EMPOWERING WOMEN IN PLACE

VALÈNCIA SUMMER SCHOOL EQUALS-EU

Mª DOLORES PITARCH GARRIDO
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EQUALSEU

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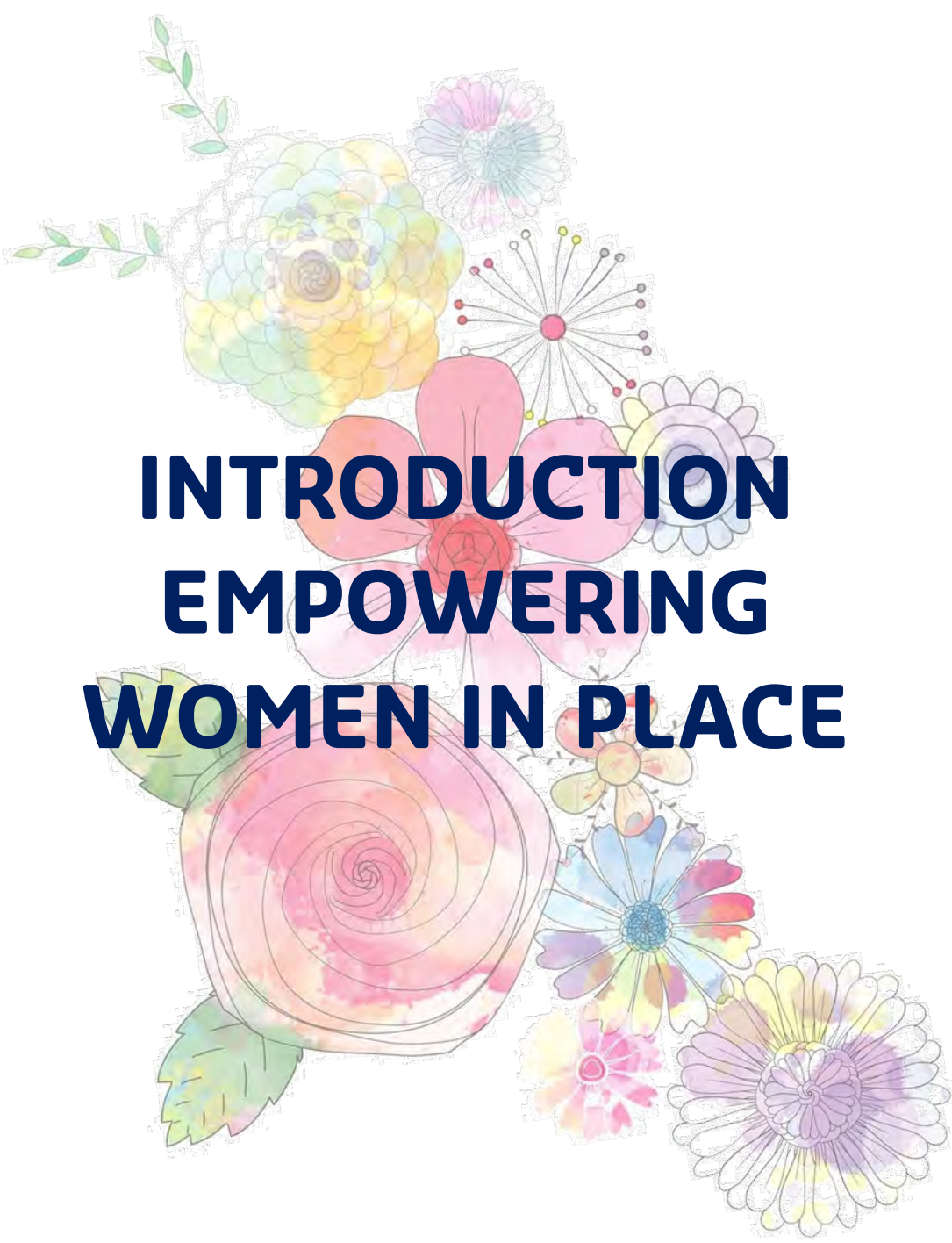
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CHAPTER 1

INTRODUCTION EMPOWERING WOMEN IN PLACE

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The EQUALS-EU project, funded by the Horizon 2020 Framework Programme, represents a Consortium of 19 organisations from 15 EU Member States (MS) and Associated Countries (AC). This project, which has been developed between 2020 and 2023, benefits from the presence of two non-European Consortium members from the Global North and the Global South, offering a unique opportunity for the exchange of knowledge and good practices and the transfer of technology and innovations.

The fundamental objective of EQUALS-EU is to promote gender equality by building capacity from social innovation processes based on the action of multi-stakeholder partnerships that strengthen existing networks and formalise new ones that foster entrepreneurship among women and girls. The creation of these networks is intended to be launched as part of the process of strengthening smart, sustainable and inclusive social innovation ecosystems in local communities, both in Europe and in non-European countries in the Global North and South.

This ambitious goal, which will be detailed below, was made possible by the creation of a Consortium that combines gender equality advocates from three civil society organisations with five role models from industry and eleven interdisciplinary experts from renowned academic institutions, including the University of Valencia. The members of the EQUALS-EU Consortium were selected to represent both countries that have made significant progress in achieving gender equality, such as Switzerland and Sweden, and countries that need to accelerate progress on equality, such as Ukraine and Turkey, among others.

The above objectives are complemented by the following specific objectives:

- To develop practical activities in the form of interdisciplinary and cross-sectoral innovation camps and hackathons focusing on digital inclusion and with a special focus on sustainable gender equality practices.

- Hold high-level seminars in conjunction with existing UN and EU flagship initiatives such as the World Summit on the Information Society, the Generation Equality Forum, Women in Digital, Girls in ICT Days and the European Development Days.

- Deliver a mix of mentoring, training and lifelong learning programmes and courses, face-to-face and online, focused on entrepreneurial and professional development and organised by successful social entrepreneurs, advocates and experts, both men and women.

- Co-innovate and implement gender-sensitive business development policies and tools together with stakeholders from the public, private and civil society sectors.

- Enhance entrepreneurial competences through international academic cooperation, including the development of joint international summer schools, digital learning materials and tools that promote collaborative research, student mobility and internships.

- To inspire the next generation of women innovators by forming a new group of leaders, role models and advocates for gender equality in social innovation and entrepreneurship.

- The University of Valencia participates in this project by providing the perspective of social innovation, the analysis of the institutional ecosystem for the promotion of

gender equality in STEM and with the organisation of a summer school for 25 women entrepreneurs who will make their ideas for technology companies (social start-ups) available to investors from all over the world. The result of the EQUALS-EU project has been, among other things, the creation of a strong international network of women scientists and entrepreneurs that serves as an example and inspiration for many others, particularly in the Global South.

EQUALS-EU focuses on creating smart, sustainable and inclusive social innovation ecosystems in local communities and cities across Europe and the world by creating multi-stakeholder partnerships that bring together industry, civil society and academia to identify, develop and elevate girls and women into leadership positions in the ICT industry.

It goes beyond the expectations of the call by adopting an intersectional approach that helps advance women who experience multiple forms of disadvantage in their access to ICT, STEM and power skills and leadership positions. An intersectional approach specifically helps to address the complex forms of discrimination and disadvantage faced by younger women and girls, women with disabilities and specific needs, older women, women from low socio-economic areas, women of colour and women across the gender diversity spectrum. EQUALS-EU also uses an open and inclusive co-innovation approach to assess gender equity in social innovation ecosystems, create new ICT solutions and products and services, and generate tools for gender equity and digital inclusion (WP3). The multi-stakeholder and multidisciplinary co-innovation process also represents an innovative model of corporate governance and management that will be validated by Consortium members and anchored in local social and cultural contexts in Europe.

EQUALS-EU is based on two key concepts: gender equity and social innovation. EQUALS-EU explicitly focuses on gender equity and distinguishes it from gender equality. Gender equality is often associated with notions of equality and fairness in relation to an individual's opportunity to participate in social life. Equality often focuses on the need to eliminate discriminatory policies and practices. Gender equity is a catalyst for achieving equality and reforming power structures and relations through the recognition and elimination of historical social disadvantages affecting women and girls and the redistribution of social, economic and political resources. EQUALS-EU recognises that equity can, in certain contexts, act to reinforce gender stereotypes. However, EQUALS-EU prefers the term equity to recognise the need for differential treatment of women with disabilities and specific needs such as the provision of reasonable accommodation and the need to remove barriers to accessibility to products, services, programmes and environments.

However, EQUALS-EU is not simply a capacity-building project focusing on social innovation, but will itself produce multiple social innovations (WP2 and 3). EQUALS-EU includes a plurality of social actors and individual citizens as co-innovators and co-designers of key project activities and outcomes. This approach is a form of participatory social innovation that creates new opportunities to strategically reshape policy and practice. EQUALS-EU uses co-innovation to substantively involve grassroots actors in the creation of new ICTs and in the production and elaboration of forward-looking and sustainable policy action plans and practical business models in the form of two Gender Equality Tools for Digital Inclusion.

In this line, and with the idea of giving tools to girls and women who wish to undertake and innovate, EQUALS has launched three Summer Schools in 2023. The third of these is the one held at the University of Valencia (Spain) with the title of this book: "Empowering women in place". The

aim of this Summer School is to train students to be able to see the territory, the inhabited space, with a broader perspective, the so-called gender perspective. This is nothing more than facilitating mutual understanding and respect for all points of view, without judging some as superior to others.

This book brings together the contributions of specialists who work on different subjects and who, through their research and teaching, have helped to open minds towards new horizons in which all people, whatever their gender identity, can feel accepted, comfortable and free. In addition, all the scientific contributions collected in this book have one more common factor: the spatial or territorial perspective. Place is important; it is special in a global world such as the one we live in. The closest spaces, the city, the countryside, are the places that link us to the most immediate reality, where all people live and coexist. The territorial approach is therefore new, important and fundamental, particularly when combined with the gender perspective, in order to be aware of the world, of social relations and of the necessary shared responsibility for a more inclusive and sustainable development.

We hope that this book will be of interest to continue working for equality and respect for all people in our common planet.

Valencia, 2023

CHAPTER 2

CITIES AND WOMEN: ARCHITECTURE AND MOBILITY WITH GENDER PERSPECTIVE

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EXECUTIVE SUMMARY:

This chapter focuses on explaining why the space of our cities can and should be understood through a gender perspective. Simple concepts about built-up areas, the mobility that occurs in cities and the social implications they entail, especially for women, will be explored. The description of the change in urban structures, means of transport and the economic model will raise questions about whether access to the different spaces in the city takes place under equal conditions. Finally, future possibilities for improving unequal access to the city are discussed.

Keywords: Cities, Mobility, Gender Perspective, Right to the City.

1. Why is this topic important?

The urban space is a product of its physical characteristics, its history and the new conditions that emerge at present. The physical or natural characteristics of the place where an urban area is developed have a great weight in its configuration, such as the existence of watercourses or topographic discontinuities. Historical characteristics focus on how an urban space has varied according to the needs and possibilities of each era, as well as through the dominant culture. Finally, the new conditions that emerge in urban spaces are referred to the trends that are reflected in this space as a result of the evolution of society itself.

Urban space has a direct impact on people's daily life, because aspects such as access to services, the establishment of social relations, perception of security or sense of belonging depend on it. Urban planning is a discipline that has been developing as a science, so that decisions about the living space inhabited by citizens are seems neutral (Román & Velázquez, 2008). However, Lefebvre (1976) pointed out that urban space, despite its appearance of neutrality, is a product loaded with policies and ideologies, since it is the dominant culture that shapes it. From this perspective, there is no doubt that androcentrism is the vision that is mostly present in today's urban spaces.

People's needs are different, depending on multiple variables, and they are even different for the same person at different times in his or her life. The same street is not experienced in the same way by an elderly person, a girl, a man or a woman, someone pushing a baby or shopping cart, a person in a wheelchair... It is necessary to contemplate these needs in a differentiated manner in order to achieve inclusive spaces for all people so that public space can be experienced by them on equal terms (García-Fernández et al., 2022).

One of the key issues to understand the differences in use by gender in today's cities is zoning or functional specialization, which is based on creating physically differentiated spaces according to use (work, sleep, shopping or leisure) (Sendra & Sennett, 2020; Soja, 2000). This physical separation forces a strict temporal division of tasks, implying basic displacements (home–work) throughout the day, but making any other reality that involves going to several places extremely difficult. Physical segregation is one of the keys to explaining the gender bias in cities, since access to any function requires time, money and means of transport. But it shouldn't be forgotten that at the root of this question remains the fact that women continue to undertake the majority of the tasks related to care and the management of daily life.

The importance of developing the access to the city from a gender perspective is based on two fundamental issues. We must first understand why space has a gender bias and what implications this has for people, especially women, and, secondly, identify the new trends in this issue. In this way, it will be possible to gain knowledge of the problem, as well as to begin to reflect on other ways of constructing and inhabiting the city.

2. State of affairs

2.1. Changes in the urban structure: from the traditional to modern city

A city is a project of society and, as such, a social product. It is probably the most important cultural creation (Capel, 2002). In a patriarchal society such as the one that has historically existed

throughout the world, it has been designed by and for men, hence the inequality when it comes to inhabiting it (Muxí et al., 2011; Román & Velázquez, 2008; Sánchez de Madariaga et al., 2004).

The traditional city was characterized by a mix of uses, a high population density and it didn't exceed 5–8 km in diameter (Newman & Kenworthy, 2006). This configuration of the urban space was necessary to allow accessibility, taking into account that travel on foot was the only means of transport available. It is considered that walking facilitates human interaction, economic efficiency and social cohesion (Huriot, 1998, cited in Marquet, Miralles-Guasch 2014). Before the arrival of automobiles, public spaces such as streets and squares were meeting places, where interactions took place easily because they were accessible and safe. In the nineteenth and twentieth centuries, because of the industrial revolution, an enormous quantity of people moved to the cities from the countryside. At that time, common spaces came to be understood as unsafe or unhealthy places.

At the beginning of the 20th century, urban planning discipline, with Le Corbusier as one of its main advocates, rationalised urban space in such a way as to divide it according to its main functions. The main idea was to separate spaces dedicated to residence, work, leisure and circulation; however, this functional specialization was based on the assumption that human needs are the same for everyone (Román & Velázquez, 2008). It brought advantages such as improved health conditions by separating factories from dwellings, but it profoundly changed spaces where human interactions took place. Instead of streets, urban motorways have been built with many lanes, along with squares and wide avenues whose space has been privatised, thus preventing daily life in them (Carrero de Roa, 2009). Also, this functional specialisation of the space increased the mobility needs of the population.

The change in the urban planning model was also necessarily supported by the appearance of new means of transportation. The train and the automobile made it possible to expand cities and make them accessible over time (Gómez-Antonio et al., 2016).

Since the 1970s in Europe, the urban sprawl model has been the main guide for growing cities. Urban sprawl is characterized by the stagnation or slowdown of population growth and the territorial expansion of urban uses. This last cycle of urbanisation in European cities coincides with the change in mobility patterns, with an exponential increase in the use of automobiles (Dupuy, 1995; Monclús, 1996). Within these dynamics, the idealisation of the individual house and the garden city became generalised, beginning a reinterpretation of the city and its spaces. The priority for the new residential areas was not to share spaces outside the family nucleus, promoting private open spaces.

In all these changes in urban planning, the economy has had a strong influence. The price of land, housing and infrastructure, has been the engine and filter for the development of the city and its access (Camilo Lois, R., González Pérez, J.M. & Escudero Gómez, 2012). Miralles-Guash (2002, p. 22) called the transformations occurring in space "territorializations of economic change". Lefebvre (1970) observed how, in the face of the deterioration of the traditional sectors of production, mainly industry, a new sector based on the creation of space was produced, to which large amounts of capital were being transferred. In his work "The Production of Space" (Lefebvre, 1974), he identified one of the most important processes for understanding today's cities, whereby the productive forces of capitalism used investments in urban goods to generate profits.

Until the advent of capitalism, the value of urban goods depended on their usefulness to enable activities, but later they came to be valued for their exchange alone. "The aim of the producers is

to procure exchange values, not use values" (Harvey, 2014, p. 17). The creation of urban spaces has absorbed and channelled large amounts of capital and it is linked to the explanation of how and why urban fabric have spread across the territory.

The commented changes in the city's physiognomy have had an impact on the daily life of citizens. Considering that not every person has the same necessities or resources, it is important to understand whether configuration has created or increased inequalities. Harvey (1989) pointed out that the modern city presents a rupture between productive and reproductive space. The productive space is all that which has to do with paid work and public participation, while the reproductive space is where the tasks of the private and family sphere are carried out, covering biological and care needs. The reproductive sphere is dedicated to covering the tasks that the market does not cover because they are not profitable.

The modern city was born out of the fact that the economic and productive city was considered more important than the reproductive city. In many cases, activities that do not respond to an economic activity or market logic are left unattended. These roles were historically, economically, and socially assigned to men and women respectively (Hernández-Pezzi, 2011; Muxí et al., 2011; Román & Velázquez, 2008; Sánchez de Madariaga et al., 2004).

Nowadays, there is a strong current among academics and urban planners, recognizing that this way of producing the city was a mistake because it favours mobility, but not contact or accessibility. However, inertia and the market continue to have a strong influence (Román & Velázquez, 2008). As noted by Jacobs in her acclaimed book 'The Death and Life of Great American Cities' (Jacobs, 1961, p. 7): "They do not know what to do with automobiles in cities because they do not know how to plan for workable and vital cities anyhow – with or without automobiles."

2.2. Mobility with gender perspective

The configuration of today's cities is a determining factor in describing the mobility that takes place within them. The growth of urban areas and their growing zoning have meant that mobility needs have augmented. Improvements in the means of transport have made it possible to increase the speed at which travel occurs, making it possible to reach more distant places or a greater number of places in the same amount of time. But there is another variable in the equation, since in order to have good access to the city, it is necessary to have availability of different means of transport. Therefore, areas of the city that require private transportation are a source of inequality for its citizens (Miralles-Guasch, 2002).

There is a strong link between income level and motorization. Having a greater economic capacity means an increase in motorisation, which makes it possible to reduce travel times and thus to travel more times or farther (García Palomares, 2008). The physical capacity to use different means of transport is related to age, with children and the elderly being the least mobile groups. The presence of disabilities complicates the use of some means of transport.

Gender is a determining factor in how mobility develops in cities. One of the indicators provided by the Directorate General of Traffic in Spain is the census of drivers, which, for 2022, shows that 43% of drivers are women compared to 57% men. Vehicle ownership, according to the same source, is twice as high for men as for women. To know if there are gender differences in the use

of each mode of transport, it is necessary to use specific mobility surveys[1]. In 2022, as part of the *Genera Barri Project* (García-Fernández et al., 2022), a survey of these characteristics was carried out in peripheral neighbourhoods of the city of Valencia. Figure 1 shows the results regarding the different use of mobility modes according to each sex. This figure provides a clear perspective, pointing out the great differences in how both sexes move around the city. In the case of walking, 64% of trips are made by women, while 36% are made by men. The use of bicycles, whether shared or public, is much higher for men, an issue to highlight since it is the only sustainable means in which they have more presence. The metro, bus or taxi are the primary means of transport used by women, while the majority of motorcycles and private cars are used by men. These findings validate what previous research has suggested: that women tend to have more varied, shorter and more environmentally friendly mobility (Alvord, 2000; García Palomares & Rodríguez Moya, 2012).

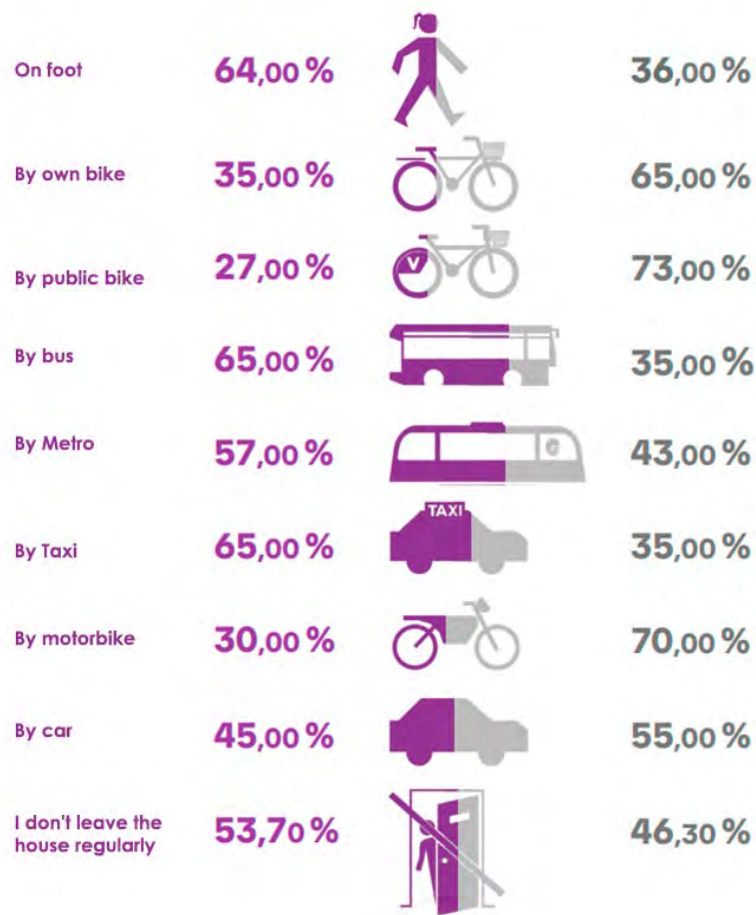|	Women		Men
On foot	64,00 %		36,00 %
By own bike	35,00 %		65,00 %
By public bike	27,00 %		73,00 %
By bus	65,00 %		35,00 %
By Metro	57,00 %		43,00 %
By Taxi	65,00 %		35,00 %
By motorbike	30,00 %		70,00 %
By car	45,00 %		55,00 %
I don't leave the house regularly	53,70 %		46,30 %

Figure 1. Comparison of the different modes of mobility according to sex, in southern suburbs of the city of Valencia. Source: Translated from García-Fernández et al, 2022, p71.

Another important question asked in the same survey was about the perception of obstacles to mobility (Figure 2). This means whether people have perceived any constraint to mobility in different situations, such as: walkers, baby carriages, accompanying the elderly or children, etc. It

[1] https://www.dgt.es/menusecundario/dgt-en-cifras/dgt-en-cifras-resultados/dgt-en-cifras-detalle/?id=00861

is observed that in every category, women are the ones who report the majority of constraints in their mobility. Men, with a percentage of 61.5%, indicate that they have not been affected in this regard. These results of perception, taking into account that if they have affected some people, it is because they exist, can be explained if the type of tasks performed by the two sexes is different.

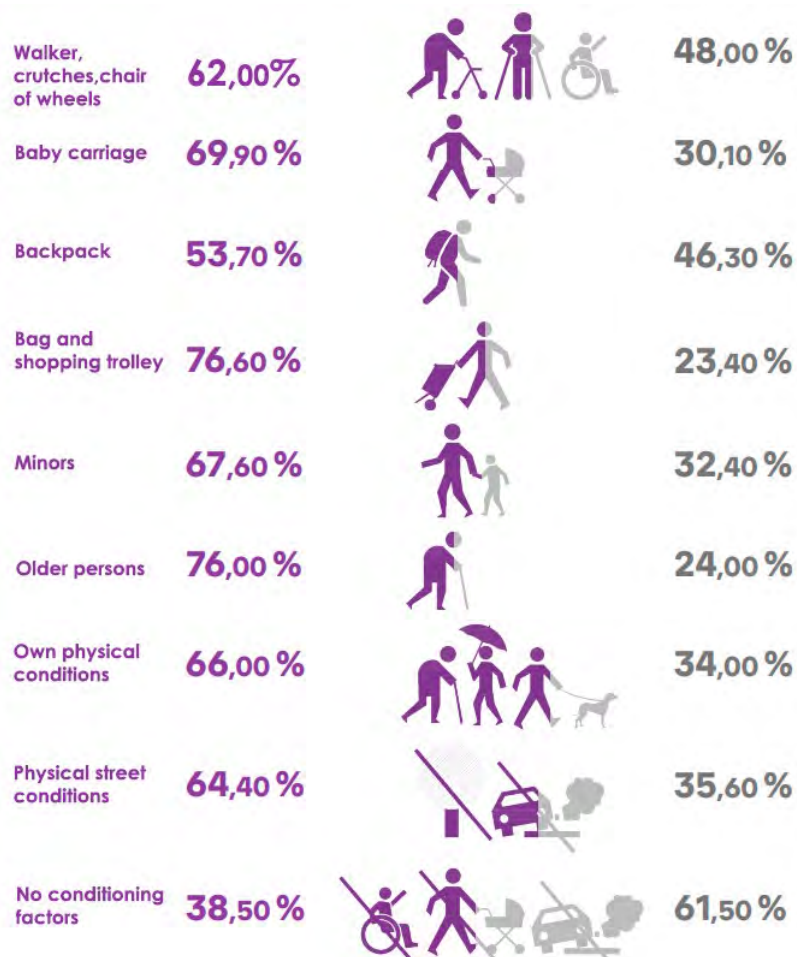|	Women		Men
Walker, crutches,chair of wheels	62,00%		48,00%
Baby carriage	69,90%		30,10%
Backpack	53,70%		46,30%
Bag and shopping trolley	76,60%		23,40%
Minors	67,60%		32,40%
Older persons	76,00%		24,00%
Own physical conditions	66,00%		34,00%
Physical street conditions	64,40%		35,60%
No conditioning factors	38,50%		61,50%

Figure 2. Comparison of the perception of the different conditioning factors for mobility according to sex. Source: Translated from García-Fernández et al, 2022, p71.

The two images (Figure 1 & 2) above illustrate well that women and men move differently in the city, use different means of transport and encounter different constraints on their daily mobility. These results serve to illustrate a reality in people's daily lives that must be taken into account by urban planning in order to avoid perpetuating situations of inequality in the accessibility and use of urban space.

With respect to this issue, Miralles-Guash (1998) has already carried out a reimagination of the mobility models to be promoted in order to achieve a more sustainable city and a more egalitarian society. She pointed out that society prioritizes mobility in relation to the productive space, where simple, long-distance, high-speed trips are mostly made using private vehicles. In other words, the dominant mobility model, to which greater positive externalities are traditionally associated, is the male model, also known as "obligatory mobility". In the reproductive space, the female presence has a much greater weight than the male. For this reason, the author states that women have to

combine the productive space with the reproductive space, which implies more reasons to move and, therefore, the need for closer displacements in order to meet their needs. It is precisely this model, which makes greater use of proximity, that is more rational and sustainable, even though it is precisely this type of travel that is referred to as "non-obligatory mobility". The name itself is part of the dominant culture, relegating the mobility produced in this reproductive or care space to second-class mobility.

Miralles-Guash (1998) projected a very clear vision of the prevailing model of the androcentric city, where "obligatory mobility" is only related to paid work. The pattern of citizen on which the city and the mobility that takes place in it is projected is that of a middle-aged person, with paid work, without mobility problems and without domestic responsibilities (Román & Velázquez, 2008). In the case of childhood, it can be considered that childhood without adult supervision has been removed from the public space. Children carry out their play and social activities in places where traffic is restricted, such as parks or pedestrian squares. The degradation of the street as a public space has meant that the need for surveillance and transportation has multiplied. Elderly people and those with some kind of functional diversity represent disadvantaged groups in a city model that prioritizes fast travel in private vehicles, which also places an extra burden on the people who take care of them.

In short, the zoning of spaces and the urban sprawl have meant that travel needs are much higher than those that can be found in compact cities with a mix of uses. In addition, dedicating enormous amounts of public space to the circulation and parking of private vehicles has led to a reduction in the main social space, which is the street. The occupation of this space and the insecurity associated with traffic have resulted in a lack of meeting spaces and, with it, a degradation of the social fabric and an increase in family burdens (Jacobs, 1961). This results in unequal access to urban space for caregivers, which is called the right to the city.

In today's society, many efforts are being made to reduce the gender gap in different aspects, including the promotion of male presence in the reproductive space. In order to evaluate the evolution of this aspect, Fajardo-Magraner (2020) conducted a study among families with school-age children in the city of Valencia. One of the topics of analysis was whether there was any gender bias in the tasks of accompanying children to school. The results of these surveys show that the person in charge of accompanying children to school is the mother 55.3% of the time, while fathers are responsible for 10.6%, with a higher percentage of grandparents (12.1%). This study also emphasized the difference in employability between fathers and mothers. The percentage of fathers with a full-time job is 83.64%, compared to 51.36% for mothers. It also points out that compared to 91.1% of fathers who have never had to turn down a job due to incompatibility of schedules, 77.9% of mothers have had to do so. Although perhaps these percentages were even worse a few years ago, we cannot affirm that a change in society and in the way of understanding upbringing, care or egalitarian relationships can be observed. Making a change in the dominant culture so that care and the so-called reproductive space is shared, in terms of time and implications, would be a primordial issue in order to advance social sustainability. But this should not mean that women take high speeds and long distances as a model to follow, but, conversely, that men value proximity as a model to imitate.

In conclusion, this section has highlighted the importance of the human scale in the design of a city. If urban planning prioritises economic logic and neglects care activities, the power relations in society are transferred to the space, and it reinforces inequalities and limits access to the city.

3. Outlook and actions for the future

In the 21st century, the situation in science and society has, unsurprisingly, been shifting towards a consideration of the problems of gender differences. Gradually, more and more women are working in professions related to urban planning: architects, engineers, geographers, politicians, etc., and it is necessary to face a change in urbanism. But the rules, standards, techniques and theories have been designed by men in the past, so now the vision of urbanism needs to be modified (Chías, 2011; Román & Velázquez, 2008; Sánchez de Madariaga et al., 2004). However, gender inequalities are not the same for all woman, they worsen with low social status. This is something essential to consider to achieve an urban space to integrate every citizen.

But, what does gender-sensitive urban planning look like? The first issue is to prioritise life, which is not just the exercising of basic activities (housing, work, leisure, transport, culture, etc.), but the exercising of these activities with equal opportunities, integrity and intensity. It is important to determine the complexity of uses and actions and to reduce the importance of the economic part (Muxí et al., 2011; Román & Velázquez, 2008; Sánchez de Madariaga et al., 2004). For an egalitarian reenvisioning of the city, it is necessary to understand and change the methodology that has realised today's cities (Román & Velázquez, 2008).

Citizens need to be listened to, with special attention to those with less privileges. It is necessary to go down and observe life in the streets with the view of Hayden where the city is a holistic space that is both product and result (Sánchez de Madariaga et al., 2004). It is a matter of exercising the right to the city from the very principle of democratic planning, which includes access and freedom to the whole city, both in its outcome and in its creation (Harvey, 2008; Lefebvre, 1976).

The parameters of the feminised city are (Muxí et al., 2011; Román & Velázquez, 2008; Sánchez de Madariaga et al., 2004):

- Diversity of uses in the neighbourhoods. Every neighbourhood must have basic facilities and services. Even to the extent of reserving specific areas for such facilities, such as markets or convenience stores. They should be easily accessible.
- Open spaces with wide pavements and urban features such as trees and benches that encourage people to socialise. Women, children and the elderly are the main users of the streets. As they tend to carry heavy items, such as shopping, or be people with reduced mobility, these areas should be as flat and stable as possible.
- Varied and collective transport with different timetables, not only for working days, and accessible to all social classes.
- Public housing, both for rent and sale, should be evenly distributed in the different neighbourhoods of the city.
- Safe spaces where women and minorities can gain autonomy. For this to happen, there must be spaces with "eyes", as Jacobs said (1961, p. 35): "There must be eyes on the street, eyes that belong to those we might call the natural owners of the street."

Meanwhile, the working methods and the concept of the city need to change in the following aspects:

- Accept the complexity of the city and start from there.
- Use bottom-up methods for brainstorming and designing.

- Analyse space and urban planning as tools capable of transforming society and making life easier for citizens.
- To stop thinking of the city as just a market space, without forgetting this variable. To focus on the city as a service and a civic asset.
- Consider sustainability and health variables that go to the root of the problems; e.g., how big should a city grow?
- Seeking a city in which there is individual autonomy for all the sectors of the population that inhabit it.
- Promote the neighbourhood scale without losing sight of the city.
- Forget the old standards. Adapt and create the city to its own reality and idiosyncrasies.
- Include the social impact of urban policies and changes. How they affect the social fabric and the population that forms it.
- Participation in the urban development plans. It must be multidisciplinary and transversal, within the population of different ages, economic classes, religions, etc.
- Carry out a citizen's diagnosis of the city on variables such as accessibility and security.

Gradually, many of these elements are being introduced in cities such as Vienna, Barcelona and Valencia, in measures such as: superblocks, creation of squares, pedestrian streets, night-time public transport, social housing, etc. And many policies that are being discussed globally, such as the "15-minute city", come from feminist urbanism. Unfortunately, there is still a long way to go and much room for improvement.

4. Conclusions

As discussed in this chapter, the space in cities and the mobility that takes place in them has a broad gender bias. Androcentrism together with the dominant economic model has created an urban space in which access to the city is very unequal.

It is essential to understand urban space from this perspective, since equity in its use and enjoyment must be guaranteed. The reality is that inequalities mainly affect the female gender, as they continue to be the main caregivers. One of the issues to be highlighted is the importance of citizen participation in the design of cities. The experience of spaces must be included in urban planning in order to create cities on a human scale and move towards the collective construction of the city. In this sense, taking into account that women are the main users of proximity space, it is essential to include their participation in any improvement process.

In conclusion, it is considered that a change in the conception of spaces is fundamental, but it must be accompanied by a society that advances in co-responsibility between genders. We must bear in mind that the construction of gender roles is social and cultural, so it is possible and necessary to modify it. In other words, not only should women's lives be made easier by making caregiving tasks more manageable, but it is also necessary for both genders to be equally involved in the productive and reproductive spheres.

Therefore, in order to advance gender equality and improve the quality of life of dwellers, the change must be twofold: spatial change and change in gender roles.

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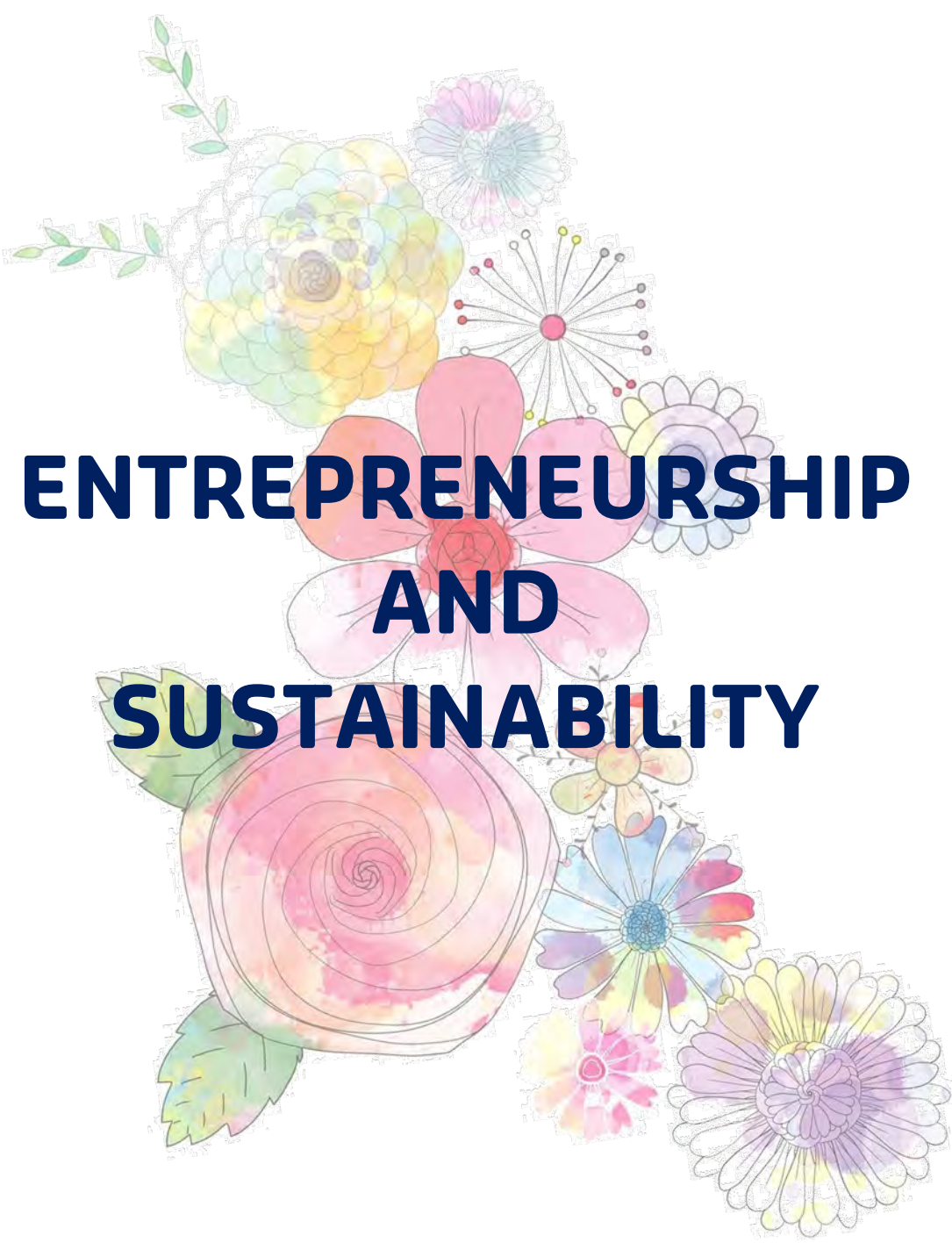
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6. Annexes

OPEN ACCESS DOCUMENTS FOR PRE-SESSION PREPARATION:

TITLE	*CONTENTS*	*LINK:*
State of the Art: Architecture and mobility with gender perspective		
Gender and Mobility UN-HABITAT WORLDWIDE	**This short video explains why public spaces and transport are understood as dangerous for women all over the word.**	https://www.youtube.com/watch?v=tC54cTnVtSU&t=227s
The role of gender in urban mobility: women rights to the city	**This is an article in the web urban design LAB where Tiffany Nicoli França explains briefly how gender affects mobility.**	https://urbandesignlab.in/role-of-gender-in-urban-mobility/
The Right to the Gendered City: Different Formations of Belonging in Everyday Life	**This paper discusses new forms of citizenship in globalised cities from a feminist perspective and connects them to women's everyday life and to cities' planning and governance.**	https://www.tandfonline.com/doi/full/10.1080/09589230500264109
Handbook for Gender-Inclusive Urban Planning and Design	**This is a handbook created by the Word Bank Group where you will find extensive information about processes of gender inclusive planning. Read only after having read this book and if you are interested in the field.**	https://www.worldbank.org/en/topic/urbandevelopment/publication/handbook-for-gender-inclusive-urban-planning-and-design

ENTREPRENEURSHIP AND SUSTAINABILITY

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EXECUTIVE SUMMARY:

This chapter brings together two concepts of great relevance today, sustainability and entrepreneurship, because aligning the two can bring us closer to achieving the goals of the 2030 Agenda more effectively and efficiently.

First, it presents two of the economic paradigms currently being proclaimed, which envision ways of economic development and doing business that are more respectful to the environment and people: Doughnut Economics and Valuism.

It then presents three resources that organisations and entrepreneurs can use to assess their level of sustainability, so that they can internally identify areas for improvement, develop more sustainable business practices, reduce their environmental impact, and create value for society as a whole, as well as externally demonstrate their level of sustainability to all stakeholders.

Keywords: Entrepreneurship, Sustainability, 2030 Agenda, Sustainable Development Goals.

1. Why is this topic important?

Whether as a catalyst for innovation, as a generator of out-of-the-box ideas, or as an opportunity to address societal needs in a resourceful, sustainable and profitable manner, entrepreneurship has earned a major place in the business ecosystem across the globe. As **sustainability** – social, environmental and economic – becomes increasingly relevant, entrepreneurship has positioned itself as an exciting alternative way of doing business. By leveraging the knowledge of entrepreneurs, not only explicit knowledge but also tacit, the entrepreneurial ecosystem may be able to provide solutions to tomorrow's challenges in a way that not only satisfies the end consumer but does not compromise the ability of tomorrow's citizens to satisfy their own needs.

The Brundtland Commission from the United Nations (UN) defined sustainability in 1987 as "meeting the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland, 1987).

In this way, entrepreneurship can be presented as a genuine driver in achieving the goals of the 2030 Agenda, the so-called Sustainable Development Goals (SDGs). As can be seen in Figure 1, there are 17 SDGs for which entrepreneurial activity can potentially contribute to their achievement. The SDGs can be organized around five axes: first, people, which would group together SDGs 1 (*no poverty*), 2 (*zero hunger*), 3 (*good health and well-being*), 4 (*quality education*), and 5 (*gender equality*); second, planet, including SDGs 6 (*clean water and sanitation*), 12 (*responsible consumption and production*), 13 (*climate action*), 14 (*life below sea*) and 15 (*life on land*); third, prosperity, including SDGs 7 (*affordable and clean energy*), 8 (*decent work and economic growth*), 9 (*industry, innovation and infrastructure*), 10 (*reduced inequalities*), and 11 (*sustainable cities and communities*); fourth, peace, which includes SDG 16 on peace, justice and strong institutions; and, finally, partnerships, which includes SDG 17. All of these objectives are translated into 169 targets.

Figure 1. Sustainable Development Goals (SDGs). Source: United Nations

Despite the fact that the term entrepreneurship (and its derivatives) is apparently only mentioned twice in the wording of the targets that specify the different goals (see Box 1), entrepreneurship has often proved to be aligned with the approaches promoted by the 2030 Agenda. Evidence of

this is the emergence of new business/economic models or paradigms such as Kate Raworth's Doughnut Economics or Valuism.

> *4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and* **entrepreneurship**
>
> *8.3 Promote development-oriented policies that support productive activities, decent job creation,* **entrepreneurship***, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.*

Box 1. SDGs Targets that explicitly mention entrepreneurship. Source: https://sdgs.un.org/2030agenda

2. New ways of doing business

2.1. Doughnut Economics by Kate Raworth

The first time the **Doughnut Economics** concept was heard of, as stated on its website[2], was in 2012 when its author, Kate Raworth, introduced it in an Oxfam Report. One of the key elements in this concept, which should be understood as a "compass for human prosperity" for the times in which we live, is the powerful use of visual representation and a very attractive name. From these two key elements (see representation in Figure 2), the author has brilliantly combined previous concepts and methodologies to come up with a model that is easy to remember and extremely useful for rethinking a more sustainable tomorrow.

Visually, the Doughnut consists of an outer boundary (called *ecological ceiling*) and an inner boundary (called *social foundation*). The representation is intended to show how the social foundation is what we –the society– must guarantee for humanity. At the same time, we must not go beyond the ecological ceiling, what would lead to an inadequate use of the planetary boundaries. Accordingly, the "space in which humanity can thrive" is represented between both limits, the social foundation and the ecological ceiling.

[2] See *About Doughnut Economics* at https://doughnuteconomics.org/about-doughnut-economics

Figure 2. Doughnut Economics. Source: Doughnut Economics Action Lab.

In addition, Raworth argues seven ways in which we can think as an economist of this century, thus contributing to sustainable development (Raworth, 2017).

First, she proposes to change the target. Traditionally, countries have pursued the goal of Gross Domestic Product (GDP) growth. However, the author invites us to rethink this purely economic criterion and incorporate other dimensions of vital importance to society through the Doughnut. In terms of entrepreneurship, far from pursuing a short-term economic objective, this suggests to us the importance of opening our sights to long-term alternative metrics.

Second, Raworth invites us to see the big picture, from a self-constrained market to an embedded economy.

Thirdly, she proposes to "nurture human nature" and gives importance to the power of community, participation and collaboration between the different agents.

Fourthly, she speaks of "systems", identifying the dynamism of each system with the aim of learning and continuous improvement.

Fifthly, she talks about designing to distribute and "share the value created with all who co-created it." This is related to the sixth point, being regenerative.

Seventhly, she warns us that growth should not be an objective by suggesting: "Aim to thrive rather than to grow." This is a call for agnosticism about growth as an addiction.

Kate Raworth's words, because of their meaning and symbolism, are difficult to replace. This is partly the reason for the great international success of the Doughnut Economics concept: a straightforward and easy-to-understand yet comprehensive model.

Around these approaches, the Doughnut Economics Action Lab has created the DEAL community[3] which aims to bring together changemakers from all over the world. Interestingly, the community website maps its members, allowing a quick overview of those changemakers who are committed to the Doughnut.

Entrepreneurs can play a critical role in the transition to a Doughnut Economy by developing innovative solutions that help to address the social and environmental challenges we face. By considering the Doughnut model, entrepreneurs can create businesses that are not only profitable but also contribute positively to society and the environment. For example, an entrepreneur could (i) create a company providing affordable renewable energy to low-income communities or (ii) develop sustainable agriculture practices that reduce carbon emissions, thus launching products or services that address environmental or social challenges and include circular economy principles, to minimise waste and maximise the use of resources.

Furthermore, entrepreneurs can also help to shift the focus of economic development from traditional metrics of growth and profit to more holistic measures of well-being and sustainability. By embracing the Doughnut model, entrepreneurs can challenge the status quo and promote a more resilient, equitable and sustainable economy that benefits everyone.

2.2. Valuism

Valuism is a model with which to reinvent the global economy, a philosophy that emphasizes creating shared value for both the company and society as a whole. It focuses on generating profits while also addressing social and environmental problems, such as poverty, climate change, and inequality. Box 2 shows eight tips summarised on the website of the Institute for Ethics in Communication and Organizations (IECO) following a conference given by María Lladró. In Lladró's essay "Valuismo", the author avoids capitalism and communism as concepts, which she does not want to present in a different form, and discusses a new concept, which, in her view, is necessary to understand where our society should be headed: **Valuism** (Lladró, 2020).

- *Projecting value in the long term, with a systemic and transversal vision.*
- *Private initiative is an ally of wealth creation, a fundamental pillar in the value generation system.*
- *Reinvent the definitions of public and private. With a Valuism model, we do not focus on the shortcomings of one or the other, but look for the value that both generate.*
- *Reduce the concentration of power and rely more on freedom, talent and entrepreneurship.*
- *Address the question of growth: at what rate are we going to continue to grow in production?*
- *Clean up the toxicity of the stock market.*
- *Promote simplicity in the public sphere, eliminating bureaucracy and managing time well.*
- *Care for justice, health and solidarity, in other words, everything that has value even if it does not generate profit.*

Box 2. Eight tips for Valuism. Source: IECO – Institute for Ethics in Communication and Organizations, translated by the authors

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[3] See https://doughnuteconomics.org/discover-the-community

In this way, Valuism involves implementing a long-term, systemic and transversal vision that, with private initiative as an enabler of value creation, follows guiding principles such as the reduction of power in the hands of a few, rethinking the concept of growth, eliminating the toxicity of capital markets or taking care of justice, among other aspects that can, and should, guide the actions of any entrepreneur.

Entrepreneurs can adopt the principles of Valuism by designing their businesses to create shared value. This can involve identifying social and environmental problems and developing innovative solutions that address them while also generating revenue.

Valuism also involves engaging with stakeholders, such as customers, employees, suppliers, and communities, to understand their needs and perspectives. By involving stakeholders in the decision-making process, entrepreneurs can ensure that their businesses are creating value for all stakeholders, not just shareholders. This approach can help startups to build trust, foster innovation, and create a sustainable competitive advantage.

3. Practical tools for understanding sustainability as an entrepreneur

Sustainability has become increasingly common in public discourse and there is a pressing need to incorporate it into business and entrepreneurial approaches. Measuring sustainability can be a complex and challenging task for entrepreneurs; however, there are several tools and frameworks that have been developed to enable users to gain a deeper understanding of the sustainable dimension of their business ideas. Here are some examples:

3.1. SDG Compass

SDG Compass is a digital tool with which entrepreneurs can gain a deeper understanding of the content and scope of the Sustainable Development Goals (SDGs), while defining priorities, setting targets, integrating and communicating them. It can be a very useful tool for any entrepreneur who wants to better understand the sustainable dimension of the company and even incorporate sustainability into the *raison d'être* of their business idea. On its website, the entrepreneur will find a database of both business tools and indicators in line with the SDGs, which can be easily consulted.

Figure 3 presents the different steps covered in the SDG Compass guide with the ultimate goal of maximising a company's contribution to the SDGs.

Figure 3. Steps in SDG Compass. Source: https://sdgcompass.org/

3.2. Global Footprint Network® Calculator

This resource, which can also be accessed online, allows any entrepreneur to calculate in a gamified way their ecological footprint through a simple questionnaire, thus answering two questions: *how many planets would be needed if everyone followed the same habits (energy consumption, food, transportation, ...) as you*; and, *what is your personal overshoot day*, that is, the day of the year in which you will have already consumed all the resources that correspond to you as a citizen. The closer it is to December 31, the better.
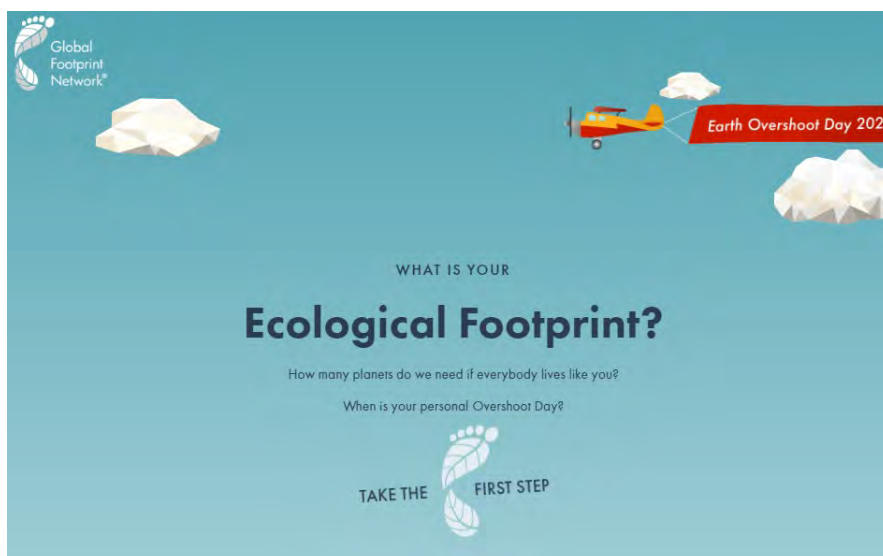

Figure 4. Global Footprint Network® Calculator. Source: https://www.footprintcalculator.org/home/en

3.3. The GRI standards

The GRI is a framework for sustainability reporting that provides a set of standards for businesses and other entities to measure, report and demonstrate accountability of their impacts on the environment, economy and people. It provides a standardised set of indicators to assess their level of sustainability covering diverse aspects such as emissions, waste, biodiversity, equality, diversity, tax and health and safety, enabling transparency to stakeholders (Adams et al., 2022).

Figure 5. The GRI standards. Source: https://www.globalreporting.org

4. Conclusions

Entrepreneurs play a crucial role in achieving the Sustainable Development Goals (SDGs) and promoting sustainability. They are often at the forefront of innovation, developing new products, services, and technologies, that contribute to solving some of the world's most pressing social and environmental challenges, and accelerating the transition towards a more sustainable economy by promoting sustainable consumption and production patterns.

By prioritizing sustainability in their business practices, entrepreneurs can create jobs that support social and environmental well-being and work collaboratively with stakeholders, such as other businesses, governments, and civil society, to achieve the SDGs. Moreover, due to their agility, they can adapt quickly to changing circumstances. This can be especially important in addressing sustainability challenges that require rapid and innovative solutions.

Startups, businesses and organizations in general are increasingly aware of their important role, and want to measure their impact and communicate the efforts they are making to be more sustainable as well as the best practices they are continuously developing to stay ahead of the curve and contribute to a more sustainable and prosperous future.

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6. Annexes

OPEN ACCESS DOCUMENTS FOR PRE-SESSION PREPARATION:

These are just a few examples of the many open access resources available for entrepreneurs who are interested in sustainability. By taking advantage of these resources, entrepreneurs can learn about sustainable business practices, connect with like-minded individuals, and find opportunities to grow their businesses in a sustainable way.

TITLE	CONTENTS	LINK:
Transforming our world: the 2030 Agenda for Sustainable Development	Information on the 2030 Agenda and the Sustainable Development Goals (SDGS) and targets	https://sdgs.un.org/2030agenda
DEAL Community	Information on the DEAL Community	https://doughnuteconomics.org/discover-the-community
SDG Compass guide	The guide for business action on the SDGs	https://sdgcompass.org/wp-content/uploads/2015/12/019104_SDG_Compass_Guide_2015.pdf
GRI Standards	Provides a standardised set of indicators to assess level of sustainability	https://www.globalreporting.org
Green Business Network	Global network of entrepreneurs/businesses committed to sustainability	https://greenbusinessnetwork.co.uk
B Corp	Certification program for businesses that meet social and environmental standards	https://www.bcorporation.net/en-us/
Circular Economy Club	Global network of entrepreneurs committed to creating a circular economy	https://www.circulareconomyclub.com
Climate-KIC	European knowledge and innovation community that supports entrepreneurs developing climate solutions	https://www.climate-kic.org

BRIDGING THE GENDER GAP THROUGH CULTURAL HERITAGE AND CCIs

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EXECUTIVE SUMMARY:

Women have contributed enormously to the generation of **cultural heritage** (CH). However, their legacy has been forgotten. Likewise, their activity in CH management, conservation and dissemination have been increasing over the years, yet not all have been recognised and not all heritage projects take gender into account.

When it comes to **cultural and creative industries** (CCIs), both women's creations and their businesses still have to break the glass ceiling. In this paper, we will introduce some facts about female representation in cultural and creative sectors, with a special focus on arts and heritage. This will be tackled from societal, economical and historical challenges. Finally, we will introduce some projects and best practices that are paving the way toward gender equality in these sectors.

Keywords: Gender, Cultural Heritage, Technology.

1. Why is this topic important?

It is not women's inferiority that has determined their historical insignificance, it is their historical insignificance that has doomed them to inferiority.

Simone de Beauvoir, 1942

UNESCO understands creative industries as: "Those sectors of organized activity whose main purpose is the production or reproduction, promotion, dissemination and/or marketing of goods, services and activities with a cultural, artistic or heritage content" (UNESCO, 1998). Years later, in the Creative Economy Report (PNUD and UNESCO, 2013), the term "creative industry" encompasses cultural industries, recognising their capacity not only to generate economic benefits but also to generate deeper social meanings. On the other hand, the European Union understands cultural and creative industries as those whose activities are based on cultural values or other individual or collective creative artistic expressions, ensure the development of societies and are at the heart of the creative economy, but are also fundamental to the sense of European identity, culture and values. In 2010, with the publication of the Green Paper on Cultural and Creative Industries (European Union, 2010), the EU defines cultural industries as: "Those that produce and distribute goods or services which, at the time they are being created, are considered to have a specific attribute, use or purpose embodying or conveying cultural expressions, irrespective of the commercial value they may have." This document reinforces the idea of creative industries as enablers of sustainable local development, while at the same time being able to raise awareness and promote favourable changes in society.

On the other hand, culture is a human right as stated in Article 27 of the Universal Declaration of Human Rights (Universal Declaration of Human Rights Preamble, 1948), which holds that "everyone has the right freely to participate in the cultural life of the community", as well as under Article 5 of the Universal Declaration on Cultural Diversity (UNESCO, 2001), which states that all persons have the right to participate in the cultural life of their choice and conduct their cultural practices, subject to respect for human rights and fundamental freedoms. These commitments should, theoretically, address gender issues, that is, with a particular focus on women's cultural rights. In fact, under Article 5 (a) of the Convention on the Elimination of All Forms of Discrimination against Women (United Nations, 1981), States are required to take all appropriate measures to achieve the elimination of prejudices and all other practices based on the idea of the inferiority or the superiority of either of the sexes or on stereotyped roles for men and women. In this regard, the Special Rapporteur to the Human Rights Council in the field of cultural rights, stresses that it must be ensured that women have access to and contribute to all aspects of cultural life (Shaheed, 2011). Despite these international declarations, recommendations and other legal frameworks, we are far from achieving gender equality. It is true, as the UN states, that we have accomplished some progress over the last decades (more girls in school, fewer forced marriages, more women in leadership positions), but as the SDG 5 shows, there are still many challenges to tackle (United Nations, 2015), especially for racialised women for whom these challenges are more acute and frequent.

Nonetheless, we find that in many cultures, women are the keepers of ancestral knowledge that is part of the world's tangible and intangible heritage. For example, in many Latin American countries such as Mexico or Peru, traditional weaving is undertaken mainly by women who have

maintained these ancestral forms of production and their symbolic references; not only that, but in many cases, they have constructed a sorority network of empowering women where the participation in national and international fairs opened new markets to distribute their products while preserving local identity and heritage (del Solar, 2019). Other examples are black women who have actively participated in the preservation of black history, being considered cultural conservators (Govan, 1988), or how some African countries recognise women as praise singers and custodians of history, such as in Zimbabwe, South Africa and Mozambique (Chiweshe and Mutopo, 2019). This legacy can also be found in Amazigh women who pass their culture from mother to daughter, maintaining their rituals, traditions and beliefs through them (Nunnally, 2021). The same happens with Syrian women who were forced to migrate due to the war but kept alive their heritage by transmitting their cultural identity in their new host communities of Jordan and Lebanon (Wyler, 2020).

Moreover, according to Eurostat and Womarts (WOMarts, 2020, p. 19), women are the most regular users of culture in the world; even if men have more leisure time than women, they spend more time in cultural activities such as concerts, cinema, heritage sites or museums (WOMarts, 2020, p. 21). These last paragraphs prove that women not only produce culture but also enjoy it and preserve it. However, they occupy few positions of responsibility, fewer professionals are working in CCIs and fewer female artists (past and present) are recognised in the same category as their male colleagues. The glass ceiling is showing some cracks but is still far from being broken. In this paper, we will introduce some facts about female representation in cultural and creative sectors, with a special focus on arts and heritage. This will be tackled from societal, economic and historical challenges. Finally, we will introduce some projects and best practices that are paving the way toward gender equality in these sectors.

2. State of affairs

2.1. Women's studies within arts and culture

During the last centuries, art history has been constructed with a heteropatriarchal bias, considering women as desired objects rather than creators, patrons, and artists, as active subject protagonists of historical narratives. Traditionally, research, until the last decades of the past century, was done by men who excluded – intentionally or not – many female artists from artistic pages. Either they appeared as muses, wives, or mistresses, or as isolated cases throughout the history of art rather than as a constant. Excluding them as exceptions has created an important bias in the way we approach culture. If we ask who invented abstract art, the answer is usually Kandinsky, rather than Hilma af Klint, the real creator of this movement. If we ask about still-life artists, few people will talk about Clara Peeters. If we talk about the Bauhaus, even today many museums have their cartouches wrong, as in the case for the Barcelona chair, attributed entirely to Mies van der Rohe when it was designed by his associate, Lilly Reich (Bergdoll and Dickerman, 2009).

In the 1970s, Linda Nochlin asked herself why there had been no great women artists, thus inaugurating a feminist trend in art history (Nochlin, 1971). In her essay, she begins by demonstrating how there are many assumptions taken as natural, rather than accepting that art history has been constructed by white men. She excludes the genius theory, which, of course, was used (and sometimes is still used) to refer to male artists, and calls for an understanding of the

social context where art was created, including race and class; for example, she points out how, for centuries, art academies forbade women students or how some patriarchal myths such as male innate creativity have created a gender-biased art history. These myths existed even in apparently equal movements such as the Bauhaus, where Walter Gropius claimed that women were not able to think in three dimensions. Gropius suggested that Bauhaus female students should weave instead of studying architecture or design (Whitten Brown, 2019). However, there were many successful female Bauhaus architects and designers, some of them quite recognised, while some of them are still fighting to have their designs recognised.

Art, design and cultural studies, in general, should be explained from a contextual perspective, attending to the particular historical, social, and racial circumstances women have to face in every historical period (Faxedas Brujats, 2018). Reexamining culture with a gender perspective seeks to vindicate women's work, not only as weavers or ceramists (traditionally associated with "femininity"), but also endeavours to acknowledge women as visual artists, video artists, curators, historians, dealers, etc. as important as men. The lack of female heritage references increases gender inequality and the undervaluing of art created by women.

Over the following decades, various protests and criticisms of the lack of women in the cultural context emerged. In this context, the Guerrilla Girls posed a question in their most famous posters: "Do women have to be naked to get into the Metropolitan Museum?", as less than 5% of exhibit artists in the Metropolitan were women but 85% corresponded to female nudes (European Commission. Directorate-General for Education, Youth, Sport and Culture, 2021). These led to publications and exhibitions with a gender-critical approach (Kosut, 2016), which turned into the slow incorporation of feminism in museums. This approach increased in the first decades of the 21st century with authors such as Kathy Deepwell (2006), Griselda Pollock (2013), and Jessica Sjöholm Skrubbe (2016), among many others. In this decade, Nochlin published an updated version of her famous essay, demonstrating some important improvements in the art field. These include the increase of feminist essays and the inclusion of female artists in museums, the display of the notion of "greatness" and "masterpiece", and the inclusion of women in the public sphere. However, she acknowledges that we are far from achieving equality (Nochlin, 2006).

On the other hand, gender approaches should question the systems that sustain patriarchal dominations, which will be understood only when we acknowledge the complexities of the discursive production of cultural practices (Barrett, 1985; Jones, 2010; Pollock, 1999, 2013; Woodhull, 2004). In this regard, museums increased their presence with art produced by women and some women museums and networks arose. Far from having to justify itself, the creation of museums dedicated to women offers an active role in the vindication of women in culture. Museums and cultural institutions should act as the reflection of human diversity expressed by tangible and intangible heritage. Museums should be as plural as possible, including feminist, interracial, and multicultural experiences (Braidoti, 2004), excluding the traditional heteropatriarchal canon and including the expressions of the other half of the population.

2.2. Data matters

Data should be at the core of every research – it exposes inequalities and reveals truths about habits and how we can improve our future. We can say that data matters (Etherington, 2020), and a lot.

According to Eurostat, in 2020, there were 7.2 million people in cultural employment across the EU (3.6% of total employment). In 2018, women accounted for a lower share (46.1%) of EU-28 cultural employment than men, and it was nearly the same average of women in the task force employment of the general economy. However, it was lower in Spain, Portugal and the United Kingdom (Eurostat, 2019). By 2020, women again accounted for a slightly lower share of EU cultural employment than men, the highest proportion of women in cultural employment being recorded in the Baltic Member States.
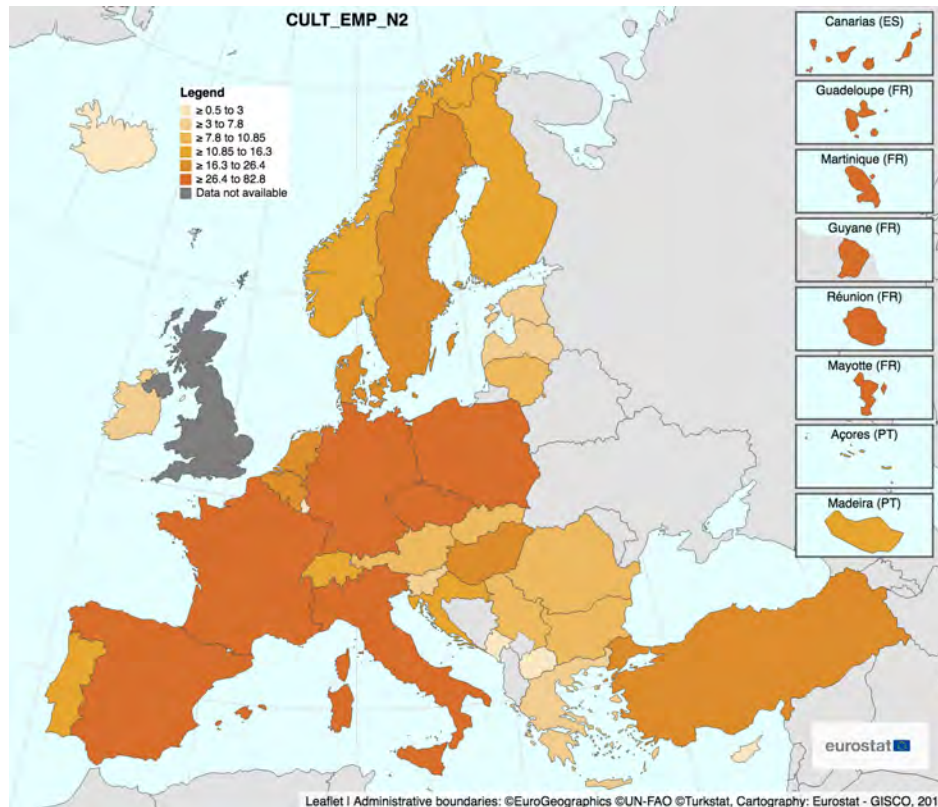
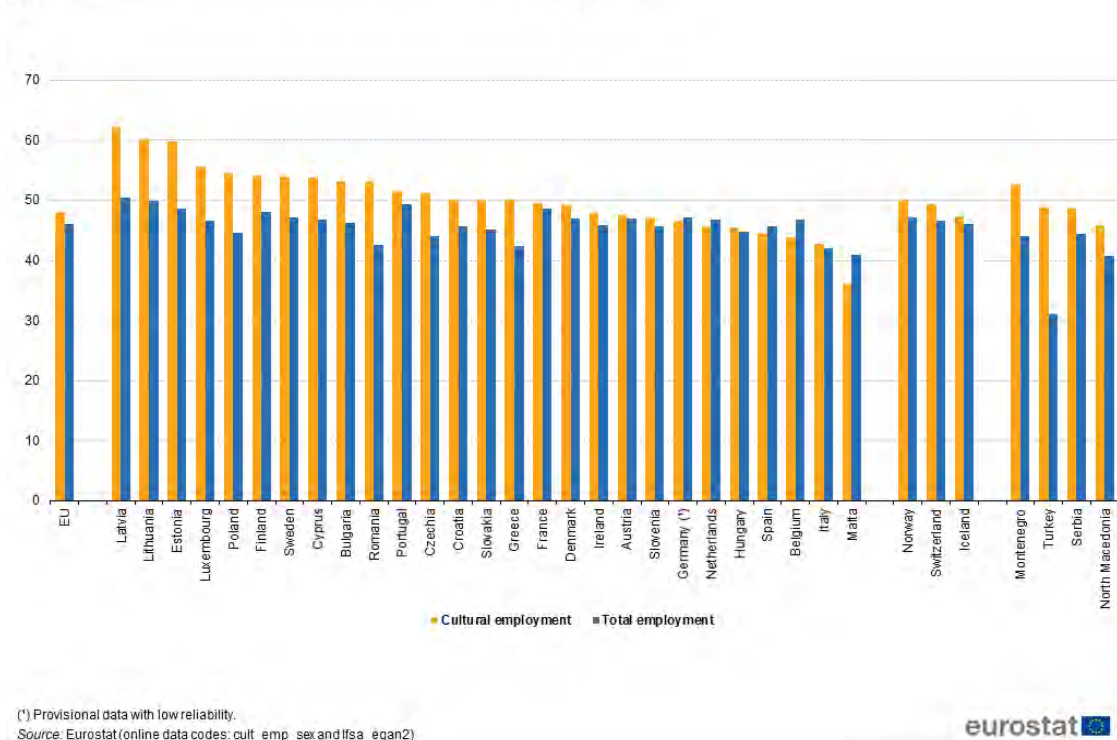Figure 1. European cultural employment in 2019. Source: EUROSTAT, 2019.

Figure 2. Share of women in cultural employment and total employment. Source: EUROSTAT, 2020.

In 2020, over 2.5 million tertiary students in the EU were studying in culture-related fields. Women accounted for close to two-thirds of all tertiary students in culture-related fields. Despite these numbers, artworks produced by women are still less valued than those produced by male artists, in fact, according to Artnet News (2021), in 2021, the most expensive artworks sold were made by men. In the same line, Artnet's Price Database (Artnet, 2022) showed that acquisitions of women-made art stagnated even as the auction market for work by women more than doubled between 2008 and 2018. Moreover, women's artwork in the global auction market comprises only 2 percent of the total market share. Astonishingly, only Yayoi Kusama, one of the top-earning female artists, is still living; the rest are Joan Mitchell, Louise Bourgeois, Georgia O'Keeffe and Agnes Martin (Halperin and Burns, 2019a). While the women's art market is quite small and is concentrated on a few artists, buyers are still reluctant to pay for art made by women which is even worse for minorities such as lesbians or racialised women. The same happens when it comes to art galleries where they tend to expose much more male artists. This is strongly concerning as they are the ones who decide who is worthy of having a place in the art market.

Culture as we can see is strongly gender biased. A 2021 study (Adams et al., 2021) undertook an experiment to demonstrate that there is no such thing as "women's art". This was done by asking people to identify the gender of an artist just by looking at a painting. In a second experiment, they randomly associated fake artworks with fake male and female artists, which people had to value, and participants valued better those that were supposedly made by men. These results are reflected by the fact that only 13.7% of living artists represented in galleries in Europe and North America are female (Kring, 2019). As stated by Allen (2005), *"Asking why women's art sells for less than men's elicits a long and complex answer, with endless caveats, entirely germane qualifiers*

and diverse, sometimes contradictory reasons. But there is also a short and simple, if unpopular, answer that none of those explanations can trump. Women's art sells for less because it is made by women."

Regarding museums, they claim they are paying more attention to female artists and curatorial practices from a gender perspective, which is not entirely true, as data shows. The report of WOMarts (2020) shows the percentage of women solo exhibitions between 2007 and 2014, where not even one of the museums surveyed reached parity – male solo exhibitions were double those by women in all institutions. However, as we have said before, women are not exceptions but are part of the rule (Nochlin, 2008). Along the same lines, the report made by Julia Halperin and Charlotte Burns in 2019 for American museums, shows that the situation there is not very different from the European one. Just 11 percent of all acquisitions and 14 percent of exhibitions at 26 prominent American museums over the past decade were of work by female artists (Halperin and Burns, 2019a). According to them, a total of 260,470 works of art have entered the museums' permanent collections since 2008, of which only 29,247 were by women (Halperin and Burns, 2019b). For example, in Spain, at the Prado Museum, of 1,627 artworks, only four were made by women: Sofonisba Anguissola, Clara Peeters, Artemisia Gentileschi and Rosa Bonheur (Cajigal, 2021; Velasco, 2018). Meanwhile, at the Orsay Museum, of 4,463 artworks, less than 7% (that is, 296) correspond to women (Gingoux, 2018).

The reasons why museums have failed to increase female representations are various. On the one hand, art history is still canonical in many faculty degrees, where a low number of women are studied. Another factor is a lack of research on female artists, which has led to misattributions in some cases, such as Judith Leyster (1609–1660) who was "rediscovered" towards the end of the 19th century (Valero, 2019), or studying them through the "women glaze" – that is, separating male and female art (Peralta Sierra, 2007) – or just oblivion; for example, Alice Guy-Blaché, the first to explore the possibilities offered by film technology, produce films and set up a film studio (European Parliament, 2021).

Regarding the workforce, statistics from *Gender inequalities in the cultural sector* (Pujar, 2016), show that women earn less money than men; in fact, in the US, female salaries in museums are 0.7 percentage points below men's salaries. While only 23% of creative women executives are leaders of a team, women make up the majority of cultural workers in a majority of countries analysed (Dodd, 2012; WOMarts, 2020), demonstrating that the glass ceiling has not yet cracked. This is also reflected in the two studies conducted by the Association of Art Museum Directors (2014, 2017) where all museums with budgets of $15 million or more are run by male directors. In fact, of the British Museum, the Metropolitan Museum of Art and the Louvre, only the last one has a female director, who took office in 2021, after 228 years of museum history. This also happens in the cultural heritage sector (archaeology, cultural heritage institutions, etc.), where more women are employed than men, but more than half of the leadership positions are held by men (WOMarts, 2020).

How we address these inequalities is crucial for creating a non-gender-biased world, from artistic studies and criticism to the promotion of policies that encourage women entrepreneurs in all branches of the creative industries, to museums and the art they exhibit.

3. Outlook and actions for the future

Gender bias is all over the CCIs; however, it is being addressed from different perspectives, many based on sorority networks that are shaping the lines and actions from politics to society. Below we will show some of these practices that are being implemented to bridge the gender gap in CCIs.

3.1. Networking

At the beginning of the 1970s, there were many protests around the world against the women's liberation movement. During this decade, small groups of women gathered together to hear their stories on a particular theme, uninterrupted, with the idea of exploring their own lives. These groups were named consciousness-raising (CR) groups, which also impacted the cultural sphere (Gosling et al., 2018). For example, Suzanne Lacy produced a series of installations based on the sexual violence stories she heard in the CRs. During this performed installation she began by listening to women who wanted to share their own experiences of sexual violation (Lacy, 1977). Sheila Levrant de Bretteville, having been asked to do so by Miriam Schapiro, designed a special issue of the feminist magazine Everywoman with the same idea of sharing stories (Levrant de Bretteville, 2018). This shows how women who have talked to other women can establish powerful connections that can turn into powerful networks. From art to new business, sorority is key.

There has been an increase in women in the CCIs, as they provide platforms to support women's empowerment (Henry, 2009), and at the same time, these industries protect cultural values which were safeguarded by women in the first place (UNIDO, 2013). Despite the numbers, young women still lack female leading roles. As the US Executive Director of the National Dance Institute, Traci Lester (New York City in Arts and Education, 2021), said, "I have noticed for a long time that there have not been many black women in the nonprofit sector in leadership roles: there aren't enough mentors, there aren't enough leaders, there aren't enough voices and role models to follow." One way to solve this issue is through networking.

There are already some strong networks and initiatives that intend to enhance women's creation, leadership and companies. These networks not only help women to build a strong system of contacts but also generate a role model effect, where they can share experiences and inspiration from each other (European Expert Network on Cultura and Audiovisual (EENCA), 2015, pp. 69–70). What is recommendable is that these networks encourage cooperation from as many partners as possible, including academia, industry, government and civil society, which is better known as the quadruple helix model. This model encourages knowledge transfer as the gap between formal and non-formal sectors is reduced (Almeida et al., 2018); not only that, but such interactions help to normalise the fact that women are active in these sectors.

Cross-regional collaboration has proved to be effective. For example, through opportunities provided by Creative Europe, Horizon Europe and other EU funding programmes. One example, the Women's Legacy (2021), seeks to create a series of digital resources to facilitate the inclusion of women in history and culture and their legacy in educational content. Another interesting initiative that we can mention is Global FemArt (2018), which aims to develop support for the entrepreneurial development of female artists and creatives, through online training and mentoring. The UNESCO | Sabrina Ho "You Are Next" initiative (UNESCO, 2019) was designed to address gender equality within the digital creative industries. It is designed to support projects of women under 40 by strengthening their technical and entrepreneurial skills, especially in the

cultural and creative sectors. MEWEM EUROPA (2020) is a project designed to promote women's access to management positions and entrepreneurship by developing their managerial skills. They also connect young professionals with experienced professionals, hence providing role models. On the other hand, Room to Bloom (2020) offers an interesting intersectional gaze as they bring together feminist artists with a migration background so that the members of its network can co-create, challenge gender stereotypes and formulate new proposals for decolonial and ecofeminist art practices.

In the arts sector, there are initiatives such as the Women's Legacy Forum (Biscay Provincial Council, 2020) which seeks to draw up new strategies and action lines such as the White Paper on Cultural Heritage and a Gender Perspective. The Archive of Women Artists, Archives and Exhibitions (AWARE, 2015) is a non-profit organization that aims to create, index and distribute information on women artists of the 20th century to place women on the same level as their male counterparts and make their works visible and known. Finally, we can mention some other experiences such as the International Association of Women's Museums (IAWM, 2021) which seeks to promote culture, arts, education and training from a gender perspective and encourage networking among Women's Museums.

3.2. Research

From collecting data to promoting art-historical research, research is one of the basic tools for achieving gender equality. Without it, there is no basis for policy change that will make a real impact on the lives of women in particular and citizens in general.

On the one hand, historical research has meant rescuing those women who were forgotten. While Nochlin opened feminist art history, Parker and Pollock (2013) confirmed what even today is still fighting to make itself known: women have always produced art, only they were categorised as minor contributions under negative stereotypes which were foundational in the canons of art history. They insist on not understanding female art as a struggle for inclusion but understanding how and where this art was produced. In 1994, Pollock asked if art history can survive feminism; to answer that, she has to go far from the traditional art historical-critical and interpretative schemas. In line with this, Amelia Jones (2003) stresses that feminism broadens models when analysing gender in culture by including aspects such as ethnicity, race, nationality, class and sexuality, among others.

This type of research set the foundations for the iconic exhibition *Women Artists 1500–1955* (1976), curated by Linda Nochlin and Anne Sutherland at the Los Angeles County Museum (and which toured to other American museums), which is seen by many as a starting point for more women-focused exhibitions on particular periods, themes and artists (Gosling et al., 2018, p. 138). Since then, there have been numerous exhibitions focusing on women artists as a group or large solo exhibitions; for example, the Prado exhibition *Invitadas* (2020) or the Thyssen exhibition about Sonia Delaunay (2017). However, as mentioned above, these numbers are still far from parity in terms of male and female artists exhibited.

Figure 3. Women Artists: 1550–1950, October 1, 1977, through November 27, 1977. Brooklyn Museum photograph, 1977.

On the other hand, as shown, gathering quantitative and qualitative data will help to identify problems, propose evidence-based policy and monitor progress. As an example, in the art market, gender inequality is a reality. To prove how the market acts, its reasons for the bias and how buying women's art is a source for economic outcomes, formal research like the one conducted by Adams et al. (2021) needs to be done. Adopting mixed-methods to gender data helps to demonstrate the casual relationships among causes and perceptions of women in CCIs, particularly relating to access (European Commission. Directorate-General for Education Youth Sport and Culture, 2021, p. 58).

Finally, promoting active research on gender equality in the CCIs, monitoring results and establishing indicators will help to shape the values, attitudes and needs of all genders (European Commission. Directorate-General for Education Youth Sport and Culture, 2021). This will increase women's visibility and participation in the CCIs. For example, the study conducted by Clive Nwonka (2020), addresses the role of data in measuring diversity and gender bias in the UK film industry, showing how, despite having a recognised policy, white middle-class men are still the ones who decide which women may enter this industry. He also discusses the importance of intersectional data to be able to properly carry out our gender research. Another example is the study conducted by María Barrios and Ana María Muñoz (2021), which demonstrates the existing androcentrism in the music industry and how still gender stereotypes still exist, such as the belief in women's lower creative and/or technical skills. Encouraging these types of research will challenge patriarchy and can act as a driver for social change.

3.3. Intersectionality is key

Feminism is not inherently inclusive (Callihan and Feldman, 2018, p. 1): even if it advocates for equal rights, the mainstream movement traditionally focuses on the white, straight, middle-class and able-bodied women, excluding other realities in favour of *universal womanhood* (hooks, 1981, p. 12)*.* Mainstream feminism fails to understand the complex nature of women of colour who

struggle with strong patriarchal influences, especially in rural areas, and with more hyper-sexualisation of their bodies, the assumption that somehow they are going to fail or the early adultification of children (Kendall, 2021). The same happens with other females such as Latinas, whose experiences are different from white middle-class Western women. For example, as Patricia Zavella (1989) mentioned, while white feminists demanded reproductive rights, Chicana activists were fighting against forced sterilisation, and Latin American women who reach the public sphere are likely to be discriminated on the basis of their ethnicity (Trujillo Gaitán, 1979).

When examing feminism, it is essential to adopt an intersectional perspective when conducting research, curating, and creating, as inevitably each culture will have specific connotations for determining concepts, such as when referring to feminism – e.g., European feminism is not the same as African feminism – or when referring to an Asian, which for a Westerner refers to people from India and countries around the Pacific Ocean, while in other regions it is exclusionary as it is impossible to group so many regions (Bloom, 2003). François-Cerrah (2015) expresses this regard about white people, not necessarily related to skin colour, but their status and power relations as the dominant group. Meanwhile, it has traditionally been black and non-white feminists who have been in charge of articulating this research, interlacing, gender, race, class or sexuality (Guimarães Corrêa, 2020). They have been the ones who have fought against rape culture in India, femicides and hijacks in Mexico, and include the Nigerian women focusing on finding the girls kidnapped by Boko Haran. They are active female fighters who should not be seen instead as passive victims waiting to be liberated by their western female colleagues (Gosling et al., 2018).

In line with this, museums should reconsider how they are reading their collections and exposing female artists, as it is demonstrated that there are fewer women of colour, lesbians, indigenous and transgender women represented in art collections (Callihan and Feldman, 2018). Since the 1980s, the gender perspective has begun to consolidate in museums from a reflexive approach (Kosut, 2016), but it was not until the early years of the current century that a concern for incorporating sexual minorities, transgender or third gender identities entered into museum discourse (Cuesta Davignon, 2016). Today, it is worth asking whether the achievements of feminism have ended up being internalised by traditional museums or whether activism continues to use alternative cultural communication platforms, in which the network allows for the democratisation of access to digital content and the dissemination of content proposed by activism.

Furthermore, not only museums should reflect on their own biases, but all the CCIs, reflecting on whether they offer neutral spaces, whether they are telling supremacist narratives or, on the contrary, inviting participation from every group. Intersectionality is about understanding the experiences of other ages, sexual orientations, races and class groups outside one's own. It is to understand that older women are significantly underrepresented and often stereotypically portrayed across all sectors (European Commission. Directorate-General for Education Youth Sport and Culture, 2021, p. 68). It is also about understanding that the heterosexual gaze is predominant, or as Harmony Hammond (2003) categorically expresses: lesbians do not have a history, thus denying them role models. Or to understand that there is a need to pursue more black feminist visual theories and that black women resist the imposition of the dominant stereotypes of knowledge and appearance (hooks, 2014).

Intersectionality will improve networking among marginalised groups and promote diverse role models, enriching feminist cultural studies. Adding different perspectives to CCIs' research and

creations will reflect others' experiences, leading to critical thinking and sociopolitical actions (Guimarães Corrêa, 2020). Ultimately, this translates into the recognition of diversity, to make the world a fairer and more socially just place. *That is why the critical lenses used to see and assess the world matter* (Brown, 2021, p. 2).

3.4. Change the cultural gaze and raise your voice

Since the 1970s, scholars, artists, critics, curators, entrepreneurs, philosophers and so many other women have fought to change the cultural gaze, transforming women's cultural history. The fact is that it is not enough to add women's names to cultural history to achieve equality; it is necessary to deconstruct the roles and stereotypes of femininity and masculinity that are at the origin of the sexual division of labour and are the cause of male domination and structural inequality. When Virginia Wolf (1995) wrote that *Killing the Angel in the House was part of the occupation of a woman writer*, she was referring to the idealised devoted and submissive women/wife from the Victorian Era who was expected to be passive, and powerless, graceful, self-sacrificing and pure. Throughout Western culture, the stereotype of this submissive woman, the erotic object, who passively surrenders to the man, is repeated. This overexposure to the construction of women in an objectual sense devalues them (Guirao Mirón, 2019). These stereotypes, when repeated, become cultural approaches that normalise violence against women (Bourdieu, 2000). And art is one of the institutions that maintains and perpetuates the patriarchy.

Rereading museum collections implies reinterpreting the female body and the gaze. Feminists all over the world have given symbolic value to denigrated realms of female creativity and experiences, from eroticism and sex to work, childbirth or housework (Gosling et al., 2018, p. 8). In this sense, the gaze, instead of merely focusing on women's body representation, constructs the interlace between race, gender, power relations and how these synthesise ideas (Wilson, 2003); this change makes women become subjects not just objects of the gaze. If men control cultural production, culture will be gender-biased, perpetuating stereotypes, discrimination and inequality.

The traditional canon has been and is being questioned by artists, curators, historians and activists among others. In *Litany for Women Artists* (1977), the performance and multimedia artist, Hannah O'Shea, chanted the names of women artists as if it were a Catholic litany to reclaim them for history. The Dinner Party (1973–79) by Judy Chicago is considered an icon of feminist art. The installation comprises a massive ceremonial banquet, arranged on a triangular table with a total of thirty-nine place settings, each commemorating an important woman from history.

Intersectional feminism is also questioning the heteronormative canon; for example, the mural work of Yreina Cervantez, *La Ofrenda,* is a dedication to Latin American immigrants in the US, but she puts Dolores Huerta as the central figure, presented as a mother who gave birth to the entire Chicano community. In this way, Yreina highlights the transformative role that women play in the Chicano community. Sutapa Biswas, a South-Asian British artist, created the collage *Housewives with Steak-Knives* in 1985. This painting-collage invokes the Hindu goddess Kali who appears as a South-Asian woman, but it is, in fact, a self-portrait of the artist. In the collage, famous paintings by Artemisia Gentileschi appear, of powerful women using anger to change their patriarchal world and conquer their male oppressors. This was the last artwork of Biswas in Leeds, after which she kept dialoguing with her teacher, Griselda Pollock, influencing mutually both Biswas's art and Pollock's feminist intersectional theories (Gosling et al., 2018). Finally, we can mention the work of Tanja Ostojić whose work addresses the rights of women to travel across borders, their

endurance and resilience, and highlighting migrant women. In her work, *Untitled/After Courbet* (2004), she photographs a woman in the exact position as Courbet's famous painting, *L'Origine du Monde*, with the difference that instead of being naked, she is wearing blue panties with the EU flag on them. The piece was displayed on several rotating billboards at the end of December 2005, in public spaces in Vienna, criticising EU migration politics; however, it was removed two days later, when the Austrian Prime Minister was about to take over the Presidency of the EU.

The androcentric and patriarchal gaze causes stereotypes to be perpetuated in other spheres beyond the arts and occupy all social spheres, including every CCI. If women are seen as muses and/or objects of desire, they will be treated as passive rather than active creatives. Also, women tend to be infantilised – their voices are not taken into account and they are treated as if everything has to be constantly explained to them (mansplaining) – while those who raise their voices are seen as aggressive. It is necessary, despite these stereotypes, that women do raise their voices.

As the *Towards gender equality in the cultural and creative sectors report* (European Commission. Directorate-General for Education Youth Sport and Culture, 2021) mentions, women who break the rules are seen as hysterical, morally lax or complicated, among the many things they are often told, including being questioned for not staying at home or for leaving their families to pursue their careers. The fact is that, despite the progress made in gender equality, women still face many difficulties.

In this regard, we already have mentioned how women have less free time than men. Even if they are employed full-time, they are usually in charge of care-giving and the household; even when their partners tend to be more egalitarian, there is a "specialisation", where men tend to do visible tasks such as DIY or bureaucratic procedures, while their female partners are in charge of food preparation or childcare (Saneleuterio, 2010), not to mention the so-called invisible tasks, such as planning purchases, children's vaccination schedules, etc. A study reveals that 61% of activities have a mental component which remains easily invisible (Hurtado et al., 2015). In this sense, men have 45 minutes more free time than women, which is 18% more leisure time.

To this, we have to add that women are usually more willing to give up their free time (willingly or forced by situations); in fact, Johanna Drucker (Schor et al., 1999), an art historian from UCLA University, states that when beginning in academia, she used to be more generous with her time, do more assignments without complaining and never acting like a diva, while her male colleagues acted too busy to show up to meetings and treated students with arrogance, but they were rewarded. In the same vein, the Association of Art Museum Directors (2014, 2017) revealed that women, when describing themselves as ambitious, confident or successful, are not seen as equal to males who express themselves in these words; in fact, for women these characteristics are seen as too aggressive, while for their male colleagues they are seen positively. Hence, concepts differ according to gender, which perpetuates gender inequalities.

This leads to men having more access to leadership positions (and hence more power), projects led by men receiving more money, and creative outputs produced by women being valued and appreciated less compared to those by men (European Commission. Directorate-General for Education Youth Sport and Culture, 2021, p. 67). For example, the aforementioned report by Halperin and Burns (2019b) recalls how some museums are still worried about entering women in their galleries just for a quote rather than for quality.

However, younger generations, the #MeToo movement and the fourth feminist wave are shaking

the museums, galleries and CCIs. For instance, the #MeToo movement traversed social media and arrived at museums, as happened in the Nordiska Museet in Sweden, which collected #MeToo experiences as part of its collection (Engman, 2021). Or the already mentioned number of woman networks that provides them visibility and recognition.

3.5 Embrace the digital realm

Digitisation and access to ICT in almost every aspect of daily life has changed how cultural goods are being produced, distributed and consumed. On the one hand, content distributed online is mostly at zero cost; on the other hand, once created, the challenge is to attract visitors who must decide what content to use and interact with, given the vast amount of information available (King et al., 2016; Malpas, 2008; Silberman, 2006). Moreover, the transition towards digital has increased the number of cultural goods that are digitised, but it has also enabled new forms of creativity and cultural production that not only provide universal access to cultural heritage but also promote its dissemination and interaction with society (Fernandez de Bobadilla and Alvaréz Rodríguez, 2005). The digital transformation in CCIs creates new opportunities but also presents challenges, including gender stereotypes, male dominance and lack of access to the internet (European Commission. Directorate-General for Education Youth Sport and Culture, 2021).

Cultural activism is occupying the alternative spaces that social media and information and communication technologies (ICTs) offer. The processes of access to information through the web and social networks have allowed new spaces to show and document women's history. But also, they offer a digital space to connect and generate networks that include gender perspectives of those who write, create and reflect from the margins. Hypermedia thus enables spaces of fluidity and otherness freed from the hegemonic structures of physical real life, allowing for gender explorations (Miles, 2018; Turkle, 1995).

In this sense, the fourth wave of feminism is characterised by an intersectional framework, with a strong online representation used for raising awareness whilst maintaining a presence on the ground (Zimmerman, 2017). Social and cultural change is facilitated by the digital revolution as it has the potential to make their narratives more visible, often through digital stories. These experiences reflect on their identity, struggles, and achievements in collaboration with others and relate to others (Regil Vargas, 2006; Vivienne, 2011). Mikki Kendall did this when she started the conversation on Twitter with the hashtag #solidarityisforwhitewomen, in which she pointed out the problem that exists when feminism is only understood as the problems faced by white middle-class women (Kendall, 2021).

In this regard, one of the main challenges is to explore how claim cultures can operate within the hegemonies and hierarchies of conventional museums, how marginalised artists can resist the institutionalisation of their work, and how they can protect themselves from institutional recognition (Sjöholm Skrubbe, 2016). The museum (both its collection and the means to exhibit it), must be revised to promote equality to overcome the traditional heteronormative discourse and not perpetuate gender exclusion in its collections (Leiva and Carmona, 2016).

The already mentioned International Association of Women's museums is one example of this virtual realm, as is the website https://feminicidio.net/ that serves as a platform for denouncing patriarchal violence. *Didáctica 2.0 Museos en Femenino* (López Fernández Cao, 2009) is a Spanish project focused on women in the art that offers detailed and precise museum itineraries, as well as access to the corresponding teaching guides. Finally, *Relecturas. Itinerarios Museales en Clave*

de Género (Gaitán and Alba, 2020), is an online project that aims to reinterpret Valencian museum's collections from a gender perspective.

4. Conclusions

Women artists, women art historians, and women critics have made a difference, then, over the past thirty years. We have – as a community, working together – changed the discourse [...] We will need all our wit and courage to make sure that women's voices are heard, their work seen and written about. That is our task for the future.

Linda Nochlin, 2006

As stated by Culture Action Europe in their report on Gender Inequalities in the Cultural Sector (Pujar, 2016, p. 14), *culture is a driver of sustainable development and sustainable development cannot be achieved without gender equality*. This means that culture is ensured for everyone, which includes not only providing women access to culture, but also ensuring that they are recognised as creators, critics, entrepreneurs, leaders, etc.

Creative and cultural industries go beyond a mere contribution to economic development; their value lies in their contribution to the production of cultural values (Boix-Domènech and Rausell-Köster, 2018). As stated in the OECD report on the role of culture and creative industries in the economy (Van der Pol, 2007), culture and creativity also have an enormous impact on social cohesion and development, in particular by understanding cultural products as the memory of a community and as generators and drivers of creative ideas for future generations. In these industries, it is important to represent, hear and make any person who is part of cultural life (that is, everyone) feel represented in the history that is preserved (Borck, 2018).

Throughout history, artists have been working to promote gender equality by using creative approaches, as both culture and the arts have been used to combat stereotypes and promote positive values and role models that are necessary to maintain inclusive and equal societies (European Commission. European Education and Culture Executive Agency, 2022). From the voices of those who were searching for others silenced by the patriarchy to those who were fighting for the right to abortion or equal pay, women have been establishing networks and fighting to reclaim their place in the past and the present to improve our future.

In addition to networks where women can find other role models, learning opportunities and funding, we have shown the importance of data in creating arguments for politicians to legislate for equality. The application of data analysis in the cultural sphere is not new, as the Guerrilla Girls demonstrated in the 1980s. Their method was to gather statistics from art institutions to provide evidence of discrimination by gender and race (Guerrilla Girls, 2012). We have to take into account data to plan future actions that will serve to put an end to the gender gap.

Furthermore, we have shown how gender approaches must take into account intersectionality as a means to recognise the varying and specific experiences of other groups. This means that equality can only truly be achieved by taking into account race and ethnicity, physical appearance, sexual orientation, (dis)ability, age, religion, parenthood status, citizenship, social and geographical origin, and social class (European Commission. Directorate-General for Education Youth Sport and Culture, 2021). Otherwise, as Myriam François-Cerrah said (2015)*, feminism has been hijacked by white middle-class women.*

Finally, using the hypermedia to generate new initiatives and reinterpretations from a gendered perspective that challenges the androcentric system will serve to generate growing visibility and acceptance of different gender approaches (Vivienne and Burgess, 2012), allowing for new encounters and discourses of artistic practices (Pollock, 2013).

As Nochlin states (2006), there have been enormous advances in the cultural field since she first published her famous essay, and as she says, it has been to a large degree thanks to women raising their voices for other women in the past, present and future. This must continue for equality to be achieved in the CCIs.

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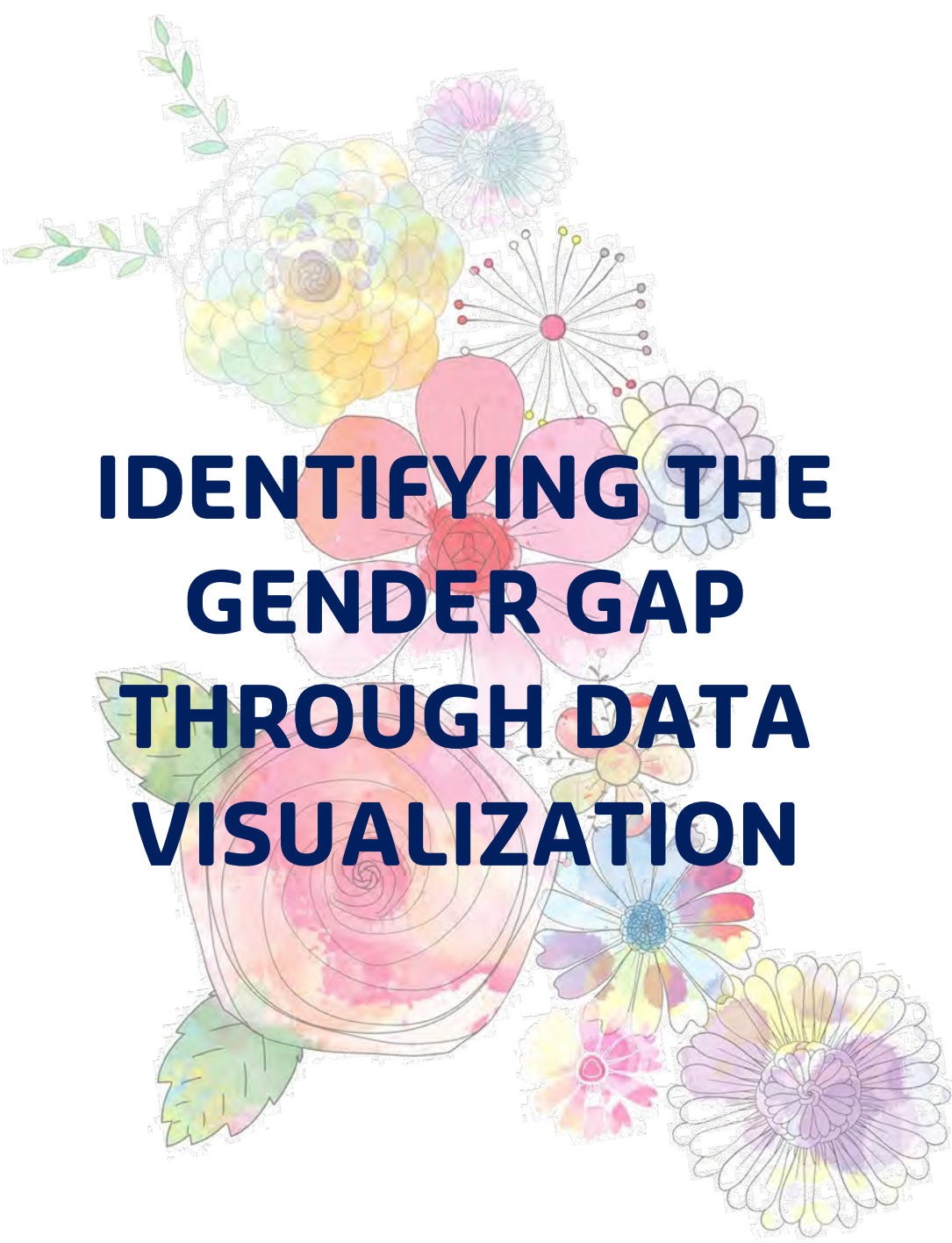
6. Annexes

OPEN ACCESS DOCUMENTS FOR PRE-SESSION PREPARATION:

TITLE	*CONTENTS*	*LINK:*
State of the Art: Gender in the Creative and Cultural Industries		
Towards gender equality in the cultural and creative sectors: report of the OMC (open method of coordination) working group of Member States' experts. ⬚ Special focus on Chapters 2, 4 and 5.	This report focuses on the role that culture plays in promoting gender equality and, more importantly, how to achieve gender equality within the cultural and creative sectors (CCS). The EU Member States identified gender equality for the first time as a priority for action in the Work Plan for Culture 2019–2022.	https://data.europa.eu/doi/10.2766/122208
State of the Arts Report about the situation of women artists and professionals in the Cultural and Creative Industries sector in Europe.	**The report gathers a wide range of legal documents, directives, programmes and scientific studies on the promotion of equality in the CCI's between 2000 and 2017, and analyses them in order to identify urgent scenarios to take action. It also drafts a list of measures, which could be implemented by European authorities, and several target groups (from civil society to decision-makers) for changing the current situation.**	http://www.womarts.eu/upload/01-LI-WOMART-1-20-6.pdf
Gender gaps in the Cultural and Creative Sectors (with the exception of the audio-visual sector). ⬚ Special focus on Chapters 3, 4 (4.1, 4.4,4.5, 4.8 & 4.9), 5 (5.1, 5.6, 5.7, 5.8) and 6.	**This report summarises the main policy developments and recommendations made regarding cultural and creative sectors (CCSs), and gender by bodies such as the EU, the Council of Europe, UNESCO, and the ILO. The main focus of the report is on understanding the current state of affairs concerning women in the CCSs, the gender gaps at work, and the underlying drivers of those gender gaps.**	https://eenca.com/eenca/assets/File/EENCA%20publications/Final%20Report%20-%20Gender%20in%20CCS%20EAC.pdf
Gender statistics in the Creative and Cultural Industries		
Culture statistics – cultural employment	It presents data on cultural employment derived from the EU's labour force survey (EU-LFS). Take a look at: Cultural employment by sex, age and educational attainment.	https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Culture_statistics_-_cultural_employment#Cultural_employmen

Where are the women?	Learn about gender inequity in the arts with some eye-opening facts.	https://nmwa.org/support/advocacy/get-facts/
Gender discrimination in the Creative and Cultural Industries		
Gender discrimination in the cultural heritage sector	Museum collections are a treasure. They collect and preserve cultural heritage in all its diversity and tell us stories about people and societies. But still, they are highly subjective. It's people and their choices who decide which story is worth telling and which one is not – and this power produces biases, considering the fact that historically evolved collections throughout the world are mostly the result of men making choices about cultural heritage.	https://pro.europeana.eu/post/gender-discrimination-in-the-cultural-heritage-sector
Gender Inequalities in the cultural sector Culture Action Europe.	This report consists of a synthesis demonstrating why ensuring gender equality particularly in the cultural sector is capital. It describes how gender inequalities manifest themselves on the ground and why, and how cultural actors can try to overcome them.	https://cultureactioneurope.org/files/2016/05/Gender-Inequalities-in-the-Cultural-Sector.pdf
Technology, gender & creative and cultural industries		
Creative Europe 2014-2020, Gender Equality, Sustainability and Digitalisation ⮚ Special focus on Chapters 3, 4 (4.1, 4.4,4.5, 4.8 & 4.9), 5 (5.1, 5.6, 5.7, 5.8) and 6.	This publication gives an overview of how Creative Europe Culture cooperation projects selected from 2014 to 2020 have addressed three political priorities of the European Commission: the European Green Deal, gender equality and a Europe fit for the digital age. The projects that are presented demonstrate how the cultural sector is already fully in line with the political priorities of the Commission, striving towards gender equality, environmental sustainability and digitalisation. The proposals concentrate on how arts and cultural activities can offer space for the development of an empowered citizenship and equip the sector with the tools to devise innovative and critical approaches to tackle these issues.	https://op.europa.eu/en/publication-detail/-/publication/aebc62b7-8fa5-11ec-8c40-01aa75ed71a1/language-en/format-PDF/source-257008402

IDENTIFYING THE GENDER GAP THROUGH DATA VISUALIZATION

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EXECUTIVE SUMMARY:

Data visualisation provides users with intuitive means to interactively explore and analyse massive datasets in a more intuitive way. Graphical representations not only allow us to visualise and analyse the message contained in the data, but also to remember it. Nevertheless, visualising data can be challenging, as there are many factors that might determine the type of visualisation that is optimal for a given dataset. For instance, it is relevant to know some basics on data visualisation, such as which aesthetics better represent better which variables. Also, it is important to know what degree of expertise the people that the graphs are directed to have. The medium also determines the visualisation (e.g. paper vs. screen), while the consideration of 2D vs. 3D is another factor.

Among the huge variety of purposes and topics that visualising data can tackle, the gender gap is one that has been gaining relevance over the last few years. At the European Union level, it is relevant to highlight the initiative of the European Institute of Gender Equality (EIGE) to compute the Gender Equality Index (GEI). This index is a composite indicator that measures the complex concept of gender equality and, based on the EU policy framework, assists in monitoring progress of gender equality across the EU over time. This indicator is provided with a set of graphical representations for better understanding. Yet, even with the provided visualisations, it is not straightforward to answer all questions about the gender gap. In this chapter, we will go deeper into different ways of visualising the GEI index, analysing the meaning that can be taken from each graph, analysing the pros and cons, and proposing different solutions to respond to specific questions.

Keywords: Data Visualisation, Gender Equality Index, Gender Gap, Charts, Graphs, Aesthetics.

1. Introduction

Data visualisation provides users with intuitive means to interactively explore and analyse massive datasets, which can be dynamic, noisy and heterogeneous, enabling them to effectively identify interesting patterns, infer correlations and causalities, and support sense-making activities (Bikakis, 2018), making it possible to amplify human cognition (Chan, 2006; Protopsaltis et al., 2020). Graphical displays not only allow us to visualise and analyse the message contained in the data, but also to remember it, since for most people, visual memory is more persistent than verbal or auditory memory (Zinovyev, 2010). For all these reasons, data visualisation is nowadays one of the cornerstones of Data Science, turning the abundance of Big Data being produced through modern systems into actionable knowledge (Andrienko et al., 2020), allowing tons of data to be synthesised in visual forms that humans are able to understand.

Among the huge variety of purposes and topics that visualising data can tackle, the gender gap is one that has been gaining relevance recent years. The gender gap can be defined as a gap in any area between women and men in terms of their levels of participation, access, rights, remuneration or benefits (*Gender Gap*, 2022). Many examples of charts visualising the gender gap can be found, for instance, in Flowingdata (Yau, 2022b), an independent site where people can share their charts and some of them are tagged as gender related (Yau, 2022c). The line chart on the decline of women in computer science (Yau, 2014a) shows that, while the percentage of women in other technical fields has risen in the last 30 years, the percentage of women in computer science has declined. This decline coincides with when computers were mostly marketed towards boys in the 1980s. Another example is a bubble chart on PhD gender gaps around the world (Yau, 2014e), which shows that, in almost three quarters of the 56 considered nations, more men than woman receive a PhD.

In another work (Yau, 2022d), a combination of beeswarm, difference, and stacked area charts are used to depict the most female and male occupations since 1950. As more women entered the workforce, many occupations saw a shift from mostly male to a majority or more female, such as opticians, human resources assistants or bill and account collectors. Focusing on the last collected data (years 2000–2015), for those jobs involving the word "computer", there are more men than women, while for those involving the word "education", there are more women than men. A project by The Pudding results in a bubble-like artistic graph that summarises the common words used to describe men and women's bodies in literature (Sposto, 2022). The graph reveals that, for describing parts of the head, the words hair, cheek, smile, face, lip, eyelid or eye are more often used for women, while the words brain, head, forehead brow, eyebrow, pupil, ear, nose, nostril, grin, jaw, mouth or tooth are more often used for men. It also shows how many times this is likely to happen, e.g., the word head is 2.23 times more likely to appear for women, while the word brain is 1.61 times more likely to appear for men.

Another example worth commenting on refers to the World Bank, which, as an effort to make gender inequalities more obvious, updated their Gender Data Portal with different visualisations (*How Data Can Accelerate Equality*, 2022): "*The World Bank Group has redesigned its Gender Data Portal with these audiences in mind by offering over 900 gender indicators in different formats, ranging from raw data to appealing visualizations and stories. Making sex-disaggregated data easier to analyze, interpret and visualize will bring into focus gender issues that are frequently invisible, including on topics such as digital development, transport, and water. It will highlight*

existing gender gaps as well as gaps in the availability of gender data." Thus, it recognises the relevance of data visualisation for identifying the gender gap.

At the European Union level, it is relevant to highlight the initiative of the European Institute of Gender Equality (EIGE) to compute the Gender Equality Index (GEI) (*Gender Equality Index | 2021*, 2021). This index is a composite indicator that measures the complex concept of gender equality and, based on the EU policy framework, assists in monitoring progress of gender equality across the EU over time. The visualisations are mainly composed of an interactive radar chart that summarises the GEI indicator for each country and for the EU, as shown in Figure 1. When clicking on one of the countries, pie charts for different domains (Work, Money, Health, etc.) are depicted; and when clicking on one of the pie charts, detailed information on the related domain is given and complemented with bar charts and tables.
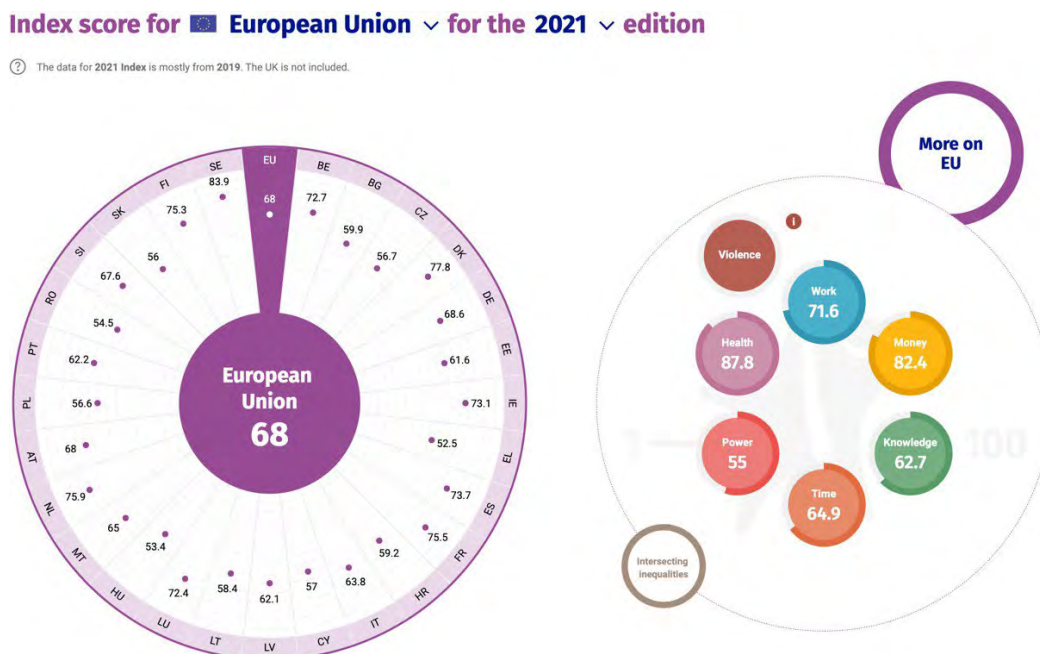
Figure 1. Snapshots taken from the EIGE site. Source: (*Gender Equality Index | 2021*, 2021).

Said graphs are easy to understand and provide a quick and synthesised access to the GEI indicator and domain values for each year and country. Yet, with the provided visual representations, it is not straightforward to answer all questions about gender gap, such as: How many countries are above the GEI average for a given year? What is the temporal GEI evolution for a given country? Overall, which domains present the smallest or the greatest gender gap? Are there relevant patterns in the data?

Because of the relevance of this index at the EU level, in the next section we will provide different visualisations to try to answer these questions. We will start with simple representations (e.g. bar charts) and then move on to more complex ones (e.g. heatmaps), adding a discussion to each chart and unveiling relevant characteristics of the GEI indicator, which are not evident from the inspection of the visualisations provided in (*Gender Equality Index | 2021*, 2021), thus contributing to the understanding of the gender gap in the European Union.

2. Towards visualizing the Gender Equality Index

Before visualizing the Gender Equality Index (GEI), it is important to understand how it is built. The GEI indicator is calculated according to six different domains – Work, Money, Knowledge, Time, Power, and Health – and each domain is computed according to different factors that measure the relationship between men and women. The relationship between the GEI indicator and the domains is not linear. Instead, the GEI indicator is calculated following the methodological approach described in (*Gender Equality Index 2017*, 2017), leading to equation (1):

$$GEI = Work^{0.19} * Money^{0.15} * Knowledge^{0.22} * Time^{0.15} * Power^{0.19} * Health^{0.1} \qquad (1)$$

All data involved in the calculation of the GEI indicator for the years 2013, 2015, 2017, 2019, 2020 and 2021 is openly available at (*Gender Equality Index - dataset*, 2022) in the form of an Excel file. To derive the charts in this section, the relevant data in the Excel file was exported to a CSV file, with eleven variables and 168 features. In Figure 2, the names of the variables and the first and last features are depicted.

```
Index year;Reference year (main);Protocol order;Country;Gender
Equality Index;WORK;MONEY;KNOWLEDGE;TIME;POWER;HEALTH
2013;2010;0;EU;63,1;69,7;79,1;59,8;65,2;41,9;86,7
2013;2010;1;BE;69,3;72,7;85,5;70,6;70,3;47,9;86,5
2013;2010;2;BG;55,0;67,9;60,8;50,4;43,9;45,8;75,3
2013;2010;3;CZ;55,6;64,9;73,8;55,4;53,8;31,0;85,7
2013;2010;4;DK;75,2;79,8;83,6;73,2;80,4;58,0;90,3
...
2021;2019;23;RO;54,5;67,5;69,1;52,8;50,3;34,7;71,3
2021;2019;24;SI;67,6;73,0;83,7;56,6;72,9;53,0;87,8
2021;2019;25;SK;56,0;66,8;75,1;61,6;46,3;30,7;85,5
2021;2019;26;FI;75,3;75,5;87,9;61,9;77,4;74,3;89,5
2021;2019;27;SE;83,9;83,1;85,4;75,2;90,1;84,5;94,6
```
Figure 2. Summary of raw data used to derive the charts in this section.

The index is calculated based on 27 countries, which are listed with their country code: BE (Belgium), BG (Bulgaria), CZ (Czechia), DK (Denmark), DE (Germany), EE (Estonia), IE (Ireland), EL (Greece), ES (Spain), FR (France), HR (Croatia), IT (Italy), CY (Cyprus), LV (Latvia), LT (Lithuania), LU (Luxemburg), HU (Hungary), MT (Malta), NL (Netherlands), AT (Austria), PL (Poland), PT (Portugal), RO (Romania), SI (Slovenia), SK (Slovakia), FI (Finland), SE (Sweden). Also, the EU (European Union) average is provided.

Raw data is usually difficult to interpret, i.e. just looking at the numbers, we cannot easily extract meaning. Data visualisation can aid synthesising such information in charts, which are easy to understand, and thus it can help respond to specific questions, as will be seen in the following paragraphs. All the graphs in this section have been developed by the author of this chapter, making use of the R programming language. For further information on how to produce graphs with R, a detailed R graph gallery can be found at (Holtz, 2022).

Let's start with a basic example, a graph that shows the GEI indicator for the year 2021 for each of the countries. The easiest way to show quantities is a bar plot, as shown in Figure 3a. This figure

shows the countries in the given order and, in addition to the countries, it includes the average index for the EU. Figure 3b is derived by rearranging the countries according to the index and highlighting the bar for the EU. Differently from the first bar plot, this one is easier to interpret as one can easily identify for which countries this index is smaller and for which it is bigger, and which countries are above and below the EU average. But we can still improve this graph. As the graphical representations of bars indicate areas, they always start at the origin of coordinates, which is one important limitation of this type of visualisation (Wilke, 2019). However, the GEI indicator is concentrated in the values around 50 and 85 points. Thus, another way of representing such amounts can be done with by placing dots at the appropriate locations along the x or y axis, as given in Figure 3c. In this figure, each individual country GEI (2021) indicator is shown with a grey dot, while for the EU it is highlighted with another color. By limiting the axis range to the interval from 45 to 85 points, the figure highlights the key features of this dataset: SE has the highest GEI among all the listed countries, with a difference of more than five points compared to the second country. We can also see that there are sets of countries withs similar GEI values (e.g. ES, IR, BE, LU) and that DE, AT and SI are quite close to the EU average. Also, it is evidenced that RO, HU, have much lower GEI than all other countries.
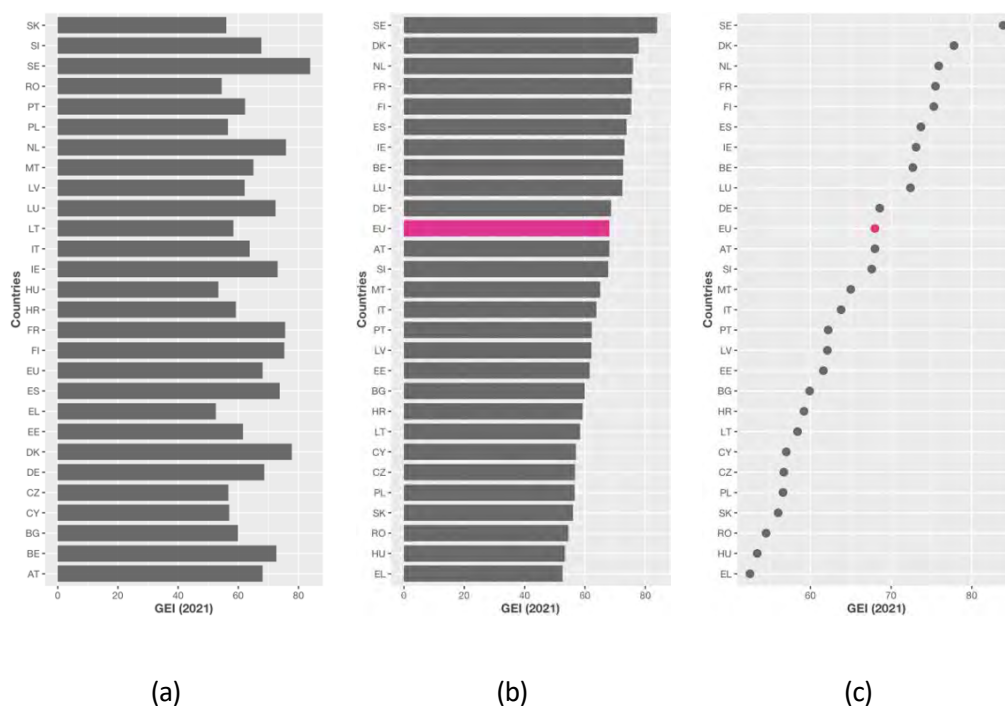

(a)   (b)   (c)

Figure 3. Charts showing the GEI indicator for the year 2021, using: (a) unordered bar chart;(b) ordered bar chart with a highlight; (c) ordered scatter plot. Source: own elaboration.

We can go deeper in the data by adding another dimension, for instance, the year. In this case, we could try to build grouped bar plots, but the results are not optimal, as seen in Figure 4a, because the bars are thin and comparison between different countries is difficult. Another option is to use stacked bar plots instead, as seen in Figure 4b, where the horizontal axis represents the accumulated GEI over the years. Although in this case the individual bars that represent each year are clearly seen, it is difficult to see the temporal evolution. For instance, looking at individual

countries in Figure 4b, it is not clear in which year the GEI value is greater. Also, it is difficult to compare a single year between different countries because the bars do not share the same base line (except for the year 2021).

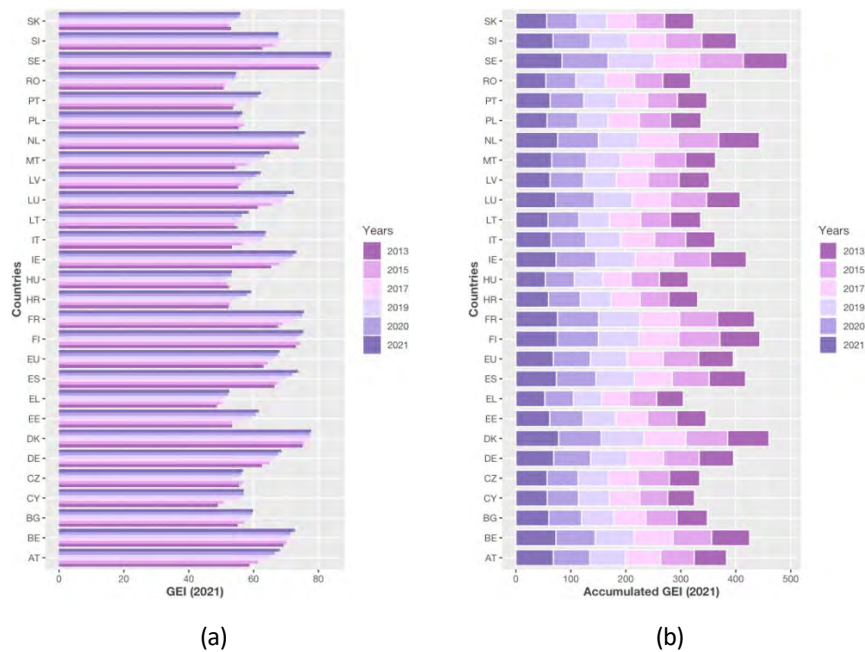(a)   (b)

Figure 4. Temporal evolution of the GEI indicator, using: (a) grouped bar plot; (b) stacked bar plot. Source: own elaboration.

Time series are usually represented by lines that connect observed data, as shown in Figure 5a. Line graphs are appropriate whenever one variable imposes an ordering on the data (Wilke, 2019), as shown in the example here. However, the generated graph is difficult to read. The problem here is that there are so many countries that it is difficult to discern which line corresponds to which country. An alternative graph is presented in Figure 5b, where, despite the lines being shown for all countries, only some of them are highlighted – the five countries with the greatest GEI values for the year 2021. Additionally, in Figure 5b, dots are included, which represent the observations, thus clearly showing that there are missing values for the years 2014, 2016 and 2018, which was not evident in Figure 5a. However, if we want to produce a graph that summarises all the countries, we need to explore other representations.
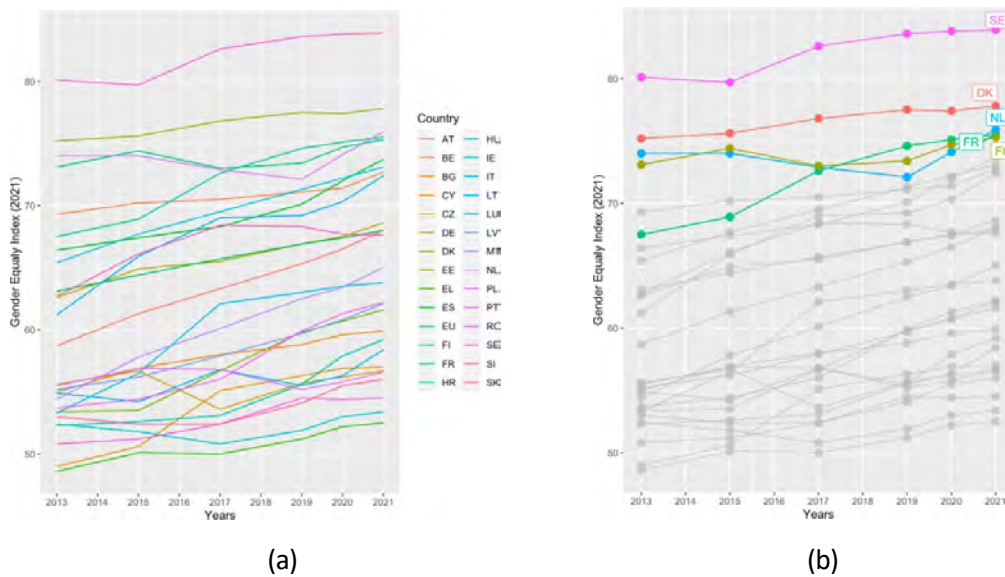
Figure 5. Temporal evolution of the GEI indicator, using: (a) line chart; (b) line chart highlighting the five countries with the greatest GEI for the year 2021. Source: own elaboration.

An alternative to avoid a graph with so many lines is to represent the temporal evolution with heatmaps, as shown in Figure 6, where the countries are ordered according to the GEI values for the year 2021. This new graph is less busy and still can encode the three variables (country, year, and GEI) in a single graph. This kind of visualisation is good at representing large datasets and highlighting broader trends (Wilke, 2019).

However, while, in Figure 5, the GEI indicator is encoded using the "position" aesthetic along the vertical axis, in Figure 6, the GEI indicator is encoded with the "color" aesthetic, which is more difficult for humans to discern an exact value of on a continuous scale. For instance, looking at Figure 6, would you be able to say what the GEI value for SE is in the year 2015? Comparing the color in the corresponding cell with the color ramp given in the legend, one could say that it has a value somewhere between 75 and 80, for example. On the other hand, when looking at the graphs in Figure 5, one can clearly see that the value is slightly below 80. Therefore, with heatmaps it is harder to determine the exact data values.
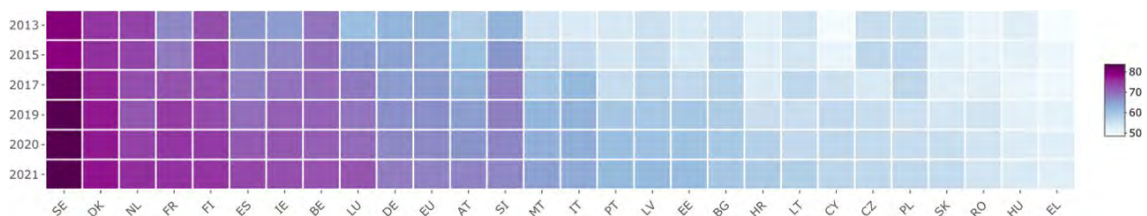

Figure 6. Heatmap for the GEI indicator, for each year and country. Source: own elaboration.

Let's now explore another variable. Instead of time, we want to find visual representations to simultaneously explore the six domains (Health, Knowledge, etc.) contributing to the GEI indicator for the year 2021. One could think that producing a kind of stacked bars, as in Figure 4b, would be appropriate. We could even calculate the percentage that each domain is contributing to

the GEI indicator, and draw the corresponding proportions, so a complete bar would represent the GEI indicator for a given country. The problem here is that the relationship between the GEI indicator and the domains is not linear, as explained above. Therefore, a better option would be to represent single bar charts, as shown in Figure 7.

Figure 7. Bar charts for each domain that depict the GEI (2021) value for each country. Source: own elaboration.

We can also represent these data with line graphs, as given in Figure 8, but we already saw that this option was not efficient with the time variable (Figure 5), where we had six values to represent (2013, 2015, etc.), just as with the domains. Why should it work now? The key is how to choose the aesthetic for each variable, which depends on the story. In figure 5, we were interested in exploring the temporal evolution of GEI for each country, so we mapped the GEI indicator to the y-position and the year to the x-position, and thus we had one line per country encoded with the color aesthetic, giving a total of 28 lines (27 countries plus the EU). However, now we want to explore, within a given year (2021), how the domains behave for each country. Therefore, we can choose to map the GEI indicator to the y-position and the countries to the x-position, leaving the lines to represent each one of the domains, so we have only six lines to represent. An example is seen in Figure 8, which is readable (only six lines) and seems a valid representation for the purpose of identifying which domains present the smallest equality (Power) or the greatest equality (Health).
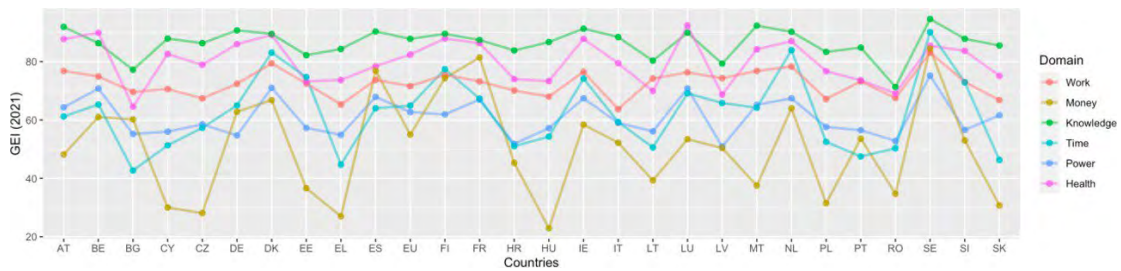
Figure 8. Line chart for the domains contributing to the GEI (2021); depicting the domain values for each country. Source: own elaboration.

Another option for visualising these lines in a single graph is a radar chart, also known as spider or web chart. A radar chart is a two-dimensional chart type designed to plot one or more series of values over multiple quantitative variables. Each variable has its own axis and all axes are joined in the center of the figure (Healy, 2022). An example is seen in Figure 9, where each variable is encoded with a line that forms a closed polygon. A variation is represented in Figure 9b, by filling the areas inside the polygons.
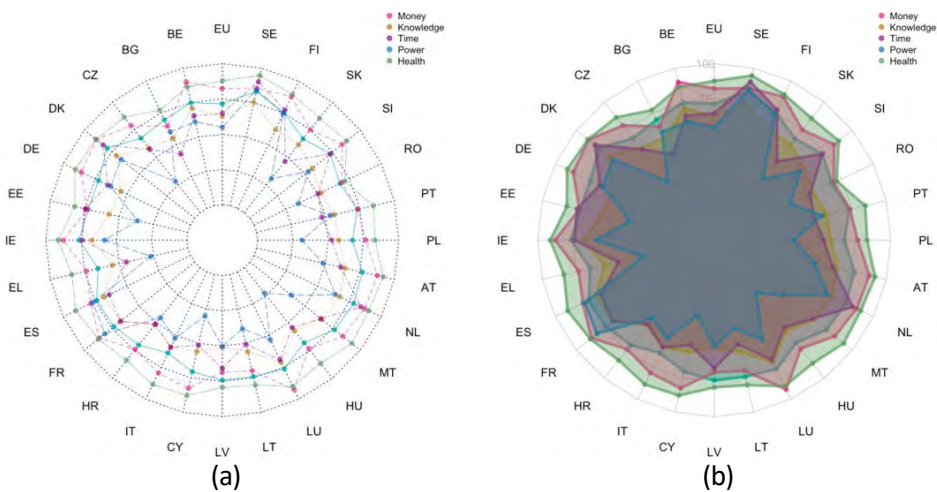

Figure 9. Radar charts for the six domains contributing to the GEI (2021): (a) radar chart; (b) radar chart with filled polygons. Source: own elaboration.

However, with more than two or three series, it is good practice to use small multiples to avoid a cluttered figure. Such a representation is seen in Figure 10, where one can easily spot that the greatest differences are between the Power and the Health domains. Although, for our case, these graphs seem to work fine, radar charts have been criticised by different authors for reasons such as the huge impact that the category order has in the graphical representation, or the problem of over-evaluation of differences because the area of a shape in a radar chart increases quadratically rather than linearly, among other problems (Healy, 2022). Therefore, we shall explore more charts.
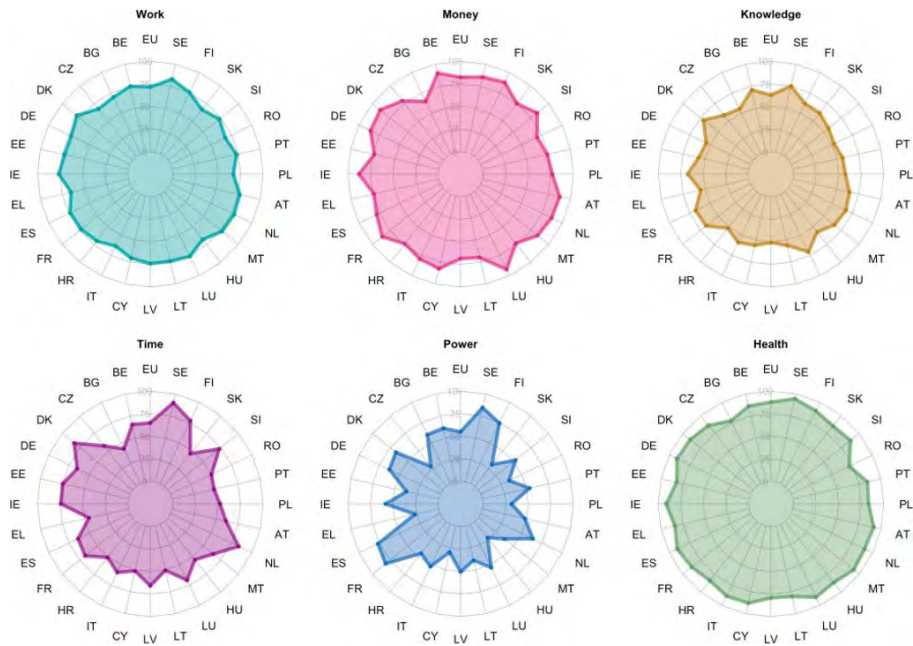
Figure 10. Individual radar charts for each domain contributing to the GEI (2021). Source: own elaboration.

We can also explore heatmaps, as seen in Figure 10a, where countries on the horizontal axis are arranged according to the value in the Power domain. If the values are rearranged according to another domain, the graph will look quite different, as seen in Figure 10b, where countries are arranged according to Money. This is similar for other graphs; in particular, the polygons in radar charts can look quite different after rearranging the countries. Therefore, it seems that the order in which we represent the countries is of relevance. But can we find a good convention to order the countries? Well, the fact is that the countries have a natural order in terms of geographical location, so let's explore this option.
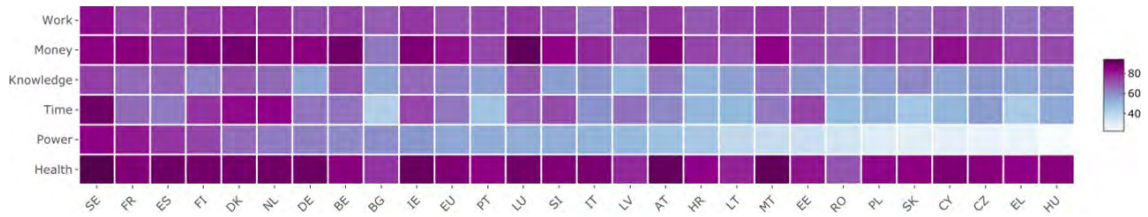
(a)
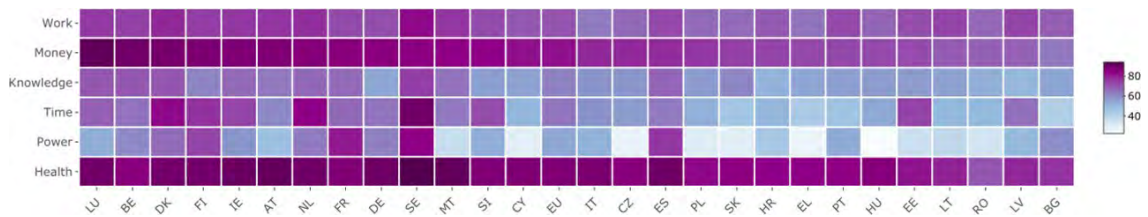
(b)

Figure 11. Heatmaps for the domains contributing to the GEI (2021) indicator: (a) heatmap ordered according to the values in the Power domain; (b) heatmap ordered according to the values in the Money domain. Source: own elaboration.

We can represent data in the form of choropleth maps, which display divided geographical areas or regions that are colored in relation to a numeric variable. For that, we first need to consider the geographical shape of each country, so we need a map with the countries' boundaries, which is not available in our original dataset. We can download such a map of the European countries from Eurostat (*NUTS - GISCO - Eurostat*, 2022), for instance. But this map has smaller boundaries than the ones we are interested in and involves more countries that are not part of the EU27, as shown in Figure 12a. Doing a little bit of spatial analysis in a Geographical Information System, such as QGIS, we can join those polygons that share the same country name and remove countries that are not part of the EU27. The result is shown in Figure 12b, where country labels are also depicted. Now we can call this map from our R script, merge it with our dataset, and produce a choropleth map, as shown in Figure 13a.
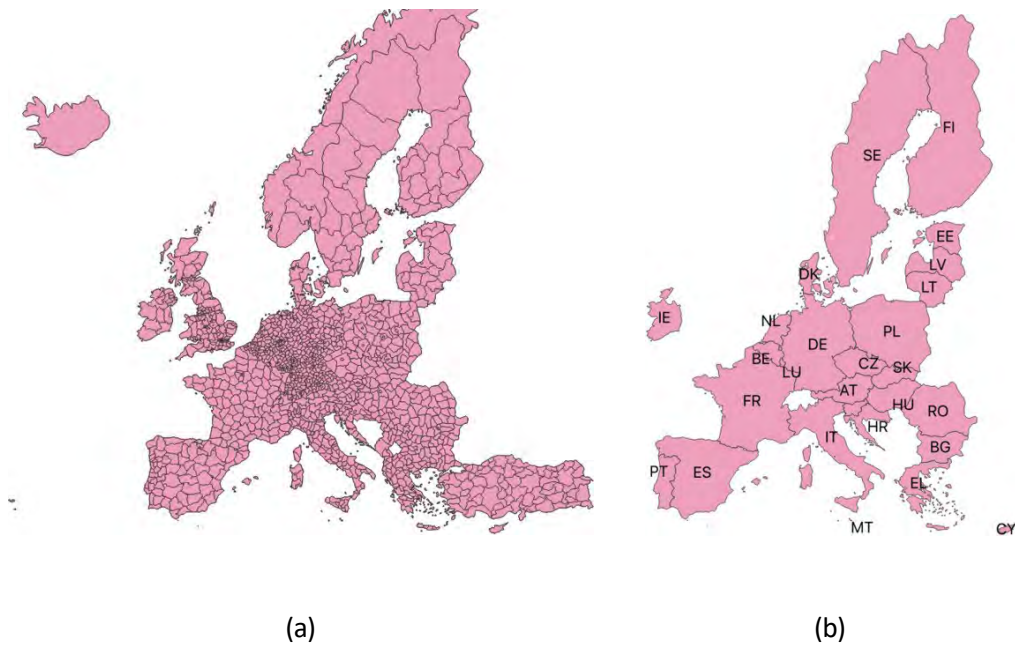
(a)   (b)

Figure 12. Maps of Europe: (a) map provided by (*NUTS - GISCO - Eurostat*, 2022); (b) map with the
EU27 countries. Source: own elaboration.

The map in Figure 13a shows the GEI (2021) indicator embedded in the color aesthetic. We could use the same technique to map each of the domains and produce a total of six maps. Before doing that, it is worth mentioning the problem of small areas, as is the case for MT or LU, which are difficult to see on the map. In interactive maps, where one can zoom in/out, this fact does not pose such a big problem, but if the map has a fixed size, as in the example shown here, this is indeed an issue to consider. As the size of a country does, in principle, not influence the indicators that we are analysing, we can, instead of using real boundaries, use other conventions to build a cartogram. A simple way is to replace countries' boundary by rectangles, while trying to arrange them according to their topological relationships (e.g. to the left of, on top of, etc.); this is, however, not fully possible in our example, so we must be aware of this limitation. Such a cartogram can be seen in Figure 13b, where the real size of the countries is not an issue when discerning the color; now we can clearly see the values corresponding to MT and LU.
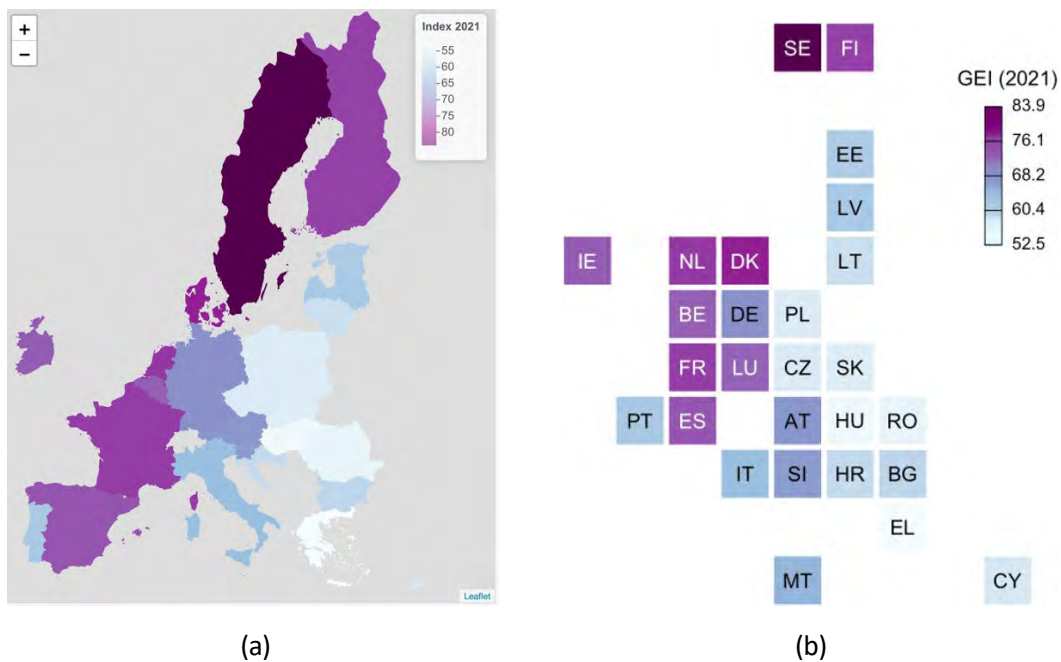
Figure 13. Maps of the GEI (2021) value for each country: (a) choropleth map; (b) cartogram.
Source: own elaboration.

Following the example of the cartogram in Figure 13b, we can derive one of them for each of the domains, as displayed in Figure 14. Note that, in these representations, the same values are used for the color ramp in all cases; as seen in the legend, it ranges from 22.9 to 94.6, which are the min and max values of all the considered variables. This scale is the same as the one considered in Figure 11, so a direct comparison between these two graphs is possible. Similarly, for the maps in Figure 13, the color ramp is fitted to the min and max values of the unique variable that is considered, GEI (2021), corresponding to 52.5 and 83.9. In doing so, it is easier to depict the greatest variations between the data, for that variable. But, why not use independent ranges for each of the cartograms in Figure 14? The answer is to allow easy comparisons between them. For instance, in Figure 14, it can easily be seen that Power is the domain with the greatest gender gap, while Health involves the least gender gap.

Figure 14. Cartograms for the six domains, with the same color ramp range (min=22.9, max=94.6). Source: own elaboration.

However, using different ranges for individual cartograms can be of interest when comparing the values of the different countries within a single domain. Such a solution is seen in Figure 15. Here, we can see, for instance, that for the domain Money, LU has a clear high value in comparison to the rest of countries, which was not as evident in Figure 14.

Figure 15. Cartograms for the six domains, with different color ramps ranges for each domain.

Source: own elaboration.

3. Future actions on visualising data

The amount and complexity of data that humans have access to through the Internet has increased enormously in recent years (Protopsaltis et al., 2020). For instance, public agencies and administrations provide open data to meet the demands of citizens for agile and flexible services, promoting transparency and citizen participation, optimising their resources and improving their efficiency (*How to promote improvements in public administration using open data | datos.gob.es*, 2021). Data visualisation has proven effective for presenting essential information and driving complex analysis with vast amounts of data (Keim et al., 2013). A clear example is the Gender Equality Index, which gives more visibility to areas that need improvement and ultimately supports policy makers to design more effective gender equality measures (*Gender Equality Index | 2021*, 2021).

However, as seen in the previous section, for a given dataset, finding out which visualisation is optimal for answering specific questions can be challenging, as the process of synthesising data into visual representations involves a set of human decisions that takes time and requires expertise.

Indeed, visualising data is not just a matter of having, for example, an Excel table and clicking one button to derive a beautiful chart; one needs to know what the best graphs (bar plot, pie chart, etc.) and aesthetics (color, shape, size, etc.) are to represent such data. But what are the factors that might condition such choices? The answer is: many. First, it is relevant to know some basics

about data visualisation, such as how some aesthetics can represent both continuous and discrete data (position, size, line width, color), while others can usually only represent discrete data (shape, line type) (Wilke, 2019). Also, it is important to know who the people are that the graphs are directed to, as, depending on their expertise, they might be able to interpret more complex visual representations of data (e.g. violin plots). The medium also conditions the visualisation. It is not the same to produce a chart to be printed on a paper medium as it is to produce a digital graph to be visualised on a device. Firstly, because paper creates a physical restriction on the size that a screen might not have because of the possibility of zooming; and, secondly, because a printed chart is static, while a digital chart might be dynamic, interactive, or both. The consideration of 2D vs. 3D is another factor, and linked with this, there are a variety of new technologies and interaction paradigms that remain quite unexplored, such as virtual reality (VR) or augmented reality (AR).

Because of these reasons, currently it is difficult for designers to anticipate and test all possible combinations of interactive inputs which a visualisation might receive (Walny et al., 2019). For instance, (Hissitt, 2020) points out that there is an increased need for technical skills to first understand and translate the data, and then create visualisations around the results. To sum up, in order to represent data in visual forms to transfer knowledge to humans, data visualisation needs to be rediscovered to fit the demands of current and future data volumes and heterogeneity of data, technologies and interaction paradigms, taking into consideration human factors.

4. Conclusions

In this chapter, we have seen how data visualisation can aid in understanding the gender gap, specifically at the EU level. We have explored different charts to understand the Gender Equality Index (GEI), which is calculated taking in consideration six different domains. From the derived charts, some of the conclusions that can be derived are:

- Figure 3: For the GEI (2021), there are 10 countries above the EU average. From these countries, SE seems to have a significantly greater GEI – at least five points above the next one, which is SI. On the other side is EL, with the smallest GEI value, 15 points below the EU average.

- Figures 4, 5 and 6: Comparing the years 2013 and 2021, all countries have increased their GEI value. But, taking in consideration the rest of the years (2015, 2017, 2019 and 2020), we can see that there are fluctuations, so between consecutive years there was not always an increment.

- Figures 7, 8, 9 and 10: Overall, the domain with the greatest gender gap is Power, and the one with the least gender gap is Health. HU presents the greatest difference between these two domains. SE is the only country with all the domains above 70 points, and also has little variation between all of them. FR and DK have also small variations among the six domains, in comparison to the rest of countries.

- Figure 13: The countries with the greatest gender gap for the year 2021, as measured by the GEI indicator, are located in the central- and south-eastern part of the EU with the exception of PT, that also has a low GEI value.

- Figure 14: Power is the domain with the greatest gender gap, while Heath is the one with the smallest gender gap. Also, Health seems to have small variations between countries, while Power seems to have great differences. Related to the geographical distribution, all domains seem aligned with the GEI index, as shown in Figure 13.

- Figure 15: For each specific domain, the pattern of the gender gap is aligned with the one shown in Figure 13 with a few exceptions, such as the Knowledge domain for FI, which presents a lower value in comparison to the rest while being located to the North of the EU. SE has the first position in all the domains out of Money, where Luxemburg (LU) stands out.

These conclusions are richer that the ones that can be inferred from the charts available in (*Gender Equality Index | 2021*, 2021); thus, we can state that, in this chapter, we have contributed to the understanding of the gender gap at the European Union.

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THE POWER OF WHO: NETWORKS, LEADERSHIP AND GENDER

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EXECUTIVE SUMMARY:

We currently live in an interconnected world where both physical and virtual relationships are increasingly important. Woolcock and Narayan summarise this fact with the following phrase: *"It is not what you know but who you know."* The personal relationships that each of us has with other people, associations, companies, groups, etc. are, after all, power, since, thanks to the presence of relationships or the absence of these, certain resources can be accessed or not. This power, of which we are sometimes not aware, is directly related to two concepts. On the one hand, there is social capital, which is a fundamental concept for understanding any development process, be it of a country, a company, an initiative, etc.; while, on the other hand, there are social networks, which are understood to be the personal relationships that people or groups share and that are directly linked to social capital.

The link between these two concepts is summarised by *García-Valdecasas* with the following statement: "*Social capital is not social networks, but without social networks there is no social capital*" – that is, social relations are the fundamental requirement to produce social capital. In addition, social capital does not have to be understood from a limited and coercive logic, but rather applies to a wide range of disciplines, making it an interdisciplinary concept. Such has been its application that it has come to be known in the Anglo-Saxon academy with the concept of *bushfire*. That is why the concept of social capital and, therefore, social networks, has been applied to disciplines such as: education, the industrial sector, rural development processes, sociology, public policies, etc., hence the need to know, understand and apply it.

The importance of Social Network Analysis (SNA) and knowing the stock of social capital has been growing. That is why it is important to know more about both concepts: Why, how and when are they used? How do they affect me? How important are the summer campuses for me and my initiative? How do these relate to me? All these questions are key, and it is necessary to answer them through this chapter and in the course "Power networks and gender leadership". The objective of this course will be to analyse the personal relationships that you have forged from the first to the third summer campus. For this, it is essential that you know the concepts, methodology and software necessary to see the results and interpretat them.

The applicability and importance of these analyses is fundamental both for the current study of personal relationships and for the future since it allows analysing and identifying positive and negative aspects. In this way, understanding the strong and weak points of rather certain initiatives is a key factor in being able to identify the weak points and work to change them and consolidate actions for improvement to ensure success.

Keywords: Relationships; Social Capital; Networks; People; Gender.

1. Why is this topic important?

Social capital and social networks are two interrelated concepts that are of great importance to the individuals or groups that possess them. Above all, highlights the potential that it gives them and that, thanks to it, a set of opportunities and/or access to it is opened in an easier way. However, if we do not have these relationships, this potential disappears, which makes it difficult to access the intended objective; this occurs when we find ourselves before an isolated individual or group or with relationships that are not very relevant. Therefore, the way in which we relate to other people or groups is what contributes directly to social capital; that is, the essence of social capital is the capacity it confers – an ability to obtain benefits from the use of social networks (Flores and Rello, 2001).

Membership and participation in social networks are what allows social capital to be produced, grow and flow. However, the simple fact of being present in the social network does not mean that the individual or group has social capital (Lin, 2001; Herreros, 2002). The social network is not only the actors present in it: its existence and reason for being are basedon the relationships that the actors have as their origin and destination and, in turn, these relationships explain the role they play in the network. García-Valdecasas explains that:

> *"Subjects cannot access said social capital resources if they do not participate in some way in social networks. Thus, an isolated individual, who does not participate in any social network, will not be able to enjoy the resources of social capital" (2011:137).*

To explain the importance of social networks, it is necessary to highlight a quote from Woolcock and Narayan: *"It is not what you know, but who you know"* (2000: 1). In this quote, it is made clear the importance of networks of relationships and knowledge to be able to access or solve any problem. Therefore, Lin (2001) explains that social networks are the heart of social capital structures; therefore, social capital implies an investment in social networks (Lin, 2001; Pena and Sánchez, 2017). In addition, social networks are one of the two most used methods to quantify and analyse social capital, together with the set of norms, trust and partnership (Requena, 2008). For Burt (2000), the analysis of social capital based on the methodology of social networks is one of the most widely used, stable and reliable analysis models.

Why is Social Capital important? What benefits can it bring?

Social capital allows access to resources from which effects or benefits can be derived, but as Coleman explained in the first place and, later, other authors such as Woolcock and Narayan (2000), social capital is a double-edged sword, as it can contribute positive effects, but also negative ones. This idea is also defended by other authors such as Putnam, Fukuyama or Portes. Through social capital and its relationships, positive aspects can be derived, such as access to certain resources, information or aspects that would be impossible or much more expensive without it. Other positive aspects are also derived, such as social control or a support/help network (Granovetter, 1974; Bourdieu, 1986; Coleman, 1988; Portes, 1998). Numerous studies have shown the positive effect derived from social capital, such as greater educational, democratic, social, economic development, etc. (OECD, 2007).

Despite these positive elements, some authors have highlighted the double edge or the dark side (downside) of social capital (Landolt and Portes, 1996; Portes, 1998; Durston, 2000; Putnam, 2000; Falk and Kilpatrick, 2000). These contributions have enriched the debate on social capital (López-Fernández et al., 2007). Among all these authors, 5 ways have been identified in which social capital can lead to negative aspects:

- Social capital can discourage individual initiative (Landolt and Portes, 1996; and 1998; Woolcock, 1998).

- Social capital can exclude and marginalise people and groups (Portes, 1998).

- Social capital can restrict freedom according to Putnam (2000).

- Social capital can be derived from negative organisations or associations, such as patronage networks, criminal associations or, as Putnam identifies in Italy, the mafia. This is possible, since, in an association or network the individuals give up part of the control, which can be used to divert them towards negative ends (Landolt and Portes, 1996; Portes, 1998; Putnam, 2000; Durston, 2000; Requena, 2008).

- Social capital can foster rivalry and conflict between individuals and/or groups, which can destroy trust and cooperation within a network (Portes, 1998 and Durston, 2000). For example, the private interest may prevail against the interest of society or the network.

In short, each one of us with the relationships that we build, maintain, or eliminate are contributing to decreasing or increasing the stock of social capital. This, affects our current or future decisions, either directly or indirectly, since depending on these we can achieve the objective that we set ourselves in an easier or more difficult way, regardless of the objective, discipline, field or location.

2. State of affairs

2.1. Origin and typology of social capital

The concept of social capital dates to the first decades of the 20th century, although the clearest precursor is by Hanifan in 1916; both its content and form have a long history of authors and contributions. For this reason, finding a definition that is shared and accepted by several disciplines and authors is very complex. The concept has been widely defined without a multidisciplinary perspective, which has given rise to a wide melting pot of definitions, depending on the disciplines that have addressed it (Pisani et al., 2017). Consequently, currently, it has become an ambiguous, polysemic, imprecise, broad, and difficult to define and measure concept, as highlighted by reviewing part of the literature on the subject.

Social capital is characterised by three principles, which differentiate it from other capitals: social capital is a productive good, that is, it generates positive or negative results and from which a return can be expected; it is produced, that is, both time and effort must be invested in it, and that investment is necessary for it to continue to be productive; and, finally, it is durable; it cannot be depreciated; it is not consumed in a single use; the social capital grows and the more it is used,

the more productive it is, although it can be destroyed. In short, the main component of social capital is social networks and the greater the number, quality and usage, the greater the stock of social capital, but its disuse or misuse can cause its destruction and disappearance.

Among the great contributions made by the different authors, it is necessary to highlight those of Bourdieu, Coleman and Putnam, considered the fathers of social capital. Bourdieu was the first author to define and characterise the importance of the modern concept of social capital, which he defined as follows:

> *"Social Capital is made up of all the potential or current resources associated with the possession of a lasting network of more or less institutionalized relations of mutual knowledge and recognition […] The volume of social capital possessed by an individual will depend on both the extension of the network of connections that he can effectively mobilize, as well as on the volume of capital [...] possessed by those with whom he is related"* (1986:51).

This definition is aligned with the structuralist conception of social capital. This is derived from the field of sociology and economics, where both define social capital by its structural nature; that is, they conceive it as an aspect within the structure of social relations (Coleman, 1988). It is derived from membership and/or participation in social networks. This concept, which highlights the relational character, is defended by authors such as Bourdieu, Coleman, Granovetter, Lin, Burt, Portes, Woolcock or Narayan. All of them highlight the importance of social networks for the formation of social capital. From this perception, the set of relationships, which an individual or a group maintains, allow them to access a set of resources, information, norms, etc. that without these relationships they would not be able to access, or it would entail a greater cost/effort (Putnam and Goss, 2003a and 2003b).

Depending on the conception of social capital defended, it will be made up of a certain series of components or others. The main components are: networks, trust, reciprocity, associationism, norms, rules, sanctions, values and cooperation. In addition, social capital can take different forms depending on whether it is understood as an individual or collective attribute:

- Individual social capital: manifested from the set of relationships that an individual has through trust and reciprocity.
- Collective or community social capital: found in institutions where cooperation and management predominate. This social capital does not reside in individual or personal networks; communities are much more than networks.

Depending on the type of relationships that are taking place between individuals and groups, social capital can manifest itself in various ways: formal or informal, public or private, and strong or weak.

- Social capital is formal when it derives from networks that are supported by organisations or associations (public or private) that are formally organised (directors, quotas, regulations, etc.), such as an association of parents, employers, unions, etc. (Coleman, 1988; Putnam, 2000). In contrast, social capital is informal when it is based on networks established by subjects spontaneously and directly without the intervention of any organisation or legal basis. For Putnam (2000) and Durston (2000), the latter can be more

useful to achieve better or more valuable objectives since they can have more stability and can complement the formal ones.

− For some authors, social capital is understood as a public good, so it cannot be created in the private sphere or organisations. Herrero and De Francisco (2001) identify an important role for the state in the creation of social capital, although Fukuyama (2001) questions this and restricts it to education provided by the state. For Fukuyama, social capital can be created by private agents, since if a certain goal is to be achieved, cooperation between people or public and private organisations is necessary.

− Strong ties are those that are defined by being very frequent and with close contacts, as is the case with family or friends. For Putnam (2000), these strong links have a high density of ins and outs and ramifications. In contrast, weak ties are those that are defined as being very infrequent and with which few common contacts are shared (Granovetter, 1973). For Putnam (2000), this weak social capital would be made up of very tenuous, almost invisible ties. However, Granovetter (1973) argues that weak links are more important than strong ones when it comes to finding work, uniting society or creating norms of reciprocity. These less frequent contacts can offer access to "new" information that friends and family do not have.

The link between social capital and social networks is clear, but depending on the type of networks that are present, three types of social capital can be also differentiated: Bonding, Bridging and Linking (Figure 1):

− Social capital of cohesion or bonding: this type of social capital is based on relationships between individuals with similar characteristics or who belong to the same group, organisation or territory (Lozares et al., 2011; Esparcia et al., 2016); that is, internal relationships between people of the same status predominate, so horizontal relationships and networks develop. Closed groups, organisations or territories with a high density of bonding capital are characterised by their high interconnection, trust, facilitating rules and sanctions, mutual support and great cohesion, which ultimately characterise networks. In addition, the empowerment and leadership of people and organisations are derived from this social capital. These are essential elements for the temporary maintenance of social capital and facilitate community resources (Lozares et al., 2011).

− Social capital that builds bridges or bridging: this type of social capital is based on relationships between individuals or groups that are distant from each other both physically and with different characteristics and/or belonging to other groups (Esparcia et al., 2016); that is, external relations predominate (Lozares et al., 2011). These relationships are not as strong as the bonding ones, since they have ceased to occur within a group or territory, so "weak" relationships predominate, but they are a source that allows and/or facilitates the exchange of information, innovation, rules, alliances, etc. Therefore, they are more varied, but with less confidence. However, for Lozares et al. (2011) in this type of social capital, relationships are framed within frameworks of competitiveness between groups rather than cohesion and cooperation.

− Social capital of links or linking: this social capital is very similar to bridging social capital, since external and weak relationships predominate. The main difference of linking social

capital is that among its relationships or links there is a hierarchical component/link with formal institutions (Woolcock, 2000; Pisiani and Fraceschetti, 2011; Esparcia et al., 2016). Two levels can be identified: at the level of organisations, institutional, social, and economic relations would be present, such as, for example, relations with women's associations, the commonwealth, or the regional government, while, if we refer to the level of individual actors, it is associated with links between people with high levels of prestige or power (Esparcia et al., 2016).
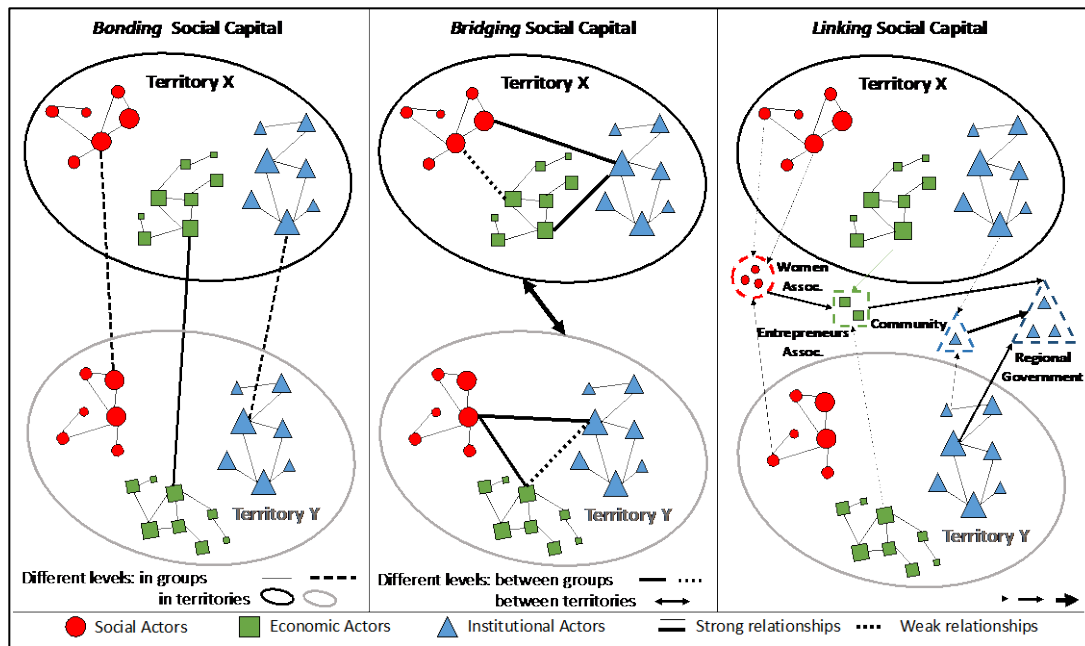

Figure 1. Different typologies of social capital according to the type of social relations. Source: Serrano, 2018:250.

The truth is that the total closure of relationships, as established in social capital bonding, is not entirely realistic, since within an organisation or network there is always some type of bridge or external link that can provide more information without needing to be a strong bond. In addition, within social capital, bridging and linking is where you have access to more complete, innovative, and rich sources of information, so the control of these information flows can develop prestigious[4] positions and power within a collective, territory or network. In addition, bridging and linking social capital are often used together, as opposed to bonding social capital, since the first two are based on external relations, as opposed to bonding, which are internal relations.

2.2. Social networks: elements, analysis and representation

There is a consensus among the authors who catalogue social networks that they are the

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[4] Prestige, also understood as seriousness, experience, resources, position, etc. can be present in a specific organisation and also in a particular group or individual (Luna and Velasco, 2005). The networks and the position of the actors in the networks are not equally accessible to all members of the community, since the participation and interest is different in each one (Lee et al., 2005; Shortall, 2008).

fundamental element for the production, growth and evolution of social capital. This connection is clearly exemplified in the statement by García-Valdecasas: *"social capital is not social networks, but without social networks there is no social capital"* (2011:133).

Membership and participation in social networks are what allows social capital to occur, grow and flow. However, the simple fact of being present in the social network does not mean that this individual or group has social capital. The social network is not only the actors present in it,; the existence and reason for being of the social network is based precisely on the relationships that the actors have as their origin and destination and, in turn, these relationships explain the role they play in the network. García-Valdecasas explains that:

> *"Subjects cannot access said social capital resources if they do not participate in some way in social networks. Thus, an isolated individual, who does not participate in any social network, will not be able to enjoy the resources of social capital" (2011:137).*

The concept of a social network has been a growing term during the last decade in different disciplines (Requena, 1991); for this reason, there are many definitions of social networks. Lozares' states: "*Social networks can be defined as a well-defined set of actors – individuals, groups, organizations, communities, global societies, etc. – linked to each other through a relationship or a set of relationships"* (1996:108). Although, as Requena (1991) points out, this is a more or less invisible structure but at the same time it is real, since it represents actions, relationships and flows of a society, group, population, company, etc. A network is made up of three elements: node, link, and flow.

– Node or vertex: refers to the subject, individual or group of people with a common goal; they can act as transmitters or receivers of relationships. The sum of all nodes represents the size of the network.

– Link: a tie or relationship that exists between two nodes. It is a unit of analysis in social networks and can be of various types. In addition, they serve as communication channels.

– Flow: indicates the direction of the link. Two types can be differentiated: a directed or unidirectional flow; or mutual, symmetrical, or bidirectional flows (Velázquez and Aguilar, 2005; Kadushin, 2013). The node that does not have any type of link with another is said to be loose within the network (Velázquez and Aguilar, 2005).
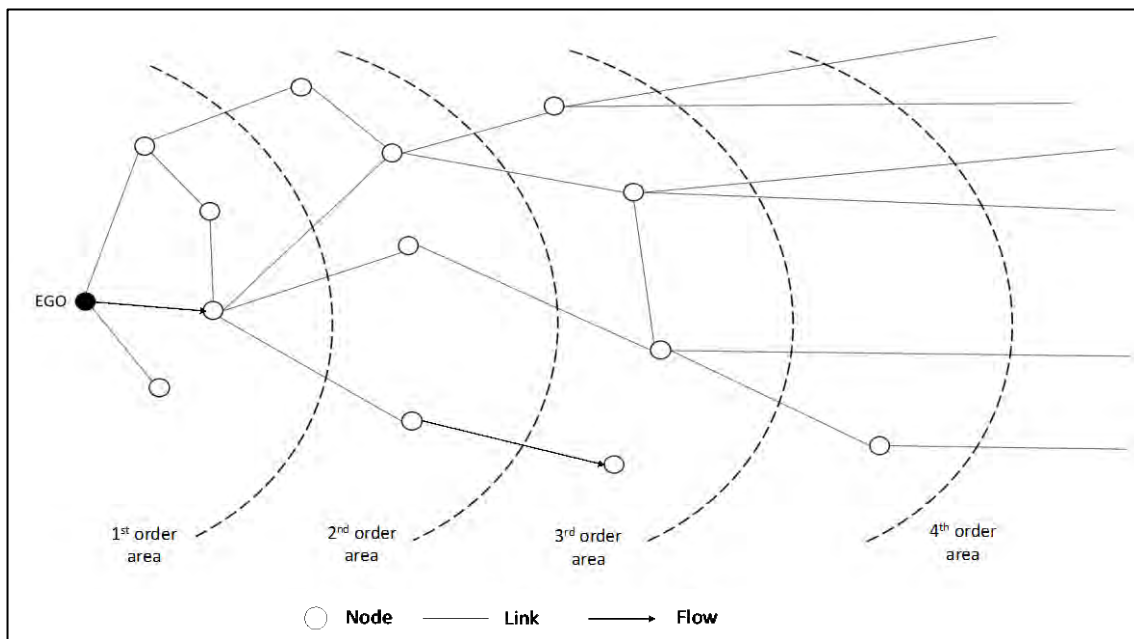
Figure 2. Example of network and network elements. Source: Requena, 1996: 12.

All these concepts found within the networks can be represented through a diagram known as a graph or sociogram (Kadushin, 2013). These tools arise from graph theory, which has been essential in providing useful representation, visualisation and concepts for the study and analysis of social networks. The graph is the representation of a social network at a specific moment (García-Valdecasas, 2011).

The study of social networks as an important component of social capital must be carried out through the methodological approach of Social Network Analysis (SNA). This is a formal method used to measure social networks through a set of instruments and techniques to study the social behaviours of individuals through specific relationships between people, groups, associations, etc.

As explained, the methodological approach of Social Network Analysis (SNA) is used to analyse the networks of relationships of the actors, which allows us to assess the stock of available social capital. Once the matrices and attributes are available, they are processed with the ARS UCINET software. The visualisation is carried out with the Netdraw module, integrated in the same UCINET package (Rodríguez and Mérida, 2008). The selected indicators were divided into four groups. The first group included indicators of properties of the network, such as density. The second featured indicators of network cohesion, including distance. The third consisted of indicators of centrality, in which the following aspects are included: in-degree and out-degree, in-closeness and out-closeness, betweenness, flow betweenness, and eigenvector. Finally, the fourth included those in which the indicator of reciprocity of the relations (Table 1).

Tipology	Indicators			Definition	Measuring	Values		
						Low	Medium	High
Network property	Density			Indicates the number of existing relationships over the possible ones, that is, it is related to the nearness	Percentage	< 7 %	7 % – 18 %	> 18 %
Cohesion	Distance			It refers to the number of axes needed to reach a certain actor in the network	Number of average axis in the network	< 2	2 – 3	> 3
Centrality	Degree	Degree IN		Indicates the number of direct links that an actor receives from another one. It's linked with prestige.	Percentage	< 28 %	28 % – 61 %	> 61 %
		Degree OUT		Indicates the number of direct links an actor sends to another actor/node (information exchange)	Percentage	< 12 %	12 % – 24 %	> 24 %
	Closeness	Closeness IN		It is the ability of a node to reach all the actors in the network. A high proximity indicates a high proximity to central or powerful actors in the network. The input and output relationships are differentiated.	Number of axis in the network	< 14	14 – 37	> 37
		Closeness OUT			Number of axis in the network	< 7 %	7 – 19	> 19
	Betweenness			Indicates the frequency which a node apperars with in the shortest or geodesic section that connects two others (it shows the intermediaries or bridge people)	Percentage	< 12 %	12 % – 20 %	> 20 %
	Flow betweenness			It shows the position of intermediation that each actor occupies in all the types of acts or communications that he/she maintains with other actors, but presupposes that all the paths are used, not only the geodesics	Percentage	< 7 %	7 % – 13 %	> 13 %
	Eigenvector			The most central actors are identified and, therefore, more popular within the general structure of the network (Notoriety indicator)	Percentage	< 31 %	31 % – 47 %	> 47 %
	Reciprocity			It refers to the number of relationships that are symmetric between two actors	Percentage	< 20 %	20 % – 26 %	> 26 %
Brokerage				Indicates the capacity to bridge and build bridges that have different groups or subgroups. The results do not indicate a great strategic capacity and power.	-	-	-	-
E-I Index				It is based on the analysis of the external (E) and internal (I) relations of substructures, that is, the flows of relationships change, which may tend towards openness or homophily	Values	–1 – 0	0	0 – 1

Table 1. Classification intervals of the selected SNA indicators. Source. Serrano, 2018: 95

3. Conclusions

Social capital and, therefore, social networks have been shown to be necessary aspects to access certain resources, news, information, etc. that would be more complicated or even almost impossible to access without them. As has been analysed, both concepts are strongly linked and feedback in a positive way, but also in a negative way. The objective of social capital is to achieve the common or network good; that is, it goes beyond individual good, although sometimes it may be misused for personal benefit.

Therefore, it is important to know how social capital is created and how we can contribute to it. In addition, it is necessary not only to maintain the creation of social capital, but also the evolution and strengthening of it, since it must be taken care of so that it continues to produce. For this to happen, we must be aware that social networks are the fundamental mechanism for the stock of social capital to increase and grow, hence the need to take care of our relationships on a day-to-day basis.

Each personal relationship that each of us has is a window that facilitates knowledge, access to a certain resource or even the discovery of new relationships. For this reason, personal relationships (networks) are linked to the concept of power, since having a set of relevant relationships can lead to access to sources of information which are not available to everyone. As a result, an individual can gain access to a great deal of information and, within each person, there is the ability to transmit that information or not. In addition, linked to the power and position of people in the network, are the concepts of leadership and prestige.

For this reason, it is important to identify and know the network of relationships that we are part of, whether in a project, company, development process, etc. It is highly recommended and relevant for two main reasons: on the one hand, to discover the strengths of the network and continue to strengthen them, and, on the other hand, identifying the weak points should lead us to reflect and be able to apply actions to improve the cohesion and connection of the different members that make up the network (stakeholders).

The analysis of the stock of social capital through the analysis of social networks has great replicability in different disciplines, be they sociology, psychology, geography, economics, engineering, tourism, etc., hence the importance of identifying, analysing and interpreting internal or external social capital. The goal is to have networks of balanced relationships between the three types of social capital (Bonding, Bridging and Linking) and where key characteristics are present, such as trust, reciprocity, partnership, etc. In this way, we can understand certain initiatives in depth in the hope of ensuring their success now and in the future.

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5.Annexes

OPEN ACCESS DOCUMENTS FOR PRE-SESSION PREPARATION:

TITLE	CONTENTS	LINK
Analysing social networks in rural development: a gender approach	• Know the role of women in rural areas linked to EU rural development programs • Identify the network of actors and their relationships • Differentiation of the time horizon to know the evolution of networks	http://archive.sciendo.com/IRSR/irsr.2016.6.issue-4/irsr-2016-0023/irsr-2016-0023.pdf
Social capital and the power of relationship: Al Condeluci	• Introduction to the subject of social capital and social networks • Real examples of the importance of social capital and social networks with disabled people	https://www.youtube.com/watch?v=qaBUV2J0ax4
Responsible Leadership, stakeholder engagement, and the emergence of social capital	• Importance of leadership and the stakeholder as key pieces in the production of social capital • Responsible leadership and business leaders	https://link.springer.com/content/pdf/10.1007/s10551-007-9510-5.pdf
Entrepreneurship ecosystems and women entrepreneurs: a social capital and network approach	• Effects of venture typology, race, ethnicity, and past venture experience on the social capital distribution of women entrepreneurs in entrepreneurial ecosystems	https://link.springer.com/content/pdf/10.1007/s11187-018-9996-5.pdf

EQUALSEU

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Departament de Geografia

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