

Telework Episode II—New Hope for the Portuguese Academy



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Abstract The spring of 2020 saw the spread of the virus COVID_19. The pandemic context experienced since demanded human physical distancing which results in the closure of universities and schools, ground flights, and closing spaces to stop all forms of gatherings. The forced lockdown to ensure the safety of people, and the government policies to close operations pressed and encouraged employers and employees to adopt telework notwithstanding the short time to prepare everyone for a new model of work. Before the pandemic, telework faced a slow acceptance and adoption in European countries. The pandemic was and still is a driving force for the adoption of telework, in this case considering the remote workplace employees' domestic environs. A review of literature exposes plenty of information regarding telework benefits and drawbacks, but scarce information is available about the relationship between telework and Academia. This article aims to understand the academia's experience of working from home, especially the features of home workplace and its impact on the health and wellbeing of the individuals. At the end, the main question is if academics want to stay with any form of telework. The responses obtained revealed that academics want to remain in telework several days a week and have working space conditions to do so. Literature review and online questionnaire performed the theoretical framework and contextual data to support the conclusions achieved. The answers ascertained the experience as a positive one, indicating that home workplaces have comfortable, technical and private conditions and there is a generic expectation to proceed with telework for several days a week.

Keywords Covid pandemic context • Disruptive way of living and working • Telework • Workplace environment • Academia

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1 Introduction

The second decade of the second millennium witnessed a significant disruption in the way people, work, live and interact. Unquestionably, the world as we knew it was challenged by the spread of the Corona virus—Covid-19—and governments, supported by science, applied radical measures to save lives. The pandemic context experienced since the spring of 2020 demanded human physical distancing which results in the closure of universities, schools, ground flights, and closing spaces to impede all forms of gatherings.

The forced lockdown to ensure the safety of people, and the government policies to close operations pressed and encouraged employers and employees to adopt telework notwithstanding the short time to prepare everyone for a new model of work.

Telework can be defined as the work developed with ICT (information and communication technologies) support like smartphones, tablets, laptops, and desktop computers (and whenever possible internet) outside employer's location. Before the pandemic, telework faced a slow acceptance and adoption in European countries. The pandemic context was and still is a driving force for the adoption of telework, in this case considering the remote workplace employees' domestic environs.

Literature reveals the acceptance of telework and describe the experience during the confinement's periods and the sequent for the ones who remain in a flexible form of work as a positive experience. The review of literature show plenty of information regarding telework benefits and drawbacks, considering different geographical locations or professional backgrounds. Nevertheless, scarce information is available about the relationship between telework and Academia. Perchance, the reason for that is because academics always performed telework despite institutional recognition. This informal telework performance aims to accomplish professional achievements and deadlines, thus is always an issue of personal commitment and productivity.

To understand how Portuguese academic cluster experienced telework an online questionnaire was delivered throughout personal email and social networks. The objective was to understand the academia's experience of working from home, namely the features of home workplace and its impact on the health and wellbeing of the individuals. At the end, the main question is if academics want to proceed with any form of telework. The responses obtained revealed that academics want to remain in telework several days a week and have working space conditions to do so.

In a broader sense, the adoption of telework promotes the inclusion of minorities regardless of their nature and a new paradigm to plan the built environment where we live, work, and interact with others. Telework can define new home locations (independent of the employers' site) and contribute to the development of remote interior areas; telework can reduce the consumption of energy, time and money in commuting movements and meals away from home; telework can impact the design

of home typologies and the surroundings’ public spaces as well as the design of furniture, equipment and finishing to respond to teleworkers needs and expectations.

2 Telework as a Response to a Disruptive Way of Living and Working

The concept of remote work raised its importance on the late nineties. The development of the technology focused on information and communication, the portability of the physical equipment, the related reduction of costs and the spread of internet boosted the idea of producing and disseminating information from anywhere and anytime. Regardless the promises of the idea, remote work, from which we select the work from home model, has not been widely accepted. Different causes supported the opposition to the model, emerging the culture of the employers as well as employees as the most significative one. The advantages and disadvantages of the model are broadly explained by the literature and the dissemination of case studies. In accordance with the document published by European Union (2020) the diffusion of this method of work in the European countries presented a slow grow (Figs. 1 and 2).

The pandemic situation originated by the Corona virus, create a disrupted and new way of living, working, and interacting with the others also with the physical environment that is close to us, particularly home. Due to the spread of the virus and its consequent impact on human health, European countries were forced to lockdown and implement remote work from home, which we are going to mention, from now on, as telework to be in accordance with the most used nomenclature in literature review, despite its scientific or opinion nature.

In the first semester of the year 2020, with different schedules and duration, all the functions and activities possible to be performed remotely experienced

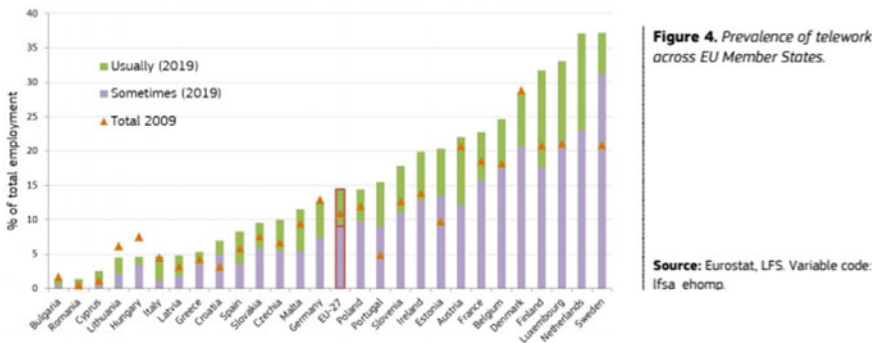


Fig. 1 Prevalence of telework across EU member states (European Union 2020)

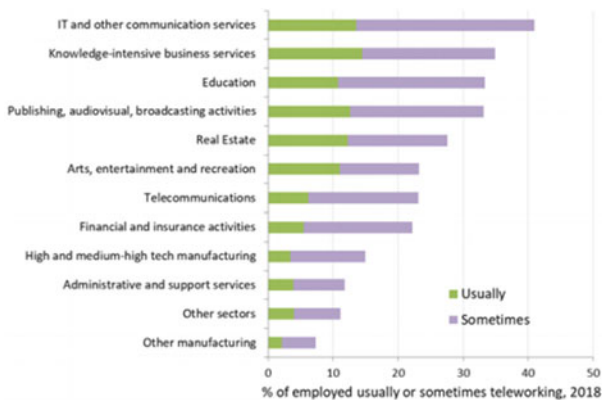


Figure 1: Prevalence of telework by sector, EU-27
Note: The group "Knowledge-intensive business services" includes the following sectors: Legal and Accounting Activities - Activities of Head Offices, Management Consultancy Activities - Architectural and Engineering Activities, Technical Testing and Analysis - Scientific Research and Development - Advertising and Market Research - Other Professional, Scientific and Technical Activities. The group IC and other communication services include: Computer Programming, Consultancy and Related Activities - Information Service Activities.
Source: JRC calculations from ad-hoc extractions of EU-LFS data provided by Eurostat

Fig. 2 Prevalence of telework by sector, EU-27 (European Union 2020)

telework. The inexistence of previous experience challenged differently functions, activities, and individuals with implication on productivity and individuals' wellbeing at least in the short to medium term. Although the telework reality experienced in a large geographic context and the perception of employers and employees, the future dissemination of telework will be dependent of dissimilar impacted factors such as productivity, working conditions, and the broader policies towards Europe's digital and green transitions (European Union 2020).

The pandemic context provoked the discussion around a pertinent issue and made aware the most sceptical and the most enthusiasts about its advantages and disadvantages. The evidence of this constant and lively discussion on the topic is on the number of scientific as well as opinion articles delivered and available on internet whenever the search includes telework and Covid-19. Some of them are especially focused on geographical contexts, functions, economic areas activities, productivity but not so many regarding the questions related with individuals' wellbeing, namely the impact of home office features on wellbeing and the human sense of a positive experience. As a matter of fact, the approach of these kind of issues are easier to find in opinion articles than in scientific ones.

Regardless the challenges that a mandatory adoption of telework raised, the experience of working from home was perceived as a positive one which justifies the will to preserve the possibility to work remotely, at least in a mixed model, making this way of work the normal one and not the exception as it was until the spring of 2020 (Eurofound 2020).

3 Telework and the Academia

Fleeing from the Great Plague that reached Cambridge in 1665, Newton retreated to his countryside home where he continued working for the next year and a half. During this time, he developed his theories on calculus, optics, and the law of gravitation – fundamentally changing the path of science for centuries. Newton himself described this period as the most productive time of his life. Is working from home indeed the key to efficiency for scientists also in modern times? (Aczel et al. 2020: 3)

Different models of remote work are a real option in the contemporaneous real and globalised world and a case of preference for many individuals facing the labour market, despite the nature of the work or labour contract. Notwithstanding the place location, the adoption of remote work, from home or from a co-working environment, is extensively addressed by literature tackling the issues identified as the benefits and drawbacks. Literature points out that the emergence of this model of work is the need for flexibility, from employers and employees, which can be related to the attracting and retaining talents, the reduction of facilities costs, the commuting movements, the balance between the personal and professional life, the comfort and/or accessibility of alternative work environs.

The available information regarding the benefits and drawbacks of remote work supports strategies adopted and describes case studies of dissimilar professions, most of all from the private sector. Yet, there is no representative information to document the impact of telework in the Academia (Aczel et al. 2020: 3).

The daily living of academia is characterised by a sort of activities which can be divided in collaborative ones—work developed with the colleagues or with the students, in which is included the meetings and the teaching classes—and the concentrative work, usually developed all alone which requires the tranquillity to preserve the concentration and the focus. The concentrative work that requires the attention and focus concern the reading, evaluating and correcting students' work as well as the reading, analysing, and writing activities to develop thematic skills and improve the personal contribute to research interests' areas. If there is no formal possibility to adopt telework, it is widely known that every person who works in academic environs develops at least occasionally some work from home.

Although the real possibilities to perform some sort of flexible work, repeatedly influenced by the culture of the geographical context, the university, the administrative board or the person, the opportunities offered by the improvement of ICT (Information and Communication Technologies) originated the deliverance of e-learning courses (undergraduate and postgraduate) offered throughout digital platforms that plea to the flexibility of the study according to the students' needs. As announced on these programmes of graduation, all the contacts—classes and work supervision—occur in a virtual context with synchronous and asynchronous interactions, that appeal to training according to the student's possibilities, needs and expectations. Usually, these experiences are perceived as positive ones, once increase autonomy and flexibility to manage work schedules (Shulte 2015; Dolan 2011).

During the Spring of 2020, in view of the proportion of virus' contagion, explicitly in public spaces that concentrate people such as the case of universities campuses, the universities were forced to delivered online classes and the professors and researchers were forced to work (most of all exclusively) from home. If some were familiar with the model, for the majority was a unique experience. For dissimilar reasons, such as the balance between the professional and family lives, the alternative workplace with more comfort and less interruptions, the isolation from the colleagues and some feeling of isolation, everyone experienced the benefits and the difficulties created by the context. Regardless the way each one lived and perceived the experience, literature informs that most of the people that experienced telework would like to continue with this model of work beyond the situation of Covid-19. Furthermore, the context that started in the spring of 2020 and required a disrupted attitude such as the forced implementation of telework is still an issue in the spring of 2021, once several European countries experienced different sorts of lockdown during this long year. The extensive acceptance of maintaining different forms of remote work by the Academia is in coherence with the respondents from others professional areas, functions and activities as demonstrated by Eurofound report (2020).

4 Telework and the Academia in the Portuguese Context

We started our research about telework and Lisbon Metropolitan Area during the nineties. It was long ago—during the last millennia actually, and looking back it seems, today, as it seemed then, that some sort of crazy sci-fi idea was being presented to workers, employers, companies, but especially managers that for the most part, dislike and despise telework. Before Covid-19, less than 1/3 of national companies had employees working under telework model, and the OCDE points out a percentage of 6.5% of individuals who were in remote working models (Gomes 2004; Ferrão 2020; Varzim 2020; OECD 2020) The virus took care of that...

The reasons for such a low percentage concerned the culture of the employers and employees, traditional management, and the preconceived idea that remotely the productivity decreases. The statistical data is not clear, and it is widely accepted that the numbers are higher, nevertheless they refer to informal telework, the work produced remotely but outside the formal labour contract, just a way to fulfil deadlines. The experience of last spring, where the lockdown disrupted traditional methods of work and forced telework, show the opportunity to have more flexibility and demystified the preconceived and negative ideas about less productivity and efficiency. Telework stop being a trend or modernity “nice to have” to a “requirement to have” for several employers and employees. A study developed by OECD (2020), addresses that 33.9% of the employment can be performed remotely despite some differences between the cities, namely the metropolitan ones, and the

interior areas. These differences are due to the access of internet, the education level of the work force and the nature of the work of each region (Varzim 2020).

The context experienced in the spring of 2020 and which is in February 2021 (again) the reality of Portugal, as other European countries, boosted technical competencies as the use and abuse of virtual platforms such as teams, skype, zoom, etc. In general, the experience was perceived as a positive one which was demonstrated by the number of employees and employers that remain, after the lockdown, in telework. This reality can be evidenced by the study made by Walters (2020). The estimates of this study point to:

- 4% want to work exclusively on company office
- 96% want to have the flexibility to embrace remote work
- 40% work on the kitchen table or on the dinner table
- 5 in 10 reveal more autonomy
- 29% take the opportunity to sleep more hours without the requirement to commute to the office

But the efficient implementation of telework requires—as stated by João Paiva—the drop of traditional management, repeatedly supported by the lack of confidence in employees and the persistence on management practices oriented to instrumental monitoring if not even policing. It is required to delegate, trust, and evaluate, demanding for responsibility and measure productivity. The crisis' experience exposed the consistency of productivity levels in remote work context and in many cases its expansion (Paiva 2020).

Paiva's statements are consistent with Robert Walters' report which declares that 44% of professionals expand their productivity and the causes that contribute for this achievement were:

- More flexibility on time schedules
- More autonomy
- Working in a more comfortable and relaxed environment
- Higher capacity of concentration and less distractions
- Less meetings

The drawbacks presented by the same report were:

- The inexistence of a proper office at home
- Isolation from the colleagues
- More meetings or check-ups to understand the development of particular activities
- Distractions caused by domestic environment

More important, 96% of professionals manifested the intention to maintain telework after the pandemic context (Walter 2020).

The information delivered on the previous paragraphs is not a diagnosis of a professional area, still, it is also representative of the academia work environment.

In the academic environment daily routines there is a considerable volume of work that is or can be done remotely. However, the work developed remotely is like a phantom activity because despite its existence it is not institutionally recognised. Regardless some labour contractual differences between public and private institutions, both sectors are characterised by basing on an instrumental monitoring practice and not on productivity.

The reason why academics prefer to work remotely, even just for some sorts of activities or periods of time, relates with the physical and technical conditions of the institutions. Some institutions do not have enough physical space to provide personal working spaces for collaborators; others provide the required space but rarely offers generous dimensions, comfort, or a peaceful environment; ergonomic considerations towards the teaching rooms and (possible) personal working space are repeatedly inexistant. The bureaucratic work goes along with the use of paper physical support hindering the options enabled by technology. ICT equipment is scarce and frequently out of date.

The available statistical data does not refer the academia collaborators (which include not only professors but also administrative employees) in particular, but maybe they were part of the sample that allowed the reports of INE (2020), OECD (2020) and Walters (2020). Walters' report goes further and show information related with the place from which people work: 40% are working from home on the kitchen or dinner table, 57% have an office and 4% from an exterior area. The overlapping of numbers is due to the possibility to work from different areas depending on preference or availability of the space. However, the working space is not described beyond its location in the functional area of domestic environment.

As a brief end note, from the information presented on the previous pages it is evident that remote work is a working model that will remain beyond the present context. Broadly speaking, most people who have experienced working from home during confinement want to preserve the opportunity to develop their activities in a remote work environment.

The academia cluster is not an exception. The mandatory experience of teaching and working remotely using the potential offered by ICT highlighted the advantages and challenges of working from home on a level of personal experience. Professors and researchers as well as institutions, in a broadly sense, define the experience as a positive one, and the desire of supporting flexible forms of work; others describe the experience as an unbalanced challenge.

The gap founded on literature review regarding working from home and academia, raise the purpose of electing this group as the target of this study. The aim is not to establish the group productivity, once professors and researchers always performed, although in an informal way, remote work, but to understand if working from home is a pattern to preserve, how to characterise the domestic workspace, and how this space contributes for human wellbeing. Moreover, the main drawbacks evidenced by literature related with working from home are part of the confinement context and consequently all the family members are at home performing any kind of tele-activity.

The results of the study must be an awareness for our work environments as well as a reminder to architects and designers once we do strongly believe that the general acceptance of working from home, by choice or lack of it, impact considerably housing location and typology, furniture, and finishing (Gomes and Aouad 1999).

5 Telework Workplace and the Academia—A Study of Portuguese Reality

The main purpose of this study was to understand academia's experience of working from home, namely the features of home workplace and its impact on the health and wellbeing of the individuals. For achieve our goal, an online questionnaire was delivered through personal emails and social networks. The personal and social relationships between collaborators were decisive for a diversified sample from different universities from coastal and interior areas of the country. At the end it was possible to receive 182 responses. The quantity and the provenience support the sample validity.

The questionnaire was available from the 27 of January up to the 15 of February. The choice of the launch date and response collection period was for the reason that during that period it was defined another period of mandatory confinement due to the numbers of infected and deaths by Corona virus. Facing another cycle of mandatory telework, the individuals are more attentive to the home workplace requirements towards personal safety, comfort and wellbeing.

The questionnaire had 182 responses from public Academic institutions (45%) and private ones (34%). Some respondents declined to inform their generic affiliation, for reasons best known to themselves..., or not. From the sample 95.6% teleworked during the second semester of 2019/2020 academic year. Women were more responsive to the questionnaire with 62.6% of responses against 37.4% of men. Most of the respondents are between the 36 and the 67 years old. Half of the respondents, 55% have more people working from home and 47% have people on e-learning programs in their households.

The functional domestic area most used for work was the home office followed by the living and dining rooms. The dominance of a personal office is certainly related with the provenience of the responses: responses came from academic institutions across the country, both bigger metropolitan areas and smaller cities. If in the metropolitan areas the homes are mainly apartments, homes outside the main cities present more generous dimensions which allow more space to dedicate to a personal office. Others organise the layout of the living and dinner rooms to have a dedicated space to work. Although inside a traditional functional area, is perceived as an autonomous area to work. Furthermore, the age range that most respondents fall into, indicates that most do not have children to care for or have already left home, resulting in more space available (Fig. 3).



Fig. 3 Home workplace location

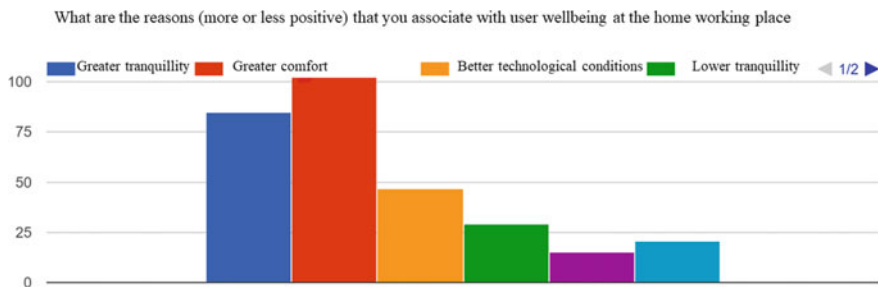


Fig. 4 The reasons more and less positives associated with user wellbeing at the home working place

The predominance of working from an office at home, supports the privacy that 82% of responses indicated. Most of the answers state that the working space was not shared or at the most is shared with one person. The same situation occurs with the use of the computer.

The answers revealed the conditions related with the sense of wellbeing of the working place, evidencing the greater tranquillity and comfort, and better technical performances (Fig. 4).

Regarding the ergonomic conditions of the working space, 52.7% have a table dedicated to work, 57% have an ergonomic chair, 18% have footrest, 83% use a laptop and 22% a desktop, 60% use the mouse but only 8.8% have an ergonomic mouse. For 41% of the respondents the superior limit of the screen is at the eyes level, 13.7% above the eyes level and 33% below.

The access to internet was split with 67.6% with fixed broadband internet and 36.8% with mobile broadband internet.

The responses indicate that 98.4% of the working spaces have a window and 86.7% a comfortable temperature. The used artificial light is characterised by the direct, indirect and task light in a descendent sequence.

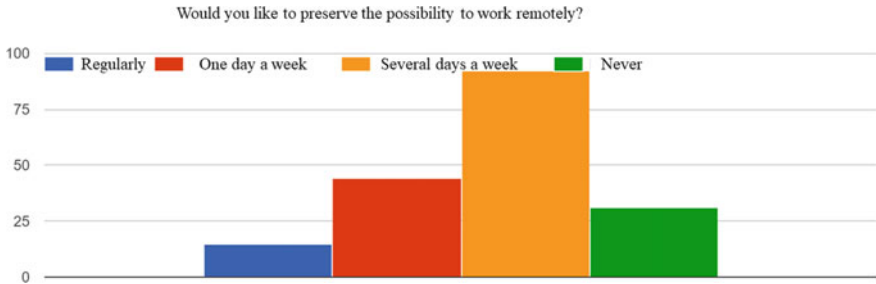


Fig. 5 Would you like to preserve the possibility to work remotely?

It was also questioned the main symptoms at the end of the working day. In a descendent order were mentioned the tiredness of immobility, cervical pain, back pain, low back pain and dry eyes.

Certainly, these symptoms were related with the continuous time online, between teaching classes, meetings, and general work on the computer; the cervical and back pain must be related with the unbalance between the seat plane and the working plane which promotes bad postures, the height of superior limit of the computer screen and the lack of footrest.

Asked about the experience of telework, most of the answers revealed the most positive factors as the less time spent in commuting, less money spent with fuel and food, the alternative work environment comfort, time management, privacy. Some negative factors were shown such as ICT addiction, increase of sedentary routines and difficulty to disconnect from work.

When asked if they would like to maintain any form of working from home the majority answered that they would like to have several days working from home followed by the answers that preferred one day a week in telework. Some people also expressed the desire of not working from home (Fig. 5).

The answers also revealed that the respondents would like to invest on their home working space environ, in a descending order, on the chair, on technology, on the layout of the place and some reveal the intention to change the workspace to another functional area of the house.

6 Discussion

The way to work and interact with students and colleagues changed profoundly last year. Covid-19 and IT disrupted the boundaries of physical space and time. Physical location and established time schedules were challenged by the when, where, and how are mostly subject of our adjustments.

The pandemic exposed a neglected reality which is all the work always performed by professors and researchers off campus. Although the reality experienced

by every professor or researcher, this work was not considered as a time spent at work or an element included in remuneration. The work performed remotely aimed, generally, to fulfil individual professional goals and deadlines. The availability of Academia to achieve professional goals is the primary indicator that the performance and productivity during this time of sequential confinements (spring of 2020 to spring 2021) and the adoption of telework will contribute to improve productivity and if not, the reason is based on aspects of the context such as the balance between professional and personal life particularly for those with child or elderly care.

Regardless the available information on the different approaches to the subject of telework and employers and employees' experiences of telework, the information that relates telework and the Academia is scarce, although the identification of this cluster as a target one to adopt telework. This gap encouraged the author to develop a study to support this article.

The main objective of this study—supported by literature review and by a questionnaire to comprehend the Portuguese context of Academia and telework experience—is to find out if it is possible for Academia to work remotely; to understand if the experience was perceived as a positive or negative one; identify the benefits and drawbacks of this experience and consequently the intention to proceed or not with some sort of remote work; perceive if the Academia cluster have the right conditions to work from home and figure out how the workplace environment impacted the health and wellbeing of the user.

The responses gathered allow us to announce the most significant achievements: Academia perceived the telework experience as a positive one and wish to preserve the possibility to perform telework several days a week. The benefits identified by the respondents were the savings in commuting, fuel, transports and food, and an alternative work environ with better condition and comfort. As drawbacks, the physical isolation, addition to technology and difficulty quitting work were the identified ones.

The information related with the workplace aspects, revealed that an office is the functional area more used to work. The responses showed the predominant use of laptop; mouse (not an ergonomic one); an ergonomic chair and a table to support the work gadgets; the relation between the computer screen and the eyes level showed the sharing of responses between the superior limit of the screen at the eyes level and the limit of the screen below the eyes level. Just a few responses demonstrate the use of an ergonomic mouse and a footrest. The work environments have a window which allows natural light and contact with exterior, and when artificial light is required the direct light is the most significant choice.

These workplace' attributes support the symptoms felt by respondents at the end of a working day, such as the tiredness from immobility, cervical and back pains and dried eyes.

The answers identified a good network connection, with predominance of fixed broadband internet. The sharing of working space, the sharing of the personal computer and privacy were not an issue once most of the answers declared the

exclusive use of space and equipment and the possible virtual background of virtual meetings’ platforms to protect the home setting.

The intention to invest on workplace environ is not enthusiastic, however, there are significant answers that show the purpose of investing in a chair and technology.

The study has several limitations. The range of time in which the survey took place, the unfamiliarity of respondents with some technical expressions, and the need to introduce more questions to a more accurate understanding about workplace layout and attributes. Nevertheless, the results achieved are irrefutable by the number of responses obtained and by the diversified nature of academic institutions—public and private ones placed in different locations of the country—where the respondents were based.

With this piece of research, we just tackled the topic, but we do understand that the subject of telework, regardless the professional target associated boost a resource of research areas of interest, particularly in the architectural and design domains.

Acknowledgements We acknowledge the inspiration of the Star Wars saga for this title. When we first started, last millennia, talking and researching about Telework we felt like Leia or Luke, but definitely some sort of Skywalker. Let us hope the next episode won’t be the “Empire Strikes Back”. We will keep you posted.

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