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Teleworking Components and Scientific Productivity in Spanish ERC-Granted Teams: The Mediating Role of Climate and Well-Being

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A B S T R A C T

The practice of teleworking is being consistently and unprecedently used across multiple work sectors, including the research one, yet the direct and mediated links of specific telework designs with productivity are unclear, and analyses at multiple levels missing. Accordingly, this study aims at exploring the mediating role of the climate for well-being and well-being outcomes in the relationship between multiple components of teleworking and scientific productivity, both at the individual and team level. Data were collected from 358 members of 48 Spanish European Research Council (ERC)-granted teams. Analyses were conducted both at the individual and team level, after checking for the relevant aggregation indexes. Telework components of quantity, frequency, flexibility, and voluntariness were found to have direct and mediated significant relationships with scientific productivity, confirming the need to investigate telework with a closer focus on how it is designed and implemented in the different teams. Specifically, climate for well-being, eudaimonic well-being, and negative emotions were found to play a relevant role in mediating the relationship between some telework components (i.e., telework flexibility and voluntariness) and scientific productivity. Also, telework quantity and frequency were found to have, respectively, positive and negative relationship with scientific productivity. Practical and theoretical implications are further discussed in the article.

Los componentes del teletrabajo y la productividad científica en los equipos españoles financiados por el ERC: el papel mediador del clima y el bienestar

Palabras clave:
Componentes del teletrabajo
Clima para el bienestar
Bienestar
Productividad científica
Multinivel

R E S U M E N

La práctica del teletrabajo se está utilizando de manera consistente y sin precedentes en múltiples sectores laborales, también en el de la investigación. No obstante, todavía quedan cuestiones que dilucidar sobre la relación entre aspectos específicos del diseño del teletrabajo y la productividad, así como los posibles mecanismos mediadores entre ambos a distintos niveles de análisis (individual, equipo). El trabajo tiene como objetivo explorar el papel mediador del clima para el bienestar y sus consecuencias en la relación entre múltiples componentes del teletrabajo y la productividad científica, tanto a nivel individual como de equipo. Se han recogido datos de 358 miembros de 48 equipos españoles subvencionados por el Consejo Europeo de Investigación (ERC). Los análisis se han realizado a ambos niveles tras comprobar los índices de agregación pertinentes. Cuatro componentes del teletrabajo (intensidad, frecuencia, flexibilidad y voluntariedad) presentaban relaciones significativas, directas e indirectas, con la productividad científica, confirmando la necesidad de investigar cómo se diseña e implementa en los equipos el teletrabajo. Se ha visto que el clima para el bienestar, el bienestar eudaimónico y las emociones negativas mediaban la relación entre algunos componentes del teletrabajo (la flexibilidad y la voluntariedad del teletrabajo) y la productividad científica. Además, la intensidad y la frecuencia del teletrabajo tenían, respectivamente, una relación positiva y negativa con la productividad científica. Las implicaciones prácticas y teóricas se analizan con más detalle en el artículo.

It is a hard fact that teleworking, namely the practice of carrying out work outside a head office but still linked to it (e.g., Bailey & Kurland, 2002; Golden & Veiga, 2005), is here to stay. In Europe, this trend gained importance among workers already at the beginning of this century and registered a strong and compulsory increase across sectors with the lockdown due to the COVID-19 pandemic (i.e., 2020-2021). As reported by the Eurofound (2020) and Eurofound and International Labour Office (2017), in 2015, 17% of European

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workers was involved in teleworking practices in their workplaces. With the implementation of the relevant national COVID-19 health restrictions, such percentage rose to 37%, with peaks of 50-60% in the Northern European countries. Consistently, even higher percentages are registered for knowledge workers (Maitland & Thomson, 2014), who acquire, create, and apply knowledge for carrying out their work (Davenport et al., 1996) and have access to their work equipment from anywhere and at any time through the technologies provided by their employers (Maitland & Thomson, 2014).

The relationship between telework and productivity has been addressed in previous research considering different indicators (Hackney et al., 2022; Mutiganda et al., 2022). In general terms, a positive relationship was found between such two variables, though it is relevant to point out four main gaps on which it is urgently required to shed light on with empirical studies. Firstly, the effects of the adoption of teleworking practices on teleworkers' productivity are not clear and solid. As pointed out by Hackney et al. (2022) in their systematic review, the results supporting such relationship are mixed. Indeed, if on one hand there is some evidence supporting a positive influence of teleworking on productivity, on the other hand it needs to be pointed out that a relevant number of studies have highlighted also opposite or not significant relationships. In regards, Hackney et al. (2022) point out that the mixture of subjective and objective indexes could have played a relevant role – a fact that is backed with renown metanalytical literature (Bommer et al., 1995) that highlights how objective and subjective measurements of employee performance should not be interchanged for their very peculiarities and the consequent not replicability of results. This leads then to the straightforward need to conduct more research on this relationship to further understand its nuances. Secondly, the practice of teleworking needs to be investigated by adopting a more analytical approach to understand how its components affect workers' productivity. Indeed, as also pointed out by Beckel and Fisher (2022), the practice of teleworking has been investigated so far by mainly adopting a holistic approach (i.e., teleworkers vs. on-site workers) without focusing on the components and the design through which the practice itself is implemented in each work context. Telework, as many other flexibility arrangements, can take a variety of forms. Thus, concluding anything about its relationship with productivity without taking into account some of its main features could be misleading. In this regard it is worth pointing out that, depending on, for example, how flexibly, autonomously, or frequently the practice of teleworking can be used by employees, it can understandably have different effects on workers' well-being or productivity (Beckel & Fisher, 2022). Thus, those specific factors need to be considered. Thirdly, the extant research on the relationship between teleworking and productivity has until now put greater emphasis on the effects at the individual-level compared to the team or the organizational level (Hackney et al., 2022). Consequently, lack of research on the relationship in question indicates that the relevant literature is missing key ultimate outcomes of teleworking at higher levels of analysis. Finally, light needs to be shed on the mechanisms through which teleworking enhances workers' productivity. This will allow a better understanding of which are the key factors in producing a change on productivity and will allow managers to design more accurate designs. In this regard, Charalampous et al. (2019) and Lunde et al. (2022) clearly state in their literature reviews the urgency of explaining this relationship by identifying and pointing out possible mediating mechanisms.

Therefore, the present study was set out to understand whether the climate for well-being and well-being outcome variables represent a relevant mediating mechanism between teleworking components and scientific productivity. In line with the multilevel nature of the considered constructs (i.e., climate for well-being) and the diversities that characterize productivity at the individual and team level, the research question was explored at both levels to have a complete understanding of the investigated relationships.

Teleworking and Productivity

In line with the relevance of the phenomenon, a number of meta-analytical studies and reviews were conducted to explore the relationships between teleworking and an array of variables (Beckel & Fisher, 2022; Charalampous et al., 2019; Hackney et al., 2022; Lunde et al., 2022; Mutiganda et al., 2022). If on one hand, relevant progress can be noticed in the understanding of this novel work practice, on the other hand some clear areas of improvement can be identified. Concretely, the practice of telecommuting is still investigated with a general rather than analytical approach and the results explaining the effects of teleworking on productivity are not clear. As to the former gap, Hackney et al. (2022) provide a possible explanation to it as consequence of the specific characteristics of how this work arrangement is established, for instance if it is implemented mandatorily or voluntarily. Building on such possible explanation, the present study wants to shed more light on such unclear relationship by specifically adopting on a more analytic understanding of the practice of teleworking through its components. As to the latter gap, the authors regard the mixed usage of subjective and objective operationalizations for understanding the impacts of teleworking on productivity as a possible explanation to the mixed results obtained so far (Bommer et al., 1995; Hackney et al., 2022). Consistently, for the present study an objective operationalization of productivity is appreciated and used for the reasons explained in the sections that follow.

Teleworking Components and Productivity

A first reason that may explain the mixed results that have been obtained so far when investigating the relationship between teleworking and productivity could be found in the lack of considering how and what components did teams or companies leverage on for designing and implementing the practice in question. In this regard, Beckel and Fisher (2022) make it clear that the way teleworking impacts employee well-being depends on the way telework itself is organized as well as on the organizational practices in place meant to support teleworking arrangements. Just to give an example, as reported above, several companies have been implementing teleworking practices lately, thus they can be equally categorized as organizations promoting remote work. Nevertheless, it is intuitive to understand that such general categorization can be inconsistent because of the differences in design and implementation of this practice across teams or companies. Indeed, for example, if in one team the practice of teleworking can be implemented with no limitations in terms of quantity or flexibility, in another team it may be that employees can work remotely only for a certain number of hours or cannot distribute their days of teleworking across the week or month as they wish. Accordingly, it becomes then relevant and urgent to explore the practice of telework with a more analytical approach, focused on arrangement of the practice in the workplace, for better understanding how employees perceive such practice in their work context.

In such vein, for the present study the relevant scientific literature was explored for defining which main teleworking components to consider. To do so, combinations of multiple keywords (i.e., telecommuting, telework, remote work, components, features, aspects, characteristics, preferences) were used to search PsycINFO, Web of Science, and EBSCO databases. According to the literature search, only a reduced number of studies was found to be useful to the scope. In Baba et al. (2022) emerges how frequency could

be regarded as a relevant component of teleworking since it is commonly used for quantifying the usage of this practice. Hsu et al. (2021) point out how flextime, namely the possibility to decide how to distribute the use of the practice of teleworking over time, plays a relevant role in the design of this practice. Consistently, Shifrin and Michel (2022) in their meta-analytic review point out how flexible work arrangements have an important relationship with workers' well-being. Hackney et al. (2022) mention that also the extent to which teleworking arrangement is implemented voluntarily, rather than mandatorily, can understandably have a strong impact on how the practice is perceived by employees. In the same vein and considering the peculiarities of the investigated work context (i.e., research teams), the authors of the present study suggest that requesting, or not, employees to justify their days of teleworking can represent another relevant component in the design of the work practice in question. Indeed, similarly to voluntariness, not requesting to justify why an employee needs to telework on a specific day increases the autonomy of the worker, which is renown to have positive impact on a wide array of work-related aspects (Hackman & Oldham, 1975, 1976, 1980; Morgeson & Humphrey, 2006). Finally, based on the suggestions proposed by Mazzi (1996), who depicts the academic environment as not optimally designed for adequately carrying out some relevant tasks (e.g., drafting articles), quantity of teleworking was also regarded as a relevant component. Indeed, giving researchers the freedom to decide how much to telework can represent an effective strategy to bypass the inconveniences relevant to the investigated sector. To sum up, considering the peculiarities of the research sector, flexibility, no need for justification, voluntariness, quantity, and frequency of teleworking, were considered as relevant for the design and implementation of teleworking.

Operationalizing Productivity

A second gap in the literature is the lack of inclusion of hard measures of productivity in the research. As Hackney et al. (2022) report, 23 out of the 37 studies that were included in their review were survey-based, meaning that respondents were asked to self-report on their perceptions of specific metrics associated with productivity or performance. Although considering subjective perceptions of productivity (self- or hetero- reported) can be very insightful to understand which aspects are better valued by their actors (e.g., cognitive effort put into a task), it can be subject to an array of conditioning factors (e.g., social pressure) that can misalign perceived and actual productivity. Consistently, comparing results that were obtained through different operationalizations of productivity (viz., subjective vs. objective) can lead to spurious conclusions. In turn, in the present study, which aimed at identifying the relevant variables having a direct and/or mediated relationship with productivity, it was decided to appreciate the peculiarities of objective measurements of productivity, thus increase the number of studies that have utilized so far this type of operationalization.

Along with the above reported peculiarities on the operationalization of productivity, for the purposes of the present study, it is also relevant to point out the differences between the concepts of productivity and performance that are often used as synonyms (Ballesteros-Rodríguez et al., 2022), when they are not. Indeed, as reported in relevant pieces of work in the management literature, employees' productivity can be increased by improved performance, yet increased productivity can also result from other factors, such as reduction of costs or usage of technologies (Banfield et al., 2018; Taylor, 2003); a fact that makes explicit how performance should rather be considered as an antecedent of the more comprehensive concept of productivity, which is more complex to predict and, possibly, more pragmatic to consider.

Levels of Analysis

As reported in the introduction, in the present study the relationships among the considered variables are going to be analyzed both at the individual and team level of analysis. Indeed, as relevantly pointed out by Barsade and Gibson (2007) and George (1990), when same constructs are considered, after relevant theoretical and statistical justification, at different levels of analysis (e.g., individual and team level) different outcomes can be expected because of their recognizable and measurable differences (Barsade, 2002). For doing so, the considered variables were then taken into account at both levels of analysis by running two distinct statistical models. In terms of variables, scientific productivity was distinctively assessed, as further described below, both at the individual and group level. Similarly, all the included well-being outcomes were considered at both levels of analysis since, as it has been justified previously (Barsade & Gibson, 2007; Valls et al., 2021), team members can develop a shared affect that can play a relevant role for understanding behaviours also at a team level. Furthermore, the climate for well-being, for its multi-level nature, and the mentioned teleworking components were considered at both levels of analysis. Indeed, as to these last ones, they were regarded as a relevant element of consideration for both levels.

The urgency of running the analyses at both levels was exacerbated by the fact that, despite its relevance, as it is pointed out by Hackney et al. (2022), when the impact of teleworking on productivity has been investigated, mainly the individual level was considered. Consequently, a homologous model was tested at team level (Kozlowasky & Klein, 2000).

Mechanisms Linking Teleworking and Productivity

In order to understand the ways telework might foster productivity, it is peremptory to consider the mechanisms through which this relationship occurs. Different mechanisms have been proposed, though there is still a lack of evidence-based research specifically addressing this matter (Charalampous et al., 2019; Lunde et al., 2022). In the present study, the variables of molar climate, also known as climate for well-being (Schneider et al., 2011), and well-being are addressed as explaining factors for the relationship in question based on the rationale and empirical support provided in the lines that follow.

The present study proposes two homologous mediational models, namely one for the individual and another one for the team level, that take the "happy-productive hypothesis" by Cropanzano and Wright (2001) as theoretical framework of reference. Grounding on this framework, it can be stated that happy workers are more productive; indeed it is renown that employees who feel psychologically better at work tend, in sign of social exchange (Blau, 1968; Emerson, 1976), to pay back the organization by being more productive (Zelenski et al., 2008). Research has generally operationalized happiness and job satisfaction, which limits the understanding of how happiness and well-being might be related to productivity in organizations. Notwithstanding, previous research (Peiró et al., 2014; Wright et al., 2007) has suggested, to have a fuller understanding of the well-being, the need to incorporate a broader perspective that considers hedonic and eudaimonic perspectives, and cognitive and affective operationalizations of it. Some empirical evidence that goes in this direction is, for example, provided through the recent meta-analysis by Salgado and Moscoso (2022), that shows how well-being, both in its cognitive and affective component, represent relevant predictor of job performance. As a consequence, in the context of the present study, as further reported in the sections that follow, well-being at work was operationalized in terms of eudaimonic well-being (viz., eudaimonic perspective), job satisfaction (viz., cognitive dimension

of the hedonic perspective), and positive and negative emotions (viz., affective dimension of the hedonic perspective).

Along with above reported rationale, it can be further expected that aspects that foster well-being could then be also understood as indirectly promoting productivity. In this sense, work environments, which can be assessed by means of molar climate for well-being, represent a crucial source of well-being, as explained in the multiple theoretical works by Warr (1987, 2007) and backed up with empirical evidences (e.g., Salazar et al., 2019). Specifically, when the climate construct is assessed with measurement tools that are framed into relevant theoretical frameworks, such as the Vitamin Model by Warr (1987, 2007), it becomes licit to expect a direct relationship between molar climate and workers' well-being. Indeed, the Vitamin Model (Warr, 1987, 2007) conceptualizes, grounding on the five latent functions of employment pointed out by Jahoda (1981), twelve environmental features in job settings that play a crucial role in determining employee well-being. Such features are classified into two main categories. In one category the additional decrement (AD) features are grouped, which improve the workplace but can imply a deterioration of it when excessively present. In the other category the constant effect (CE) features are grouped, which despite the extent of their presence tend to have a constant effect on well-being.

On a final turn, it can also be expected that aspects that have an impact on the work environment could potentially and indirectly be related to an increase in well-being, thus productivity. In this regard, Bowen and Ostroff (2004, 2016) point out how HR practices have a significant impact on the perception of work environment, thus molar climate, as it may be the case for the considered components of the practice of teleworking that fosters flexible work arrangements. In this regards, the systematic review by Newman et al. (2020) provides relevant empirical evidence on how human resource management (HRM) practices or policies represent a climate foci. As to the here investigated practice of teleworking, examples of policies related to the considered components could be described as follows. As to telework quantity, a policy that could be in place in a company may require employees to be at the office a certain number of days throughout the week/month. As to telework frequency, a company may allow employees to telework more times over the day (e.g., early in the morning and late in the afternoon). As to telework voluntariness, a company may make entirely decide their employees whether to telework or not. As to telework justification, a team leader may require each team member to provide a justification before adopting the practice of teleworking. Finally, as to telework flexibility, a company may decide to completely empower their employees to decide on how to distribute their days of telework throughout the week or month.

In turn, based on the theoretical and empirical support provided above, the double-mediation hypothesis follows (see Figure 1):

*H*1: The relationship between quantity of teleworking and scientific productivity is mediated by the climate for well-being and psychological well-being (i.e., job satisfaction, positive and negative emotions, and eudaemonic well-being) both at individual and team level. Specifically, higher scores on telework quantity are related to higher scores in terms of climate, which in turn improve employees' well-being, and finally lead to an increase in scientific productivity.

*H*2: The relationship between frequency of teleworking and scientific productivity is mediated by the climate for well-being and psychological well-being (i.e., job satisfaction, positive and negative emotions, and eudaimonic well-being) both at individual and team level. Specifically, higher scores on teleworking frequency are related to higher scores in terms of climate, which in turn improve employees' well-being, and finally lead to an increase in scientific productivity.

*H*3: The relationship between teleworking voluntariness and scientific productivity is mediated by the climate for well-being and psychological well-being (i.e., job satisfaction, positive and negative emotions, and eudaimonic well-being) both at individual and team level. Specifically, higher scores on teleworking voluntariness are related to higher scores in terms of climate, which in turn improve employees' well-being, and finally lead to an increase in scientific productivity.

*H*4: The relationship between no need for teleworking justification and scientific productivity is mediated by the climate for well-being and psychological well-being (i.e., job satisfaction, positive and negative emotions, and eudaimonic well-being) both at individual and team level. Specifically, higher scores on no need for teleworking justification are related to higher scores in terms of climate, which in turn improve employees' well-being, and finally lead to an increase in scientific productivity.

*H*5: The relationship between teleworking flexibility and scientific productivity is mediated by the climate for well-being and psychological well-being (i.e., job satisfaction, positive and negative emotions, and eudaemonic well-being) both at individual and team level. Specifically, higher scores on teleworking flexibility are related to higher scores in terms of climate, which in turn improve employees' well-being, and finally lead to an increase in scientific productivity.

With regard to the control variables, as suggested by the literature for the individual level, age and gender were considered, while for

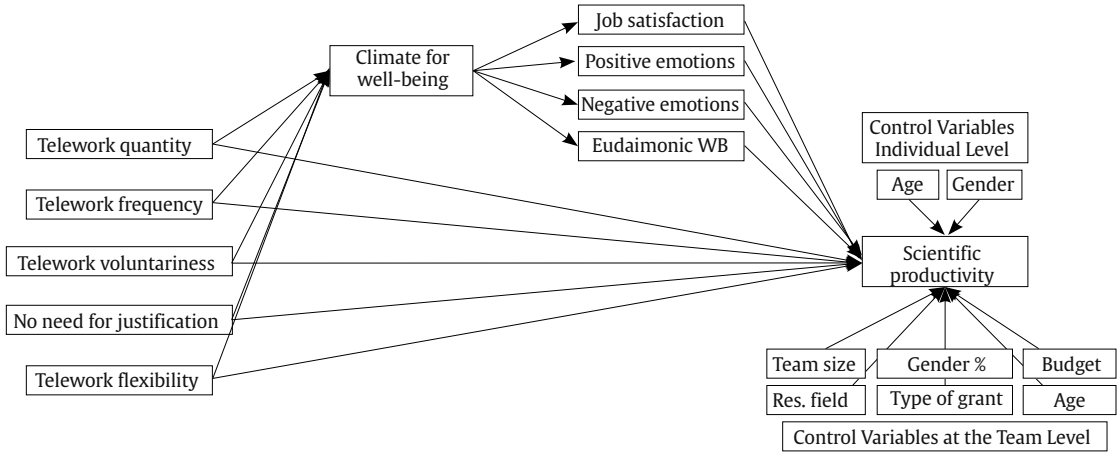

Figure 1. Graphic Representation of Hypothesized Statistical Model.

the analysis at the team level age budget, gender percentage, grant type, research field, and team size were included.

Method

Participants

The sample was composed of 358 members working in 48 teams based in Spain and granted by the European Research Council (ERC), the premier European funding organization for excellent frontier research that was set up by the European Union in 2007. This institution funds creative researchers to run projects based across Europe through four main grant schemes, which are here listed in order of relevance: starting grants, consolidator grants, advanced grants, and synergy grants. Precisely, 50% of the teams were funded with a starting granst, 33.3% with a consolidator grant, 12.5% with an advanced grant, and the remaining 4.2% with a synergy grant. The 48 ERC-granted teams operated in multiple sectors (see Table 1) and were distributed all over Spain but with a relevant concentration in the cities of Barcelona (i.e., 25%) and Madrid (i.e., 18.8%). Teams were composed on average by 8.6 members (*SD* = 3.39), with a minimum of 3 and a maximum of 19. Each team usually included a principal investigator leading multiple pre- and post-doctoral researchers in carrying out their job. In addition, each team used to have a technical figure of support together with a minority of under- and post-graduate students. With regard to leaders' gender, 70.40% of the teams was leaded by males and 29.60% by females, a skewed distribution that validly reflected the current situation among the 206 principal investigators (PI) in Spain. As to the budget, on average teams were supported with €2,061,107.1 (*SD* = €1,400,375.7), with a minimum of €1,064,712.00 and a maximum of €9,057,250.00. As to gender, teams were composed on average by 45.95% of females (*SD* = 25%), with a minimum of 0.00% and a maximum of 100%. It is worth mentioning that data were included in the analyses at the team level only if at least more than half (i.e., 55%) of team members of each team participated in the survey.

Moving to the description of the team members, as to age, 58.4% of the sample was less than 35 years old, 37.1% were between 35 and 50, 4.2% between 50 and 65, and the remaining 0.3% was older than 65 years. As for gender, 51% of the participants identified themselves as male, 46.4% as female, 0.3% of the participants did not identify themselves with any provided option, and 2.3% did not want to express themselves in regards. In terms of positions, 4.2% of the sample was composed of full professors, 3.7% of senior lecturers, 1.4% of lecturers, 0.9% of doctoral assistant professors, 0.5% of teaching assistants, 0.9% of collaborators, 4.2% of associate professors, 32.2% of post-doctoral researchers, 29.4% of pre-doctoral researchers, 2.3% of undergraduate and post graduate students, 3.3% of doctoral technicians, 9.3% of technicians, and the remaining 7.5% of other types of professionals. In terms of differentiation, the main difference between senior lecturers and associate professors lies in the fact that the former use to have a career development more focused on a practitioner path, while the latter on an academic one.

Procedure

The study was conducted and data were collected using the Gloogle Forms platform, in accordance with the Declaration of Helsinki, and approved by the Institutional Review Board of the Spanish institution that led the present project. All the 206 principal investigators (PI) leading an ERC-granted project in Spain at the moment of the data collection (i.e., March-May 2022) were contacted via email, asking for participation and distribution of the relevant survey among the members of their teams. In total, 48 teams (i.e., 23.3%) decided to participate in the data collection process in exchange for a descriptive team report summarizing the main statistics about the assessed constructs. Considering the increasing internationality of research team members, the survey was made available both in Spanish and English after a thorough back-translation process (Brislin, 1970; WHO, 2023) that involved four experts with high proficiency both in English and Spanish. The survey remained active for 68 days and was closed on the 13th of March 2022. The data that support the findings of the present study are available from the corresponding author upon reasonable request.

Measures

Telework Components: Quantity, Frequency, Flexibility, Need for Justification, and Voluntariness

As to the quantity of teleworking per week, respondents were asked to report how many working hours do they approximately telework per week, with a minimum of hours equal to "never" and a maximum of hours equal to "from 35 to 40". Hence, a scale of totally 9 points was made available to reply to the statement.

As to the frequency of teleworking, the respondents were asked to report how many days do they approximately telework in a working week, with a minimum of days equal to "never" and a maximum of days equal to "5 days a week". Hence, a scale of 6 points was made available to reply to the statement.

As to the flexibility with which the practice of teleworking can be used by team members, respondents were asked to assess the four statements that follow through a 5-point Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. The items were worded as follows: "From 1 to 5, to what extent can you decide how many days to telecommute?", "From 1 to 5, to what extent can you decide how to distribute your hours/days of telecommuting throughout the week?", "From 1 to 5, to what extent can you decide how to distribute your days of telecommuting throughout the month?", and "From 1 to 5, to

Table 1. ERC-Teams Fields of Research

Field of research	%	Field of research	%
Fundamental constituents of matter	10.40%	Condensed matter physics	4.20%
Synthetic chemistry & materials	10.40%	Multiple sectors	4.20%
Applied medical technologies	8.30%	Neurosciences & neural disorders	2.10%
Products & processes engineering	8.30%	Ecology, evolution & environmental biology	2.10%
The study of the human past	8.30%	Computer science & informatics	2.10%
Genetics	6.30%	Systems & communication engineering	2.10%
Physiology, pathophysiology & endocrinology	6.30%	Universe sciences	2.10%
Individuals, markets & organizations	6.30%	Earth system science	2.10%
The social world, diversity, population	6.30%	The human mind and its complexity	2.10%
Biotechnology & molecular & biosystems engineering	4.20%	Cultures & cultural production	2.10%

what extent can you decide to telecommute "at the last minute"?". Cronbach's α was found to be .92, suggesting an adequate internal consistency. In terms of model fit, the relevant indexes for telework flexibility resulted to be adequate (CFI = .99, TLI = .99, RMSEA = .05, SRMR = .01) and the factor loadings to significantly overcome the minimum required threshold (i.e., .40).

As to the need to justify teleworking, respondents were asked to assess one item through a 5-point Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. The item was worded as follows: "From 1 to 5, to what extent are you required to provide a justification for telecommuting?".

As to the possibility to use teleworking voluntarily, respondents were asked to assess one item through a 5-point Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. The item was worded as follows: "From 1 to 5, to what extent would you define your telework arrangement as voluntary?".

Climate for Well-being

As to the climate for well-being, or molar climate (Schneider et al., 2011), it was measured by means of the ECO scale (Martinolli et al., in press; Toro 1992, 1996, 2008). The scale is theoretically framed into the Vitamin Model by Warr (1987, 2007) causing the pole inequality relations between men and women. Therefore, in this study wanted to dismantle the detail view of some theories, both social and feminist about gender relations in the family. Each of these theories (structural functional, conflict, and feminist) is particularly suitable since it theoretically identifies the relevant workplace features that affect employees' well-being. The scale is composed of 13 dimensions; examples of items and reliability are reported in Table 2. Respondents were asked to assess the items through a 5-point Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. In terms of overall reliability, the ECO VI scale resulted to have a Cronbach's α of .93. In terms of model fit, the relevant indexes for climate for well-being resulted to be adequate (CFI = .94, TLI = .93, RMSEA = .04, SRMR = .05), confirming its structure composed of 13 dimensions, and the factor loadings to significantly overcome the minimum required threshold (i.e., .40).

Well-being at Work

Considering the multifaceted nature of well-being at work (Diener, 1984; Friedland & Price, 2003; Kuoppala et al., 2008; Lorca & Belli, 2023; Ryff & Keyes, 1995; Warr & Nielsen, 2018), three different measurements were used to assess the two main approaches to the conceptualization of well-being: the hedonic and the eudaimonic approach. The eudaimonic facet was captured by the means of the Eudaimonic Workplace Well-being Scale (EWWS) by Bartels et al. (2019), which is composed of eight items distributed between two dimensions: inter- and intra-personal dimension. The former dimension was composed of items such as "Among the people I work with, I feel there is a sense of fellowship", while the latter was made up of items such as "I feel I am able to continually develop as a person in my job". Respondents could assess the items through a 5-point Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. The scale was found to have a good internal consistency, Cronbach's α = .85. In terms of model fit, the relevant indexes for EWWS resulted to be adequate (CFI = .94, TLI = .91, RMSEA = .11, SRMR = .07), confirming its bi-dimensional structure, and the factor loadings to significantly overcome the minimum required threshold (i.e., .40). On the other hand, in terms of hedonic well-being, its cognitive facet was assessed in terms of job satisfaction (Barsade et al., 2003; Brunetto et al., 2012; Schneider et al., 2003) as one of the determinants of research productivity (Lee & Bozeman, 2005; Ramesh Babu & Singh, 1998) with a single item scale (i.e., "I am completely satisfied with my job") that respondents could reply to with 5-point Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. Finally, the affective facet of hedonic well-being was measured with the SPANE scale (Diener et al., 2010; Espejo et al., 2020), which assesses the frequency with which respondents have experienced twelve different feelings, six positive and six negatives, in the past four weeks. An example of item was as follows "Please, think about the past 4 weeks. How much did you experience each of the following feelings? - Joyful". Respondents could express such frequency by the means of a 5-point Likert scale ranging from 1 = *never* to 5 = *always*. The scale was found to have a good internal consistency both for the positive feelings, Cronbach's α = .90, and the negative feelings, Cronbach's α = .85. In terms of model fit, the relevant indexes for SPANE resulted to be adequate (CFI = .97, TLI = .96, RMSEA = .06, SRMR = .03), confirming its bi-dimensional structure, and the factor loadings to significantly overcome the minimum required threshold (i.e., .40).

Scientific Productivity

At the individual level, respondents were asked to report the number of published articles, both as corresponding authors and co-authors, and the number of presentations that they had written and presented in 2021. On the other hand, at the team level, principal investigators (PI) were asked to report the number of articles that were published since the start of the project, which was subsequently cross-checked online on the official webpages of the ERC project. The total number of team publications was then divided by the number of months from the start of the ERC project, so to have a comparable index across teams.

Table 2. Climate Dimensions, Items, and Reliability

Climate dimension	Example of item	α
Team support	My team supports its members when they want to improve something in their work.	.78
Principal Investigator's support	In difficult moments of work, the team feels the support of the principal investigator.	.85
Organizational clarity	In my team, everyone is well informed about their work procedures	.85
Resources availability	In my team, we have the appropriate resources to do our job	.87
Compensation	In my team, people are well-paid for the work they carry out	.84
Teamwork	In my team, teamwork helps to obtain positive results	.85
Interpersonal relations	In my team, manners between people are good	.93
Autonomy	In my team, people determine their own work procedures	.82
Professional dev.	In my team, people are highly encouraged to develop their skills	.81
Work-life balance	In my team, people are supported in balancing their professional and private lives.	.84
Workspace quality - Acoustic	Where my team works, there is acoustic comfort to carry out our work properly	.83
Workspace quality - Furnishing	Where my team works, the equipment is maintained in good conditions	.73
Workspace quality - Temperature	Where my team works, people can easily adjust the indoor temperature	.87

Control Variables

In terms of control variables, age, gender, and team size were asked to be reported by the respondents. Specifically, as to age, it was assessed by using four age-ranges for guaranteeing increased anonymity. The four categories were as follows, "less than 35 years old", "between 35 and 50", "between 50 and 65", "and older than 65 years". On the contrary, budget, type of grant (i.e., starting grant, consolidator grant, advanced grant, and synergy grant), and field of research were directly retrieved from the official webpage of the European Research Council (i.e., https://erc.europa.eu). Gender distribution at the team level was computed as the percentage of females present in the research team.

Analyses

First, the dataset was checked to identify missing data, which amounted to be less than the limit of 5% for which data imputation is required (Fichman & Cummings, 2003).

Using IBM SPSS Statistics 23 software, the relevant consistency analyses were performed to check the reliability of the used measures and benchmarked against the threshold pointed out in the literature (Cortina, 1993; Nunally, 1978). To confirm the factorial structure of the used measurement tools in the considered sample, multiple confirmatory factor analyses (CFA) were conducted using the statistical software Mplus (Muthén & Muthén, 2017). Maximum Likelihood estimation was used since data distribution was normal. The model fit was assessed using multiple indices. The comparative fit index (CFI), the Tucker-Lewis index (TLI), the root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR). For CFI and TLI, values greater than .90 are usually considered as a reasonable model fit, whereas stringent recommendations suggest values close to .95 (Hu & Bentler, 1999). For the RMSEA and the SRMR, values below .08 are traditionally considered a reasonable model fit, whereas stringent recommendations suggest values close to .06 (Hu & Bentler, 1999).

Before running the analyses at the team level of analysis, additional tests were performed to assess aggregation. Aggregation allows to assess that each member's score was similar enough to those within their team and that each member's score was significantly different to those among the other considered teams. In doing so, the average deviation index (ADI; Burke et al., 1999) and the $r_{WG(J)}$ (James et al., 1984) were computed and analyzed for scales so as to ensure within-team agreement. Since the response scale to each item was composed of 5 points, the cut-off value for ADI is .83; more precisely ADI must be smaller than .83 to indicate acceptable agreement (Burke & Dunlap, 2002). On the other hand, $r_{WG(J)}$, values above .70 are considered to provide evidence of agreement (Bliese, 2016b). As suggested by the scientific literature, also the intraclass correlation coefficients were computed (Bliese, 1998). ICC(1) was considered for evaluating the level of consistency of responses among team members, while ICC(2) was considered for estimating the reliability of the team means (Bliese, 2000). The commonly observed cut-off values for ICC(1) typically range between .05 and .20 (Bliese, 2000), although LeBreton and Senter (2008) at least in part, because of the increased role of multilevel modeling techniques (e.g., hierarchical linear modeling and multilevel structural equation modeling) suggested that an ICC(1) of .05 represents a small-to-medium effect. Bliese (2000) also suggests that values of ICC(2) above .70 should be considered acceptable, while (Fleiss, 1999) states that ICC(2) levels lower than .40 are poor, those from .40 to .75 are fair to good, and those greater than .75 are excellent. Finally, also a one-way analysis of variance (ANOVA) was carried out to determine whether there was statistically significant difference in between-teams discrimination in the considered team level constructs. All aggregation analyses were conducted with the R statistical software (version 3.6.3) (R Core Team, 2020) by using the "multilevel" R package in its version 2.6 (Bliese, 2016a).

For testing the formulated hypothesis both at the individual and team level of analysis, structural equation modeling was conducted with the statistical software Mplus (Muthén & Muthén, 2017). Also in this case, the maximum likelihood estimation was used since data distribution was normal. In light of the small sample size at the team level, it is worth pointing out that the mentioned analyses are subject to relevant limitations (Schmidt & Hunter, 2015). Briefly, small sample sizes can lead to reduced statistical power of the relationships between the variables, increased sampling error, thus variance of error, random variation of the relationships from the value of the population, and lowered probability to replicate the results.

Results

The results that were found both at the individual and team level of analysis are reported in the lines that follow.

Results at the Individual Level of Analysis

In the correlation matrix that follows (see Table 3) the bivariate correlations (i.e., Pearson's *r*) can be found among the relevant variables at the individual level of analysis, in addition to the relevant means and standard deviations. In terms of correlations, climate was found to be correlated only with the telework component of flexibility, which was significantly correlated to all the considered well-being outcomes. In turn telework quantity, telework flexibility, climate for well-being, eudaimonic well-being, and job satisfaction were found to be correlated to scientific productivity.

At the individual level, with reference to *H*1, testing the mediating role of the climate for well-being and well-being at work (i.e., job satisfaction, positive and negative emotions, and eudaimonic well-

Table 3. Correlation Matrix at the Individual Level

Variable	*N*	*M*	*SD*	1	2	3	4	5	6	7	8	9	10
1. Telework quantity	358	10.44	11.68	-									
2. Telework frequency	358	1.27	1.57	.79**	-								
3. No need for telework justification	358	3.74	1.36	.22**	.20**	-							
4. Telework flexibility	358	3.91	1.14	.33**	.30**	.30**	-						
5. Telework voluntariness	358	4.27	1.10	.19**	.15**	.21**	.57*	-					
6. Climate for well-being	358	3.88	0.50	.01	.02	.06	.21**	.05	-				
7. Eudaimonic well-being	358	4.03	0.65	-.02	-.03	.01	.09	.03	.58**	-			
8. Positive emotions	358	3.81	0.69	-.03	-.01	.01	.10	.04	.57**	.62**	-		
9. Negative emotions	358	2.08	0.75	.05	.04	-.04	-.05	-.08	-.53**	-.51**	-.69**	-	
10. Job satisfaction	358	3.72	0.95	-.02	.01	.01	.09	.02	.58**	.63**	.61**	-.58**	-
11. Scientific productivity	358	4.78	5.61	.17**	.08	.06	.13*	.05	.14*	.23**	.05	-.05	.15**

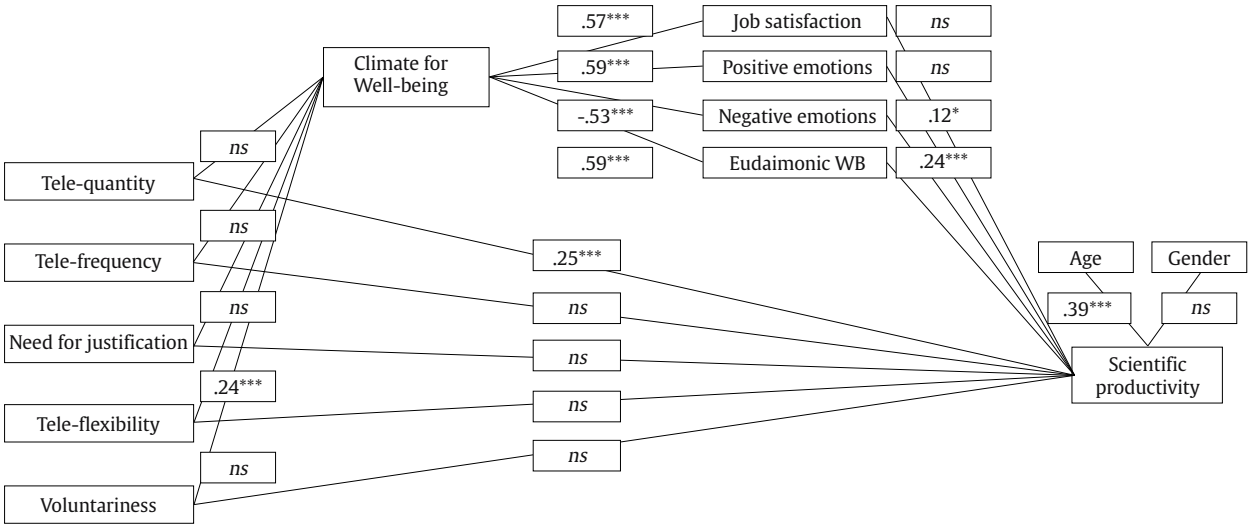

Figure 2. Results at the Individual Level of Analysis.
*$p < .05$, **$p < .01$, ***$p < .001$.

being) between quantity of teleworking and scientific productivity, partial support was found. Indeed, a direct link was found between telework quantity and scientific productivity (β = .25, $p < .001$), but no direct relationship was found between telework quantity and climate for well-being. In addition, climate for well-being was found to have a direct relationship with all four well-being outcomes: job satisfaction, β = .57, $p < .001$; positive emotions, β = .59, $p < .001$; negative emotions, β = - .53, $p < .001$; and eudaemonic well-being, β = .59, $p < .001$. Finally, negative emotions and eudaimonic well-being were directly linked to scientific productivity, respectively β = .12, $p < .01$ and β = .24, $p < .001$.

As to *H*2, testing the mediating role of the climate for well-being and well-being at work (i.e., job satisfaction, positive and negative emotions, and eudaimonic well-being) between frequency of teleworking and scientific productivity, partial support was found. Specifically, no direct links were found between telework frequency and scientific productivity and between telework frequency and climate for well-being, whereas the mediating role of well-being outcome between climate for well-being and scientific productivity was confirmed as reported for *H*1.

As for *H*3, testing the mediating role of the climate for well-being and well-being at work (i.e., job satisfaction, positive and negative emotions, and eudaimonic well-being) between teleworking voluntariness and scientific productivity, partial support was found. Concretely, also in this case no direct links were found between telework voluntariness and scientific productivity and between telework voluntariness and climate for well-being, whereas the mediating role of well-being outcome between climate for well-being and scientific productivity was confirmed as reported for *H*1.

As for *H*4, testing the mediating role of the climate for well-being and well-being at work (i.e., job satisfaction, positive and negative emotions, and eudaimonic well-being) between no need for teleworking justification and scientific productivity, partial support was found. Particularly, also in this case no direct links were found between no need for teleworking justification and scientific productivity and between no need for teleworking justification and climate for well-being, whereas the mediating role of well-being outcomes between climate for well-being and scientific productivity was confirmed as reported for *H*1.

Finally, with reference to *H*5, testing the mediating role of the climate for well-being and well-being at work (i.e., job satisfaction, positive and negative emotions, and eudaimonic well-being) between teleworking flexibility and scientific productivity, complete support was found. Indeed, a direct link was found between teleworking flexibility and climate for well-being (β = .24, $p < .001$) and no direct relationship was found between teleworking flexibility and scientific productivity. In addition, as for the previous hypotheses, the mediating role of well-being outcome between climate for well-being and scientific productivity was confirmed once again. In this last case, it is possible to state that the relationship between teleworking flexibility and scientific productivity is then fully mediated through climate perceptions, negative emotions, and eudaimonic well-being.

Table 4. Aggregation Indexes for Team-level Analysis

Variable	ADI (mean)	*SD*	$r_{WG(J)}$	ICC(1)	ICC(2)	ANOVA	Sig. (ANOVA)
Telework quantity	6.57	11.68	.63	.33	.76	$F(53, 304) = 4.22$	$p < .001$
Telework frequency	0.80	1.57	.63	.39	.81	$F(53, 304) = 5.24$	$p < .001$
No need for telework justification	0.80	1.36	.63	.39	.74	$F(53, 304) = 3.85$	$p < .001$
Telework flexibility	0.76	1.14	.63	.27	.71	$F(53, 304) = 3.40$	$p < .001$
Telework voluntariness	0.72	1.10	.63	.08	.37	$F(53, 304) = 1.59$	$p < .01$
Climate for well-being	0.63	0.50	.98	.18	.59	$F(53, 304) = 2.41$	$p < .001$
Eudaimonic well-being	0.60	0.65	.91	.18	.59	$F(53, 304) = 2.43$	$p < .001$
Positive emotions	0.56	0.69	.91	.06	.29	$F(53, 304) = 1.41$	$p < .05$
Negative emotions	0.82	0.75	.94	.04	.21	$F(53, 304) = 1.27$	$p < .05$
Job satisfaction	0.63	0.95	.84	.08	.35	$F(53, 304) = 1.54$	$p < .05$

Table 5. Correlation Matrix at the Team Level

Variable	*N*	*M*	*SD*	1	2	3	4	5	6	7	8	9	10
1. Telework quantity	48	10.59	7.78	-									
2. Telework frequency	48	1.27	1.01	.94**	-								
3. No need for telework justification	48	3.80	0.87	.57**	.56**	-							
4. Telework flexibility	48	3.95	0.68	.52**	.52**	.49**	-						
5. Telework voluntariness	48	4.28	0.53	.34*	.30*	.30*	.67*	-					
6. Climate for well-being	48	3.92	0.29	.05	.08	.09	.30*	-.05	-				
7. Eudaimonic well-being	48	4.09	0.38	-.02	-.05	.01	.17	-.02	.55**	-			
8. Positive emotions	48	3.86	0.31	-.13	-.10	-.01	.21	.01	.72**	.69**	-		
9. Negative emotions	48	2.04	0.33	.06	.05	.07	-.23	-.02	-.58**	-.60**	-.77**	-	
10. Job satisfaction	48	3.79	0.46	-.05	-.03	-.11	.21	.01	.77**	.69**	.84**	-.75**	-
11. Scientific productivity	48	0.39	0.35	.25	.16	.14	.22	.08	.16	-.14	-.11	.07	-.03

*p < .05, **p < .01.

In terms of control variables at the individual level (i.e., age and gender), only age was found to have a significant relationship with the dependent variable (β = .39, p < .001), meaning that older team members tend to have a higher level of scientific productivity (see Figure 2).

Results at the Team Level of Analysis

Before running the due statistical analyses at the team level, the adequate aggregation indexes were checked as reported in the scientific literature (LeBreton & Senter, 2008) at least in part, because of the increased role of multilevel modeling techniques (e.g., hierarchical linear modeling and multilevel structural equation modeling). The outcomes of such analyses are reported in Table 4 and support the performance of statistical analyses at team level. Consequently, apart from scientific productivity, the other team level variables considered in the hypothesized model were computed as the average of the individual scores of team members.

In the correlation matrix that follows (see Table 5) bivariate correlations (i.e., Pearson's r) can be found among the relevant variables at the team level of analysis, in addition to the relevant means and standard deviations. In terms of correlations, also in this case climate was found to be correlated only with the telework component of flexibility, which was again significantly correlated to all the considered well-being outcomes. On the contrary of the individual level, at this level of analysis none of the considered variables resulted to be correlated to the outcome variable of scientific productivity.

At team level (see Figure 3), with reference to *H*1, testing the mediating role of the climate for well-being and well-being at work (i.e., job satisfaction, positive and negative emotions, and eudaimonic well-being) between quantity of teleworking and team scientific productivity, partial support was found. Indeed, a direct link was found between telework quantity and team scientific productivity (β = .17, p < .001), but no direct relationship was found between telework quantity and climate for well-being. In addition, climate for well-being was found to have a direct relationship with all four well-being outcomes: job satisfaction, β = .77, p < .001; positive emotions, β = .72, p < .001; negative emotions, β = - .58, p < .001; and eudaimonic well-being, β = .55, p < .001. Finally, and on the contrary of what was found at the individual level, none of the well-being outcomes were found to have a relationship with the team scientific productivity.

As to *H*2, testing the mediating role of the climate for well-being and psychological well-being (i.e., job satisfaction, positive and negative emotions, and eudaimonic well-being) between frequency of teleworking and scientific productivity, partial support was found. Indeed, a direct link was found between telework frequency and team scientific productivity (β = - .42, p < .001), but no direct relationship

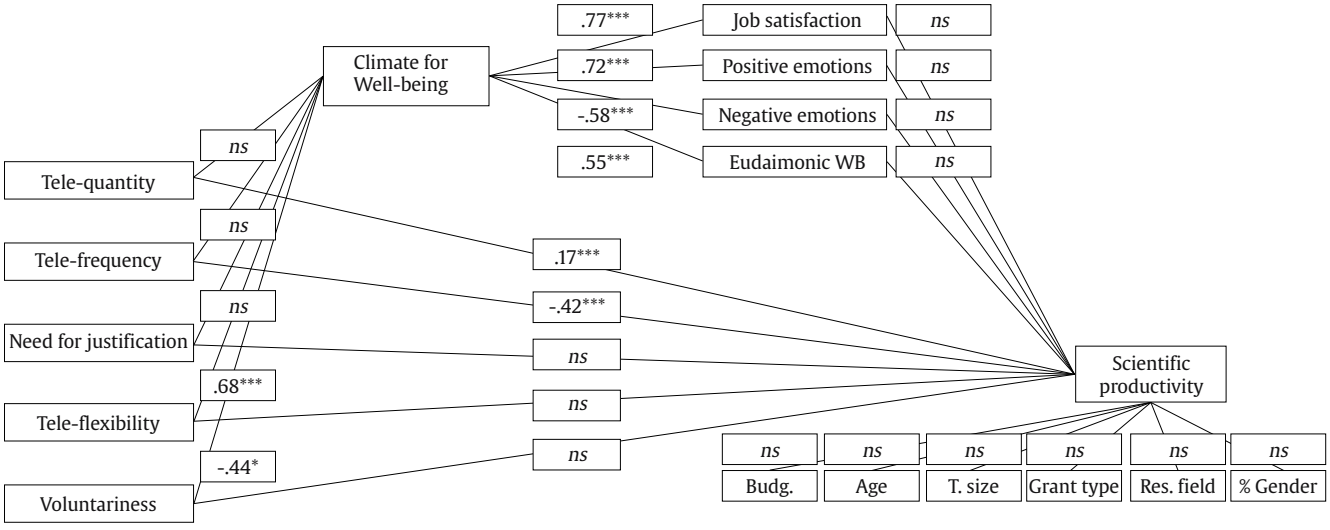

Figure 3. Results at the Team Level of Analysis.

*p < .05, ** p < .01, ***p < .001.

was found between telework frequency and climate for well-being. On the other hand, the mediating role of well-being outcome variables between climate for well-being and team scientific productivity was confirmed as reported for *H*1.

As for *H*3, testing the mediating role of the climate for well-being and well-being at work (i.e., job satisfaction, positive and negative emotions, and eudaimonic well-being) between teleworking voluntariness and team scientific productivity, partial support was found. Indeed, a direct link was found between telework voluntariness and climate for well-being (β = - .44, p < .001), but no direct relationship was found between telework voluntariness and team scientific productivity. Also in this case, the mediating role of well-being outcome variables between climate for well-being and team scientific productivity was confirmed as reported for *H*1.

As for *H*4, testing the mediating role of the climate for well-being and well-being at work (i.e., job satisfaction, positive and negative emotions, and eudaimonic well-being) between no need for teleworking justification and team scientific productivity, partial support was found. Specifically, unlike at individual level, no direct links were found between no need for teleworking justification and neither scientific productivity nor climate for well-being. In addition, the mediating role of well-being outcome variables between climate for well-being and team scientific productivity was confirmed as reported for *H*1.

Finally, with reference to *H*5, testing the mediating role of the climate for well-being and psychological well-being (i.e., job satisfaction, positive and negative emotions, and eudaimonic well-being) between teleworking flexibility and team scientific productivity, partial support was found. Indeed, a direct link was found between teleworking flexibility and climate for well-being (β = .68, p < .001) and no direct relationship was found between teleworking flexibility and team scientific productivity. In addition, as for the previous hypotheses at the team level, none of the well-being outcome variables was found to have a significant relationship with team scientific productivity.

In terms of control variables at the team level (i.e., age, percentage of gender, budget, type of grant, team size, and field of research), only the type of grant resulted to have a significant relationship with team scientific productivity (β = .58, p < .01). In other words, the increasing differences that characterize the ERC grants, from the "starting" to the "synergy" ones, result to lead to a higher scientific production.

Discussion

The present study was set out to analyze whether the climate for well-being and well-being outcome variables represent a relevant mediating mechanism between teleworking components and scientific productivity, both at an individual and team level. In this regard, despite the number of studies analyzing the relationship between telecommuting and productivity, the results are mixed (Hackney et al., 2022) and the role of linking mechanisms has not been fully explored (Charalampous et al., 2019; Lunde et al., 2022). Moreover, the scientific literature is also missing to understand how different ways of designing and implementing the practice of teleworking (e.g., more or less flexibly, voluntarily etc.) impacts productivity at different levels of analysis. Based in the results of the performed analyses, it is possible to draw the conclusion that it is myopic to consider teleworking as one global work practice; rather, it needs to be differentiated according to the different components through which it can be designed and implemented in different workplaces. Indeed, how such practice is designed and proposed to workers can have different effects on researchers' productivity, both at individual and team level. In this regard, out of the considered components, telework flexibility, voluntariness, quantity, and frequency resulted to play a particularly important role. Specifically, offering the possibility to team members to resort to the use of teleworking in a flexible way, namely by letting them freely decide how much and how to distribute days of remote work across the week and/or month, has beneficial repercussions on scientific productivity both at individual and team level. Moreover, such effects are, at the individual level, fully mediated via the climate for well-being, negative emotions, and eudaimonic well-being, showing once again the relevance of considering such variables when the management and well-being of teams and their members are at stake.

Moving to the component of voluntariness, it is worth pointing out that its effects were registered only at the team level. More precisely, proposing the use of teleworking on a voluntary basis has shown to produce negative effects on teams' climate and in turn on their levels of well-being. A possible explanation about the negative sign of this relationship can lay in the fact that leaving the decision of working remotely up to each single team member does not necessarily produce a shared system of team procedures around the practice in question, making it a possible argument of disagreements among team members. Accordingly, in follow-up analyses that are not reported in the core body of the present study, it was found that telework voluntariness was found to have a significant and negative relationship (β = - .12, p < .05) with the climate for well-being dimension of interpersonal relations.

As to the component of teleworking frequency, it is important to point out that also in this case its effects were found only at the team level. Concretely, not putting any limits to team members on how frequently to telework has resulted in a strong reduction of productivity. It is intuitive to understand that an increased frequency in the use of the teleworking practice makes it harder for team members to, for example, gather and carry out tasks in presence rather than virtually. Accordingly, in follow-up analyses that are not reported in the core body of the present study, it was found that telework frequency is strongly and negatively linked with the climate for well-being dimension of resources availability (β = -.19, p < .001), which has in turn a positive relationship with scientific productivity (β = .14, p < .01). Indeed, team members can be regarded as resources that the frequency of telework can make hard to resort to and consequently hinder scientific productivity.

Moving to the last relevant component of telework, quantity was found to play a relevant role both at the individual and team level. Specifically, it was found that the more researchers work remotely the more scientific works they manage to carry out. Unfortunately, this is not a surprise since, as already pointed out by Mazzi in 1996, it is not a news that the academic sector seems not to be optimally designed for carrying out works that require certain workplace features. Hence, teleworking represents a way for escaping such inconveniences and find a solution to a problem that was highlighted already years ago (Mazzi, 1996).

Theoretical Implications

In terms of theoretical implications, it is worth pointing out that the present study provides also empirical support to Schneider et al.'s (2011) claim of re-labelling the construct of molar climate as a climate for well-being. The generality of the concept of molar climate has led to a variated number of interpretations and reduced its usage, in comparison to the concept of focused climate or climate for something, due to its scarce practicality. On the contrary, re-labelling the molar climate as a climate for well-being, basing on the assumption that such a climate aims at capturing employees' general positive "feel" about their organization, has helped improve its understanding. As stated, results provided evidence for such theoretical recalibration of the concept since, both at the individual

and team level, strong relationship were found with the here considered well-being outcomes.

As to the construct of well-being at work, which was here operationalized as job satisfaction, positive and negative emotions, and eudaimonic well-being, the results highlight once again the multi-faceted nature of this construct, which is often simplistically reduced to the predominately studied construct of job satisfaction. On the contrary, when well-being at work is investigated, multiple facets should be considered since they may relate differently to other constructs, as in this case it is for negative emotions and eudaimonic well-being with scientific productivity.

Practical Implications

In terms of practical implications, research teams that are granted by the European Research Council (ERC) play a relevant role in our society and deal with workloads and work dynamics that are comparable to those held by R&D teams in the private sector. Nonetheless, support in terms of HR management appears to have strong areas of improvement, which would consequently lead to improvements in terms of well-being and productivity of research teams and their members. In this vein, the present study wants to provide principal investigators and team-lead researchers with some evidence-based insights that can promote well-being and productivity within their teams. Firstly, it is recommended to make clear whether teleworking is an accepted work practice for the team, in order to avoid potential attritions among the team members. Secondly, it is relevant to set limitations in terms of frequency by establishing some common practices favoring team gatherings when needed. Thirdly, when possible, it is recommended to empower every team member with the possibility to decide independently when and how to distribute the days of telework across the week and the month. This, both because it supports employees' well-being by facilitating, for example, a better balance between the private and the professional life, and because it allows to overcome, at least to a certain extent, the inconveniences related to the workplaces in question (Mazzi, 1996).

Limitations and Future Research

Despite the valuable contribution of this study, some limitations need to be pointed out. Firstly, the sample size for the team-level analyses was small (i.e., 48 teams) with several implications (Schmidt & Hunter, 2015): 1) it reduces the power of the statistical tests carried out, compromising the possibility to detect significant relationships among the considered variables; 2), it increases the sampling error, which in turn increases the variance error, hence the portion of the variance in a set of scores that is due to extraneous variables and measurement; 3) it lowers the probability of replication of the results; and, 4) it makes the considered relationships vary randomly from the value of the investigated population. Secondly, it is worth highlighting that the present study has a cross-sectional design, thus it cannot be used for drawing causal conclusions about the considered variables. Thirdly, despite having representatively reached out to all Spanish ERC-granted teams, such specificity of the sample may hinder the generalizability of the results to other teams. However, considering the internationality of the contexts in which excellence teams use to operate (e.g., international collaborations, attendance and presentation at international conferences), the main features that characterize research teams of excellence can, to a certain extent, be similar across countries. Moreover, the multiplicity of areas in which the considered research team operated can be regarded as an additional factor that diminishes the impacts of the regionality of the research.

In terms of future research, firstly, the authors recommend carrying out studies on the topic but with a longitudinal research design for exploring the causal links among the variables in question. Secondly, it would be advisable to reach out more comprehensively also to teams that are based in other European nations apart from Spain. Finally, the authors suggest that an exploration and inclusion of other possible telework components in future studies could be beneficial for increasing the understanding of how best designing and implementing the practice of telework in research teams and not only.

To conclude, in spite of the limitations, the authors believe that the present paper provides the general scientific community with useful findings that would enhance both the understanding on the management of research teams and the well-being and productivity of the teams themselves.

Conflict of Interest

The authors of this article declare no conflict of interest.

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