this study indicate that teleworkers with higher incomes have a perspective that identifies a set of disadvantages that make them prefer a part-time teleworking arrangement. This may be because realistic teleworkers seek to offset the disadvantages of teleworking with the benefits of office work. It is also possible that realistic teleworkers perform senior or management roles that limit the adaptation of teleworking to their work routines (Tahlyan *et al.*, 2022).

Lastly, the present study reveals that the level of satisfaction with telework varies depending on the class of teleworker. More specifically, it was found that enthusiastic teleworkers tend to have a more positive evaluation of teleworking compared to realistic and ambivalent teleworkers. Ambivalent teleworkers, in particular, gave lower scores in their evaluation of the teleworking experience. These findings align with the perceptions of the three classes regarding the pros and cons of teleworking. Enthusiastic teleworkers, who see all the advantages and only the disadvantage of social isolation, have a more favorable perception of their teleworking experience. On the other hand, ambivalent teleworkers, who view both advantages and disadvantages equally, have a less positive rating of their teleworking experience. The analysis of latent classes yielded results consistent with previous studies (Nakrošienė *et al.*, 2019; Tahlyan *et al.*, 2022), showing that those who perceive more advantages than disadvantages have a better overall evaluation of teleworking.

Limitations and future research

Firstly, the results of this study are based on cross-sectional data. Conducting longitudinal studies is necessary to examine the stability of teleworker classes over time and whether the advantages and disadvantages of teleworking might change throughout one's lifespan.

Secondly, this study examined how sociodemographic characteristics correlate with teleworkers' perceived advantages and disadvantages of teleworking. However, future studies should also investigate work context variables such as job demands, organizational factors and industry-specific characteristics to provide a more comprehensive understanding.

Thirdly, examining the role of teleworkers' psychological characteristics in determining class membership can provide valuable insights into whether some individuals benefit more from teleworking than others. For example, employee self-control is associated with higher performance when working from home during the pandemic because they can better manage situational demands (Troll *et al.*, 2022).

Fourthly, the six disadvantages were presented right after the advantages. This may have caused bias as the respondents might have felt obligated to stick to their previous answers. However, the questions were framed in a neutral manner without any leading language to influence the participants' answers. Additionally, the phrasing of the questions avoided imposing any expectations on the respondents regarding the consistency of their responses. The question format allowed the respondents to select multiple advantages and disadvantages.

Finally, future research should consider a broader range of advantages and disadvantages related to teleworking to provide a more comprehensive classification. Additionally, measuring the fit between the employee and telework arrangement can be challenging, but necessary to further explore individual differences in the benefits and costs of teleworking.

Practical implications

The study shows different types of teleworkers that have different views about the advantages and disadvantages of teleworking. What is advantageous for one of these classes of teleworkers is not for another. Organizations can design more personalized telework programs by identifying these profiles. Some of these aspects can be telework training, resources for teleworking from home, establishing policies on how to organize teleworking and involving employees in the design of teleworking conditions. For example, allowing employees the option to choose to telework can help mitigate the perceived drawbacks of more frequent teleworking (Kaluza and van Dick, 2022). Additionally, incorporating employees' needs and suggestions into the decision-making process of organizations right from the start can significantly enhance the alignment between employees' requirements and the demands and opportunities of teleworking. For example, flexible working arrangements can be more beneficial for individuals with a high need for autonomy (Van Yperen *et al.*, 2014). Again, the characteristics of employees seem to be relevant for getting benefits from flexible work programs.

In conclusion, this study delves into the advantages and disadvantages of telework by employing a person-centered approach, revealing three classes of teleworkers: realistic, ambivalent and enthusiastic. Realistic and ambivalent teleworkers acknowledge both advantages and disadvantages, while enthusiastic teleworkers predominantly perceive benefits. These findings highlight the complexity of telework experiences and how the assessment of telework benefits and drawbacks varies among different groups. Sociodemographic factors further contribute to class distinctions, with education, income and telework frequency playing significant roles. Ultimately, the study's person-centered perspective offers valuable insights for refining approaches to telework management, emphasizing the diverse needs and perspectives of different teleworker classes for more effective support and satisfaction.

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Corresponding author
Vicente Peñarroja can be contacted at: vpenarrojac@uoc.edu