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**The Study of Social Egg Freezing Applying
Theories of Framing and Social Domains:**

From the Communicative Treatment to the Perception

Doctoral thesis

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The study of Social Egg Freezing Applying Theories of Framing and Social Domains:

From the Communicative Treatment to the Perception

Abstract

Egg freezing is nowadays considered to be a strategy to preserve fertility, not only for medical reasons, but also as a strategy used by healthy women to deal with the threat of age-related fertility decline, by freezing a number of healthy unfertilized eggs for potential future use. The overall objective of this study is to explore the communicative treatment that fertility clinics use on their websites to offer social egg freezing treatments to women, and to explore as well how women understand and experience this phenomenon. The study sought to provide, from this perspective, an exploration of online communication strategies used by fertility clinics through their websites, as well as to provide insights into how women perceive the opportunities, obstacles and the future of their reproductive life, considering the possibilities offered by social egg freezing technology.

The thesis used framing theory (Goffman, 1974; Entman, 1993; Kahneman and Tversky, 2013a) to explore the main frames utilized by fertility clinics websites along with Layder's social domain theory (2005) to describe various dimensions of the social egg freezing phenomena experienced by Spanish women.

Consistent with this theoretical framework, the study utilized a mixed methods approach: questionnaires responded by 442 women including 23 users of egg freezing technology, semi-structured interviews with 18 users together with, a content and discourse analysis of the content of fertility clinics websites. All the above analysis has been done by using Nvivo12 software.

A marketing centered pattern has been identified for fertility clinics websites where the information aims to promote egg freezing instead of being informative. Overcome social obstacles appeared as the dominant frame in the majority of websites. Highly individually oriented frames interwoven with discourses of failure and moralizing, where women were addressed as being responsible for her possible age-related fertility decline by social obstacles. Emotive language was central in constructing the content including text, pictures, and videos, excluding the structural factors, which influence motherhood timing and choice.

Social egg freezing was constructed by our participants as insurance for their future

fertility life. The concept of motherhood was a commitment that they wanted to experience at the right time. This right time was linked to being socially and emotionally ready which was related to having an adequate partnership and stable economic situation. The absence of each of these conditions was perceived as a wrong time by participants to pursue motherhood and therefore led them to preserve their eggs for the right time.

Using theories of framing and social domain, as well as concepts of neoliberalism and consumerism the study demonstrated how women's perception about social egg freezing technology is influenced by sociological factors including individual experiences; partnership and kinship and, laboral situation and workplace.

The thesis argues that social egg freezing should not be seen as a simple choice taken by women to preserve their fertility, but as a reaction to take reproductive responsibility against future age-related fertility decline.

To my little Diana

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Thesis overview

The present doctoral thesis seeks to understand how Assisted Reproductive Technologies (ARTs) affect women's perceptions of contemporary motherhood. Situated within communication studies, this thesis explores the impact of the online communication strategies that fertility clinics use to present and offer social egg freezing treatments to women. With a qualitative methods approach, this thesis also analyses how women understand and experience this phenomenon.

The study provides, from this perspective, an exploration of online communication strategies of fertility clinics through their websites, as well as it offers insights into how women perceive the opportunities, obstacles and the future of their reproductive life considering social egg freezing technology.

This thesis consists of five chapters including, social egg freezing phenomenon, theoretical framework, methodology, analysis, and conclusions and further research suggestions. The introduction chapter provides knowledge of the background of egg freezing technology and, maternity preservation within Spanish society. The second chapter provides a detailed discussion of the theoretical framework of this study including framing and domain theory and how they have been integrated into this thesis. Following chapter describes the design and methodology of this thesis including applied methods and analytical processes and the relationship between the theoretical framework and the applied methods. The analysis chapter examines and describes the findings of this study including main frames used in the fertility clinics websites, questionnaires, and interviews analysis. The final chapter contributes a conceptual and theoretical discussion to the knowledge of social egg freezing phenomena in the context of Spanish society.

Chapter 1

Social egg freezing phenomenon

1.1 Background

This chapter provides a presentation of this thesis, including aims, objectives and its framework. It also describes the background of egg freezing technology and maternity preservation within Spanish society.

The chapter covers the current literature of oocyte freezing technology, including the cost of this procedure, its success rates, its potential benefits and its potential risks. It also presents an overview of the state of egg freezing technology in Spain, considering its providers, related scientific organizations and the Spanish legal and regulatory aspects.

Moreover, this chapter provides context related to the social egg freezing phenomena within contemporary literature. It presents a discussion of culture and society in relation to egg freezing procedures undertaken for social reasons. The final section discusses the justification of this study, its objectives and research related questions.

1.2 Maternity Preservation: Contemporary Literature of Egg Freezing Technology

Oocytes freezing is a strategy through which women can preserve some of their eggs when there is a thread of infertility caused by risks such as iatrogenic gonadotoxicity through chemotherapy or a genetic predisposition to primary ovarian insufficiency (Stoop et al., 2014; Rienzi et al., 2004; Rodriguez-Wallberg and Oktay, 2012). In 1986 the first baby was born from frozen eggs in the US and then, in 2001, a second baby in the UK was born called Emily Perry (Baldwin, 2016).

The development of this technology created a trend among healthy women to postpone motherhood for non-medical reasons. Over the last few years, Oocytes freezing has been increasingly undergone by healthy women, who wish to preserve their potential to be

reproductive. Various studies have shown that women postpone childbearing for many reasons, but mostly for education and career; lack of a partner; reproductive autonomy; anticipated age-related fertility decline, or for reasons beyond their control (Stoop et al., 2014; Rienzi et al., 2004; Baldwin, 2016; Argyle et al., 2016; Cobo et al., 2016; Inhorn et al., 2018b,a).

Baldwin 2016, in her studies, noted various terms used in the literature addressing egg freezing technology for postponing motherhood for non-medical reasons. For instance, in 2008, Goold used the term “egg freezing for lifestyle” which comes from delaying childbirth due to changes in women’s lifestyle (Savulescu and Goold, 2008). In 2011b, Martes and Pennings addressed it as “non-medical egg freezing” and “social egg freezing”, referring to use the technology for social reasons such as lack of a partner. Devine has called it “elective oocyte cryopreservation” and “elective egg freezing” due to it being an optional process for those who wish to defer childbirth for personal reasons (Mertes and Pennings, 2011b; Savulescu and Goold, 2008; Inhorn et al., 2018a; Devine et al., 2015).

In the year 2014, almost one year after removing the experimental status by ASRM (Hagan, 2012), Apple and Facebook surprised the world by announcing that they would financially support women who decided to freeze their eggs to delay maternity (Rooney, 2014). In their view, this would attract more female talent to their companies, and they would be helping women find a better balance between career and family life (Rivas, 2017).

The number of women who are postponing motherhood for social reasons has been increasing in most countries (Kneale and Joshi, 2008). A study in the US showed that in 2017, 51% of the total fertility preservation cycles that they have analyzed, were for social reasons, while this rate was 4% in 2007 (Cobo et al., 2016). Thus, it is not surprising that social egg freezing has become a favorite topic in social media, which has generated an increase in the demand for this technology (Garcia-Velasco et al., 2013).

According to the latest registration of the Spanish Society of Fertility (SEF) in 2016, there are 307 fertility clinics, 110 of which offer egg freezing treatment for social reasons. This number has been increasing since 2012, when there were 139 clinics, including 35 with the social egg freezing services (SEF, 2017). Also, the number of healthy women who are hoping to preserve their potential to reproduce by undergoing this procedure has been increasing (Inhorn et al., 2018a; Schon et al., 2017; Potdar et al., 2014). There is an increase of 261% per year for women who are using this technique (Lidón, 2018).

However, this procedure is not affordable for many people. The cost of one cycle of egg freezing in Spain is around €3000. Also, the cost of storing eggs is around €200 per year. This price does not include the cost of medication to stimulate the ovaries since

the dosage level changes based on a woman's reproductive health status determined by the physicians. The cost of the necessary tests to start the process of egg-freezing also excluded. Further, the necessity of repeating the entire process of stimulating the ovaries and collecting eggs is possible in case of collecting too few eggs in the first round. (Mertes and Pennings, 2011a).

When a woman decides to use her frozen eggs, the eggs are thawed and then fertilized through either ICSI (Intracytoplasmic sperm injection) or IVF (In-vitro fertilization). The embryo is then implanted in the woman's uterus. Fertilization and implantation together cost a minimum €3500. Lastly, there may be additional costs if donor sperm or donor eggs are used (in the case of failure of one's own eggs).

Like the most health care systems in other countries, the National Health System of Spain (SNS) does not cover the costs of egg freezing, and individuals have to pay for it from their pocket. However, the decision to cover or not to cover the costs of egg freezing is made by each of Spain's autonomous communities. Most of these health care systems cover the cost of preserving fertility only if there is a medical justification, such as undergoing chemotherapy treatment. Hence, women who have no medical justification for preserving their fertility often have to resort to private clinics.

Some other countries offer some free of charge planes, or at a discounted rate for social egg freezing procedure. These plans are proposed mainly by the private health care system. For example, United Kingdom offers a 'freeze and share' plan which allows women to freeze their eggs for free and then donate half to other women, men, or couples who are looking for donated eggs (Baldwin, 2016). However, women who want to participate in the plan must be younger than 35 years old and have an acceptable level of Follicle-stimulating hormone (FSH), both of which increase the likelihood of her ending up with a sufficient number of good-quality eggs for her to keep and to donate, in just one cycle (Donnez and Dolmans, 2013). In the United States, some insurance plans cover the procedure, along with some employers who pay for some or all of the costs of egg freezing for their employees (Starza, 2014).

In Spain, most private clinics offer a promotion for women younger than 30 years old, in which the price of the procedure is heavily discounted, starting at €1000 per cycle. These promotions have various titles: the URH García del Real fertility clinic promotion called it the "young eggs vitrification plan" and the Quiron hospital address it as the "young egg freezing tariff" (as listed on their websites: <https://www.quironsalud.es/hospital-barcelona/es/promociones/tarifa-joven-congelacion-ovulos>; <https://vitrificaciondeovulos.info/>). In some of them, the promotion applies to the second cycle of treatment to get more eggs.

A minority of women have access to discounts provided by their employers, such as a 10% discount on fertility treatment at the Valencian Institute of Infertility (IVI), which is provided by the Club of the First Brands of the Valencian Community (Lidón, 2018).

1.2.1 Oocytes cryopreservation success rate

While to some extent egg freezing has been successful, it is still difficult to quantify success rates (von Wolff et al., 2015). Many factors contribute to success, including the age of the eggs at the time of freezing and the age of the woman at the time of pregnancy. The younger the woman and her eggs are, the higher the likelihood of success. The number of eggs collected in each cycle is another factor that affects the success rate, along with the clinic's and the physician's level of skill (von Wolff et al., 2015). All of these factors and others make it difficult to develop a standardized protocol for determining a facility's egg-freezing success rate, making it impossible to compare success rates between centers (Wang et al., 2013; Argyle et al., 2016; De Munck et al., 2016).

According to Wolff, women younger than 35 years old have a 40 % chance of child-bearing, while women 35 to 39 years of age have a 30 % chance (von Wolff et al., 2015). A 2016 report from the Human Fertilization and Embryology Authority (HFEA) indicates that the highest birth rates were 20 % in cycles in which frozen eggs of women less than 35 years old were used. The rate is 17 % for eggs from women 35-37 years old, 11 % for eggs from women 38-40 years old, and 5 % for eggs from women aged 40-42. This shows that the age of the woman at the time of egg freezing is the most significant factor contributing to the success rate. Older women need more oocytes relative to younger women, to have the same outcomes as younger women because the gain per oocyte is significantly lower for older women. The results also show a general birth rate in 2016 of 22 % for frozen eggs, which is a notable increase since 1991, when the birth rate was only 6 % (HFEA, 2018). The latest report of the Spanish Fertility Society Registration corresponding to the 22 % birth rate shows a 19 % success rate for devitrification and 29 % success rate for transfer (SEF, 2015b).

Despite the low success rate, the American Society for Reproductive Medicine (ASRM) removed the experimental status of egg freezing in 2012 (Cobo et al., 2008, 2010; Parmegiani et al., 2011; Rienzi et al., 2009). ASRM and the Society for Assisted Reproductive Medicine state in *Mature Oocyte Cryopreservation: A Guideline 2012* reports:

There is good evidence that fertilization and pregnancy rates are similar to IVF/ICSI with fresh oocytes when vitrified/warmed oocytes are used as part of IVF/ICSI for young women. Although data are limited, no increase in

chromosomal abnormalities, birth defects, and developmental deficits has been reported in the offspring born from cryopreserved oocytes when compared to pregnancies from conventional IVF/ICSI and the general population. Evidence indicates that oocyte vitrification and warming should no longer be considered experimental.

(Practice Committee of the ASRM and Practice Committee of SART, 2013:1)

However, the Society does not encourage egg freezing for “social reasons” due to lack of enough long-term data about babies born to women using eggs frozen when they are older than 35 years old. They state:

There are not yet sufficient data to recommend oocyte cryopreservation for the sole purpose of circumventing reproductive aging in healthy women because there are no data to support the safety, efficacy, ethics, emotional risks, and cost-effectiveness of oocyte cryopreservation for this indication.

(Practice Committee of the ASRM and Practice Committee of SART, 2013:5).

Similar to British Fertility Society (BFS) and the Association of Clinical Embryologists (ACE) who noted, egg freezing “should not be portrayed as a means to counteract age-related fertility decline” (Cutting et al., 2009), and the Spanish fertility society who noted that the preservation of fertility is therefore always carried out with a medical indication (The original quote is as follow).

(Originally in Spanish: La preservación de la fertilidad se realiza, por tanto, siempre, con indicación médica.

Legalizacion y Normativas de La sociedad espanyola de la fertilidad (SEF, 2015a)).

The Society confirms that this technique should not be offered when it is only at the patient’s request for deferred use. In this, despite not being recommended by Spanish fertility society, egg freezing for social reasons is available in Spain for women who can afford the procedure, and the number of clinics (SEF, 2017) offering the procedure and number of women making use of this technology has grown (HFEA, 2018).

Because women’s fertility decreases after the age of 35, the maximal age for egg freezing is 30 (ASRM, 2013). According to Mesen, the age at which fertility decreases can be before 35 (Mesen et al., 2015). The average chance of pregnancy for one healthy egg is 10-12% (Rienzi et al., 2009). Therefore, freezing 10-12 mature young eggs can provide a

good chance for pregnancy (Brezina et al., 2015). Other studies suggest that a minimum number of 15-20 frozen eggs is needed for a good result for women in their late 40s (Donnez and Dolmans, 2013; Lockwood and Johnson, 2015). To collect this number of oocytes, multiple IVF stimulation cycles might be required for some women. However, obtaining this number of eggs is common in young women. That means oocyte cryopreservation cannot guarantee the future fertility of women yet (Brezina et al., 2015).

1.2.2 Risks and benefits of social egg freezing

Many studies argue the benefits and risks of social egg freezing. The fertility clinics which offer this procedure purport the benefits of this technology (Petropanagos et al., 2015). These main benefits are related to women having more time to be fertile if they are not ready yet to be a mother (e.g., Instituto Valenciano de Infertilidad (IVI): <https://ivi.es/>; Clinica Eva: <https://www.evafertilityclinics.es/>).

Commonly, the term “readiness” in this context is linked to not being ready emotionally or for social reasons including professional career, stable economic position, secure accommodation, being ready psychologically to become a mother and finding a partner with who want to have a baby (Baldwin, 2016).

Studies discuss the benefits of social egg freezing from both a social and medical perspective. The main focuses of social benefits are: providing more time to find the right partner; having more time to progress in education and labor market; to be emotionally and psychologically ready to become a mother (Harwood, 2009; Petropanagos et al., 2015; Rybak and Lieman, 2009; Goold and Savulescu, 2009). The possibility of having a comparable time of reproductive aging as men have is also another potential benefit that this technology can provide (Rybak and Lieman, 2009).

It has been suggested that egg freezing technology has the potential to provide the mother with a chance of having a genetic relationship with her child (Dondorp and De Wert, 2009; Goold and Savulescu, 2009). Furthermore, using this technology minimizes the risk of genetic abnormalities and fetal loss and aneuploidies occurring in children born to older mothers (Goold and Savulescu, 2009; Homburg et al., 2009). If women use this technology before the decline in their egg quality (before the age of 35), then egg freezing also provides greater possibilities of pregnancy compared to IVF treatment in older subjects (Sauer et al., 1992).

However, apart from all these advantages, various medical, social and ethical disadvantages have been discussed in the related studies.

The case of the woman who died after ovarian hyperstimulation is the most extreme

example of the risks of the procedure. This case was reported in the 13th Report of the European Society of Human Reproduction and Embryology (ESHRE). Other authors have reported other risks such as thromboembolic problems (Hansen et al., 2008), an increase in some types of cancer, such as skin tumors, breast cancer (Stewart et al., 2012) melanoma and ovarian cancer (Yli-Kuha et al., 2012) in young women who receive more than four cycles of stimulation (Brinton et al., 2013).

Also, using this technology has been criticized on the grounds of higher risks associated with childbearing in older ages to the mothers and babies, and the adverse side effects (Aznar and Tudela, 2015) such as spontaneous miscarriages, hypertensive complications, and death of the fetus before birth (Heffner, 2004). The percentage of spontaneous abortions rise with the age of mother, and it is up to 51% in those from 40 to 44, and above 45 years, these percentages can reach 93% (Heffner, 2004).

According to Aznar and Tudela, another study explains that women aged 45 and more have higher mortality, risk of needing transfusions, the prevalence of heart disease, pulmonary thromboembolism, deep vein thrombosis, acute renal failure, cesarean section, gestational diabetes, fetal death and placenta previa (Aznar and Tudela, 2015; Grotegut et al., 2014). Also, the risk of low birth weight of the child or prematurity and hypertensive problems increase in older mothers (Paulson et al., 2002; Salihu et al., 2003; Kalra and Barnhart, 2011).

Another negative side is using the older sperm of the male partner in the time of fertilizing the frozen eggs of women. Paternal age increases the risk of autosomal dominant diseases, such as chondromalacia and Marfan syndrome (Heffner, 2004). Therefore, attempts of having a healthy child when the age of the father is 45 or over, can produce complications when women make use of their frozen eggs, having those been previously preserved to delay their maternity.

In extension to the stated medical risks associated with this process, social and ethical implications have been argued in other studies including issues related to the emotional well being of children born to older mothers, such as problems of coexistence and also related to the education of children when mothers are older (Levine et al., 2007). Additionally, this process, from a feminist perspective, has been criticized regarding women's reproductive freedom. It is discussed whether this technology expands or limit their reproductive freedom (Harwood, 2009).

The supporters of this technology have praised its advantages as a feminist breakthrough. That is because it allows women to fulfill their desire for career and employment, women postpone motherhood until they settle down in their careers, finances, and stable

relationships (Goold and Savulescu, 2009). However, other authors believe that this postponement is a concession of women to the labor market (Mertes and Pennings, 2011b). In their opinion, egg freezing technology is not entirely voluntary, since there are issues associated which are beyond the control of women (Smajdor, 2009).

In general, there are concerns about the social consequences of egg freezing, about how it could eliminate the key motivations and intentions that are behind the growth and use of this technology (Petropanagos, 2010). The established vocabulary associated with this procedure has been criticized, regarding its ambiguity and ambiguous nature, which could mislead the individuals (Petropanagos, 2010). Other authors suggested that this technology can be seen as false hope, stop-gap measure, a contestable form of wishful medicine or expensive confidence trick, and they discussed those labels in terms of their legality and morality (Harwood, 2009; Jones, 2009; Schermers, 2009; Mohapatra, 2014).

Mohapatra 2014 argued that the law must disclose the risks that exist for the individual, in order to avoid the negative implications that could derive from the lack of disclosure. She discusses the possibility of a conflict of interest in which the clinics and doctors have a financial interest which means that increasing the number of healthy women who undergo egg freezing procedures becomes a benefit for them. Also, this conflict of interest might not be evident to these women. However, this context may be harmful to women who are dealing with this process. Beyond the risk of physical harm, there are other kinds of risks involved in these procedures, such as the consequences of giving false hopes, given that the success rate of this procedure is still small. As Harwood 2009 stated, “Unrealistic expectations, fueled by inadequate knowledge, create vulnerability”.

Furthermore, Harwood 2009 suggests, egg freezing technology not only does not help gender equality between men and women but also generates another kind of inequality, this time among women themselves. Since this technology is not an affordable process for all women, it can not be considered a solution for gender equality. As Collins 2002 has stated, technology cannot solve social problems because of its expensive nature, which prevents it from being affordable for most of the population.

Several studies also criticize the use of technology concerning the process of creating a family, and they discuss the negative social consequences derived from trusting on this technology to postpone family making (Baylis, 2014). The most likely consequences of that trust would be a society full of disappointed women who lost their chance of making a family.

The use of this technology for social reason emerged because of significant social changes at the level of the family and society. In the last decades, women’s lifestyle

has changed, and the number of children born has been steadily decreasing, while the age of the first birth has done the opposite, gradually increasing. To understand this context in more depth, this chapter proceed to discuss, through relevant literature, some of the reasons that can impact these social changes.

1.3 Social Changes: Substantial Lifestyle Changes

According to Mitchinson 1993 until the 70s the maximum age for women to become a mother was her twenties (Mitchinson, 1993). By 1970, those who intended to make professional careers might have started having children around thirty years old, which was the last chance to try for motherhood. However, the number of women who delayed motherhood was a small proportion of the population. With increasing knowledge about women's reproduction and fertility, more women delayed their motherhood. This increasing number made that childbearing in advanced ages (30 years old and over) socially accepted and better understood by the general public (Frank et al., 1994; MacNab et al., 1997; Menken, 1985).

The increase in awareness and social acceptance about fertility generated a greater acceptance of childbearing among older women. As a consequence, it became a considerable possibility for women to meet social expectations to become mothers while they were approaching their professional and educational goals. In many countries, the number of women who defer childbearing to their thirties is rising (Bosveld and Kuijsten, 1995; De Wit and Rajulton, 1992; Grindstaff et al., 1989; Jones, 2009; Rajulton et al., 1990; Rindfuss et al., 1988). Therefore, increased labour force participation and higher educational attainment in women is deemed the determinants of this shift (e.g.,(Casterline et al., 1996; Davis et al., 1986; Presser, 1999; Oppenheimer, 1994; Rindfuss et al., 1988).

As stated by Tough, 2002, the shift in gender roles turned women to delay the time of childbearing. Tough argued the influencing factors include population aging, the pursuit of advanced education, the expanded role of women in the workplace, contraceptive advances and, infertility. Other studies assert further reasons such as the regularisation of leaving with a partner before marriage, and the normalization of separation in marriages, relationships (Mills et al., 2011), economic uncertainty, financial issues and, market instability (Adsera, 2011).

1.3.1 Misleading narratives: Age increasing and defer childbearing

In Spain, the age of first birth is raising like many other countries in the world in recent years (Rivas, 2017; Kreyenfeld, 2009; Perelli-Harris et al., 2010). The mean age of women at first birth in 1985 was 25 years old. This age increased to 29 in 1995 and to 32 years

old in 2016 (Eurostat, 2018). Even though the number of women giving birth has been decreasing since 1985, the fertility rate for women over 30 years old has been increasing while this rate has been decreasing for women less than 30 years old (Eurostat, 2018). As shown in table 1.1, comparing the fertility rate in 1985 and 2016, there is a decline of 430% and 186% for age groups of 20-24 and 25-29. On the contrary, this rate has been growing for older age groups of 30-34 (336%); 34-39 (625%); 40-44 and 45-49 (600%). This statistics shows a displacement in the age in which women plan to have children, changing it at a range of age in which fertility declines.

Table 1.1: Mean age of women at childbirth and at birth of first child in Spain

Year	1985	1995	2010	2017
Age	25	29	30	32

Source: An own elaboration based on Eurostat

Overall there is a significant shift in the age of maternity. Studies have indicated that the two main causes of this change are the rising participation of women in the labor force and the increase in women’s education. There is a significant increase in women compromise with labor activity and education in the last decades. According to the International Labor Organization, this rate grew from 26.1% in 1991 to 42.2% in 2017. Most of the rise in women’s labor activity rates correspond to the 30-39 age group, whose activity rate rose over 60 points, going from 30% in 1981 to 84.1% in 2017. Table 1.2 shows the Women’s labour force in 1981 and 2017 in Spain(world bank, 2018).

Table 1.2: Women’s labor force in 1981 and 2017 (Spain)

Year/Age	20-24	25-29	30-34	35-39	40-44	44-49	49-50
1981	55.4	42.9	31.3	28.7	27.9	28.4	25.2
2017	53.1	83.1	84.2	85.6	85.1	80.4	74.2

Source: An own elaboration derived from Labour force by sex and age table by The world bank (2018)

According to Organisation for Economic Co-operation and Development, the education scale of women in Spain has also increased in last decades especially for the 35-44 age group, going from 60% in 1981 to 90% in 2017 (see table 1.3) (OECD, 2018).

Table 1.3: Women’s participation in education (Spain)

Year/Age	25-34	35-44	45-59	60-64
1981	73.2	60	53	41
2017	87	90	85	65

Source: An own elaboration derived from “Adult education level” table derived from OECD library

The trend of motherhood in later age has happened because of political, social and clinical concern, considering that women reproductive life is limited (Bewley et al., 2005; Templeton, 2006; Hansen et al., 2008). However, the age of a woman is argued as the only important factor of women's fertility (Balasch, 2010).

The decline in a woman's fertility rate in her early 30s is more gradually compared to women in her late 30s. Researches have shown the threat of some potential risks of pregnancy in older ages, among them the possibility of miscarriage is the most likely to happen (Heffner, 2004; Balasch and Gratacós, 2012). The other potential complications for later pregnancy are gestational diabetes, placenta praevia, placental abruption, emergency cesarean section, chronic hypertension, pre-eclampsia, and post-partum hemorrhage (Baldwin, 2016).

Studies have shown that more than five million babies have been born worldwide using assisted reproductive technologies (ARTs) (Bauquis, 2012). However, the success rates of IVF for older ages are meager, for example, 40 years old women have a 13% success rate. In many studies the benefits of in vitro fertilization (IVF) for age-related infertility has been noted (Daniluk and Koert, 2013; Mac Dougall et al., 2012) while in the others this success rate is not enough good to solve the age-related fertility problem (Leridon, 2004; Alviggi et al., 2009; Balasch, 2010).

Researches suggest that one of the reasons for age-related fertility decline is that women are not entirely aware of the age limit of reproductive system (Mac Dougall et al., 2012). Studies have shown that many women are not mindful of the extent of this decline or its exact start point (Wyndham et al., 2012). It means they are attentive of the importance of the age to infertility, as many of them overestimate the capacity of getting pregnant across all ages (Mac Dougall et al., 2012). Furthermore, they did not have enough information about the most significant factors that would affect fertility, since behaviors like smoking had been identified more than ovarian aging, as a reason for infertility (Bretherick et al., 2010).

The other significant unawareness in the studies is overestimating the efficiency of IVF by women. The importance of age in IVF technology was not evident for many women since they did not know the success rate of this technology decreases in older generations as well (Benzies et al., 2006; Svanberg et al., 2006; Bretherick et al., 2010; Daniluk et al., 2012; Mac Dougall et al., 2012; Waldby, 2015).

These over-estimations and false perceptions are attributed to media messages around motherhood in older ages. There are many narratives about women who successfully give birth in her 40s using ART technologies.

Currently, these misleading narratives are illustrated in the media including TV, radio, print media, websites, social networks, and blogs. There are several studies which have assessed the quality of fertility clinics' websites concerning the reliability of the information. One study in the US showed that a significant number of websites of fertility clinics in the US are not following the ASRM/SART guidelines (Huang et al., 2005; Abusief et al., 2007). Another research which examined the quality of online information on social egg freezing provided by websites of fertility clinics in the US confirmed that the majority of the websites do not follow the SART/ASRM guidelines for Social egg freezing (Avraham et al., 2014). Although according to Jain, the quality of the public centers' websites is better than that of private clinics (Huang et al., 2005), in general, Fertility clinic websites are "primarily a form of advertising" (Jain and Barbieri, 2005).

Consequently, respecting to the insufficient awareness of age-related fertility decline and ARTs, researchers have supported the improvement of education on delayed fertility and its potential risks (Hewlett, 2004; Mac Dougall et al., 2012; Everywoman, 2013; Schytt and Bergström, 2014; ter Keurst et al., 2016). They also indicated the need to increase dissemination and awareness of the guidelines, to consider new regulations to ensure that clinics do not "mislead consumers or capitalize on decision-making biases" (Hawkins, 2013). Furthermore, about the social egg freezing, researchers recommended the need and importance of improving the quality of the information provided by fertility clinics websites (Avraham et al., 2014). It is essential that this information follow the legal and ethical guidelines, to allow women to make more informed choices about their reproductive decisions (Daniluk and Koert, 2013). The next section is a summary of Spanish Law and its setting associated with ART.

1.4 Spanish Law Settings of Assisted Reproductive Technology

In 2003, the law as modified to include the regulation of the treatment of pre-embryos that exceeded the number of embryos required for successful AHR. The use of pre-embryos was authorized but in a very restricted way. Also, the law limited the production of oocytes in each reproductive cycle, hindering the practice of AHR techniques. This new law was criticized by the National Commission for AHR and was modified three years later.

Spain was one of the first countries in the world to legislate the use of assisted reproduction technology. In 1988, Law 35/1988 introduced provisions for several assisted human reproduction (AHR) techniques.

Such a law became a clear scientific and clinical progress insofar as assisted reproduction techniques, in addition to helping to alleviate the effects of sterility, are manifested as especially useful for other purposes, such as diagnostics or research (Law 14/2006: 19947)

This legislation was the catalyst for the creation of the National Commission for Assisted Human Reproduction, which is:

A collegiate body of a permanent and consultative nature, aimed at guiding the use of these techniques and collaborating with the public administrations in relation to this subject and its scientific derivations (Royal Decree 42/2010: 9810)

The commission was established through Royal Decree 415/1997, March 21, and was subsequently modified in 2010 through Royal Decree 42/2010, January 15.

In 2003, the law was modified to include the regulation of the treatment of pre-embryos that exceeded the number of embryos required for successful AHR. The use of pre-embryos was authorized but in a very restricted way. Also, the law limited the production of oocytes in each reproductive cycle, hindering the practice of AHR techniques. This new law was criticized by the National Commission for AHR and was modified three years later.

In 2006, the actual law was approved with provisions for different elements in the field of medicine, the autonomous decision-making of the communities, and the protection of timely and truthful information. Law 14/2006 defines the concept of pre-embryo as the "in vitro embryo formed by the group of cells resulting from the progressive division of the oocyte from the time it is fertilized up to 14 days later" (Law 14/2006: 19947).

Following the approval of the European Constitution, the current regulations prohibit cloning in human beings for reproductive purposes. It has a broader criterion for enumerating assisted reproduction techniques. It also permits the health authority to authorize the provisional practice of experimental techniques prior to the report of the National Commission for AHR.

Concerning the autonomy of communities, the law indicates that communities should be solely responsible for enacting the regulations, with the support of the National Commission for AHR.

The Law is respectful of the current autonomic reality of the Spanish states, where the authorization of specific projects undoubtedly corresponds to the autonomous communities, which are endowed with the necessary technical support, by reinforcing the advisory role of a single commission, in which

representatives of the autonomous communities themselves take part. (Law 14/2006: 19948)

Because the assisted reproduction system has been mainly active through private health centers, there is discordant communication between those offering the service and the people who demand it. Therefore, the law declares:

The information must be accessible to users of the techniques and it must be clear and precise about the activity and the results of the centers and services that practice them. (Law 14/2006: 19948)

In practice, the law intends to reinforce the existing record-keeping procedures from previous legislation relating to donors of gametes and pre-embryos for human reproductive purposes, while incorporating a new activity record for assisted reproduction centers. In this new report, the data on the typology of techniques and procedures, success rates and other issues that will be used to inform citizens about the quality of each center will be recorded, and the annual findings must be made public (Law 14/2006: 19948).

The law currently has eight chapters. We will take into account some of the most relevant aspects, as determined by the critical points of focus in this thesis. The first general provisions chapter indicates the personal conditions necessary for the application of techniques. These provisions require, for instance, that the techniques be applied only when there are chances of success, without there being any physical or mental risk for the women or the possible offspring. It is emphasized that the woman must be fully aware of the risks she will be exposed to when accepting the application.

Assisted reproduction techniques are only performed when specific provisions are fulfilled. Namely, when there is a reasonable probability for success; and when the techniques do not pose a severe risk to the physical, or mental health of the women or the possible offspring. Additionally, women need to have free and consciously accepted the application of the techniques in advance, having been duly informed of the procedure's chances of success, as well as the risks and conditions of the said application (Law 14/2006: 19949). The law also mentions the duty of medical teams to deliver information to the patients thoroughly, addressing all aspects involved in the application of techniques, including the economic ones.

The information and advice related to these techniques, which must be given both to potential users as well as to those who may act as donors, extends to the biological, legal and ethical aspects of the procedure, and must further specify the information regarding the treatment's economic conditions. Such information should be given in appropriate

circumstances, in order to facilitate their understanding by those in the authorized centers who oversee the medical equipment used for the application of such treatments (Law 14/2006: 19949).

As explained in the second chapter of the law, referring to the participants in assisted reproduction techniques, the information given to women must include the possible risks.

Among the information provided to women, in advance of the signing of their consent, for the application of these techniques, it must be included, in any case, the possible risks, for herself during treatment and pregnancy and for the offspring, which can be derived from a maternity that takes place at a clinically inadequate age. (Law 14/2006: 19949)

It is also noted that all women over the age of 18 can use assisted reproduction techniques, regardless of their marital status and sexual orientation. If the woman is married, then she must have the consent of the spouse.

The sixth chapter details the object, composition, and functions of the National Commission for Assisted Human Reproduction, which includes the central government, representatives of the autonomous communities, scientific societies, professional corporations and associations of consumers or users. The reports of the commission may be shared with the central government, the autonomous communities and the health centers where the techniques are offered.

In the autonomous communities, similar commissions can be created to work in collaboration with the national organization.

The homologous commissions that will be constituted in the Autonomous Communities will be considered the support and reference commissions of the National Commission of Assisted Human Reproduction and will collaborate with it in the exercise of their functions. (Law 14/2006: 19953)

The national registry of assisted reproduction is addressed in the seventh chapter. The ARH commission must receive information from the health centers; those regarding the diagnostic pre-implantation practices must be provided every six months, while those bearing on the data collected in the donors' national records and the activity of assisted reproduction centers and services are required annually. Health centers are obligated to provide this information.

The Activity Register of assisted reproduction centers and services must make public, at least annually, the activity data of the centers related to the number

of techniques and procedures of different types they are authorized to use, as well as the Success rates in reproductive terms obtained by each center with each technique, and any other data considered necessary for the users of assisted reproduction techniques to be able to assess the quality of care provided by each center. (Law 14 / 2006: 19953)

In the eighth chapter, infractions and sanctions are addressed, Within the following grave infractions has been found:

- i) The omission of the information or previous studies necessary to avoid damaging the interests of donors or users or the transmission of congenital or hereditary diseases.
- ii) The omission of data, consent, and references required by this Law, as well as the lack of creation of clinical history in each case.
- iii) The absence of supply to the corresponding health authority for the operation of the records provided in this Law of data pertaining to a specific center during an annual period (Law 14/2006: 19954).

The sanctions will be carried out by the competent organisms of each autonomous community, which "will exercise the functions of control and inspection, at its own initiative or at the request of a party, as well as the instruction and resolution of sanctioning files" (Law 14/2006: 19955). In the case of the serious violations 2^a and 3^a, it is contemplated a fine and the possibility of blocking access or closing the medical centers.

In its index, the law details that techniques that assisted reproduction techniques use are three: "1. Artificial insemination. 2. In vitro fertilization and intracytoplasmic injection of sperm from ejaculation, with gametes or from donor itself and with the transfer of pre-embryos. 3. Intratubárica transfer of gametes" (Law 14/2006: 19955).

As the National Commission of Assisted Human Reproduction Law states, the autonomous communities may have a similar commission at the regional level. At the same time, regional bodies are responsible for generating specific regulations in the general framework of the law, and for monitoring and sanctioning the centers that apply to these techniques.

Regarding egg freezing, the subject of this thesis, the community that explicitly mentions this subject in the public system is that of Andalusia. In the document "Assisted human reproduction guide for the public health system of Andalusia" (Andalusian Health Service, 2013), carried out by the Andalusian Health Service, it is mentioned the "preservation of fertility" as a technique offered for women who can lose their fertility, that is, for medical and non-social reasons.

The preservation of fertility is offered in the SSPA, as a technique associated with

those of assisted reproduction, to women affected by a pathological process that exposes them to the loss of fertility, or affected by iatrogeny due to gametotoxic treatments of their disease (Andalusian Health Service, 2013: 33). Women who can opt for the preservation of fertility are those who meet the general requirements of ARH techniques and patients with oncology pathology or other pathologies such as women who are going to be subjected to cytotoxic agents (hematological disorders and autoimmune diseases). The limitations of the SSPA program are observed in table 1.4.

For example in the case of Catalonia, there is no explicit mention of egg freezing or the preservation of fertility in the public system. Therefore, this only happens in the private health system. A Protocol of assisted human reproduction techniques provided by Catalan health department (Catsalut, 2016) has been found where the general techniques of RHA in the public system is presented as shown in Figure 1.1. These techniques are the stimulation of ovulation without insemination, artificial insemination with donation (IAD), conjugal artificial insemination (IAC), in vitro fertilization with their own gametes (IVF), in vitro fertilization with given gametes (IVF): spermatozoa, in vitro fertilization with gametes given (IVF): oocytes, in vitro fertilization with gametes given (IVF): sperm, oocytes or embryos.

Table 1.4: Limitations of the preservation of fertility program in Andalusia

Clinical situation that discourages hyper-stimulation or that leads to other therapeutic options (freezing of ovarian tissue of an experimental nature, in vitro oocyte maturation).
Presence of ovarian failure
Hereditary genetic disease
Woman over 35 years old or younger than 16 years old or without menarche
Previous children
Impossibility of gynecological exploration
Gynecological and/or oncological contraindication for vaginal treatment, explorations and ultrasound
Inaccessible ovaries
Active infectious diseases, VHB, HCV, VHI.
Absence of a report of a responsible facultative justifying the inclusion in the program of preservation of fertility

Source:Andalusian health service, 2013: 33

1.5 Study Justification and Research Aims

Although there are no official statistics on the number of women who froze their eggs for non-medical reasons, recent statistics from La Sociedad Española de la Fertilidad (SEF) has shown a significant increase in the number of fertility clinics including centers which offer fertility preservation treatments. According to SEF, this number rose from 86 centers in 2002 to 307 in 2016 (SEF, 2016). In Spain, the use of egg freezing technique for social reasons began in 2007. According to the latest data from SEF, egg freezing has raised 65% in recent years, from 2,174 vitrifications cycles in 2009 to 3,601 in 2014, which has linked this growth to the trend of Spanish women of delaying the age at which they have the first child (Rivas, 2017).

When this study started in 2016, social egg freezing was already a controversial topic in the US and Europe, and there was a growing academic debate surrounding that. These studies were debated mainly in the field of medical, bioethics and law (Savulescu and Goold, 2008; Rybak and Lieman, 2009; Mertes and Pennings, 2011a; Petropanagos, 2010).

There were also several studies about media on the topic of social egg freezing (Avraham et al., 2014; Baldwin, 2016) but there was very little in-depth research regarding how this technology is being communicated by media and from a communication studies perspective. There were just a few that have been analyzed quantitative and mostly in the US (Huang et al., 2005; Hawkins, 2013; Jain and Barbieri, 2005; Abusief et al., 2007; Avraham et al., 2014). Most of the studies were about women's motivation to undergo egg freezing but a little about their perception and interpretation as well as their assessment of this offered technology.

Social egg freezing is a topic which is generating various debates increasingly worthwhile among sociologist. Following the removing of the experimental label of this technology in 2013 by the American society of reproductive medicine (ASRM), and subsequently Apple company's grant in 2014 for female employers to freeze their eggs, this topic has placed in many debates and became a popular topic in media (Baldwin, 2016). In 2017, The Club of the First Brands of the Valencian Community announced that they had reached an agreement with the Valencian Institute of Infertility (IVI) to offer its staff favorable conditions on social egg freezing (Lidón, 2018). Undoubtedly, this drawn the topic of social egg freezing into the media including newspapers (Lidón, 2018; Rosendo, 2017; Mateos, 2018); TV and radio programs (laSexta, 2018; Gil, 2018; Estévez and Martínez, 2018; Moreno, 2017; Lafuente, 2018; Bohórquez, 2017; Pottelbergh, 2017); magazines (AmorSaez, 2018; Fernandez, 2017; Serrano, 2018); blogs (timefreeze, 2019;

Ruiz, 2016), and social networks profiles of celebrities such as Nerea Garmendia, Norma Ruiz and Paula Vasquez.

Despite the increasing presence of to social egg freezing topic in the media, there is still very little published in-depth research of social egg freezing. In the context of this gap, the overall objective of this study is to explore the communication strategies that fertility clinics use in their websites to offer social egg freezing to women and how women understand and experience this phenomenon. In particular, this thesis aims to provide an exploration of the online communication of the providers of this technology through their websites, as well as provide insights into how women perceived the opportunities, obstacles and the future of their reproductive life considering social egg freezing technology.

Accordingly, this thesis comprises three specific objectives:

- i) To determine the mainframes that fertility clinics use in the context of their websites, concerning fertility preservation through the egg freezing treatment.
- ii) To describe the Spanish women's perceptions, on the subject of motherhood as well as preserving fertility for social reasons through freezing their eggs.
- iii) To understand the social egg freezing from some users of this technology in Spain.

This thesis applies two theories of framing (Goffman, 1974; Entman, 1993; Kahneman and Tversky, 2013a) and the theory of social domains (Layder, 2005), to analyze the communication strategies and to explore the women's perception of social egg freezing phenomena in the Spanish social context.

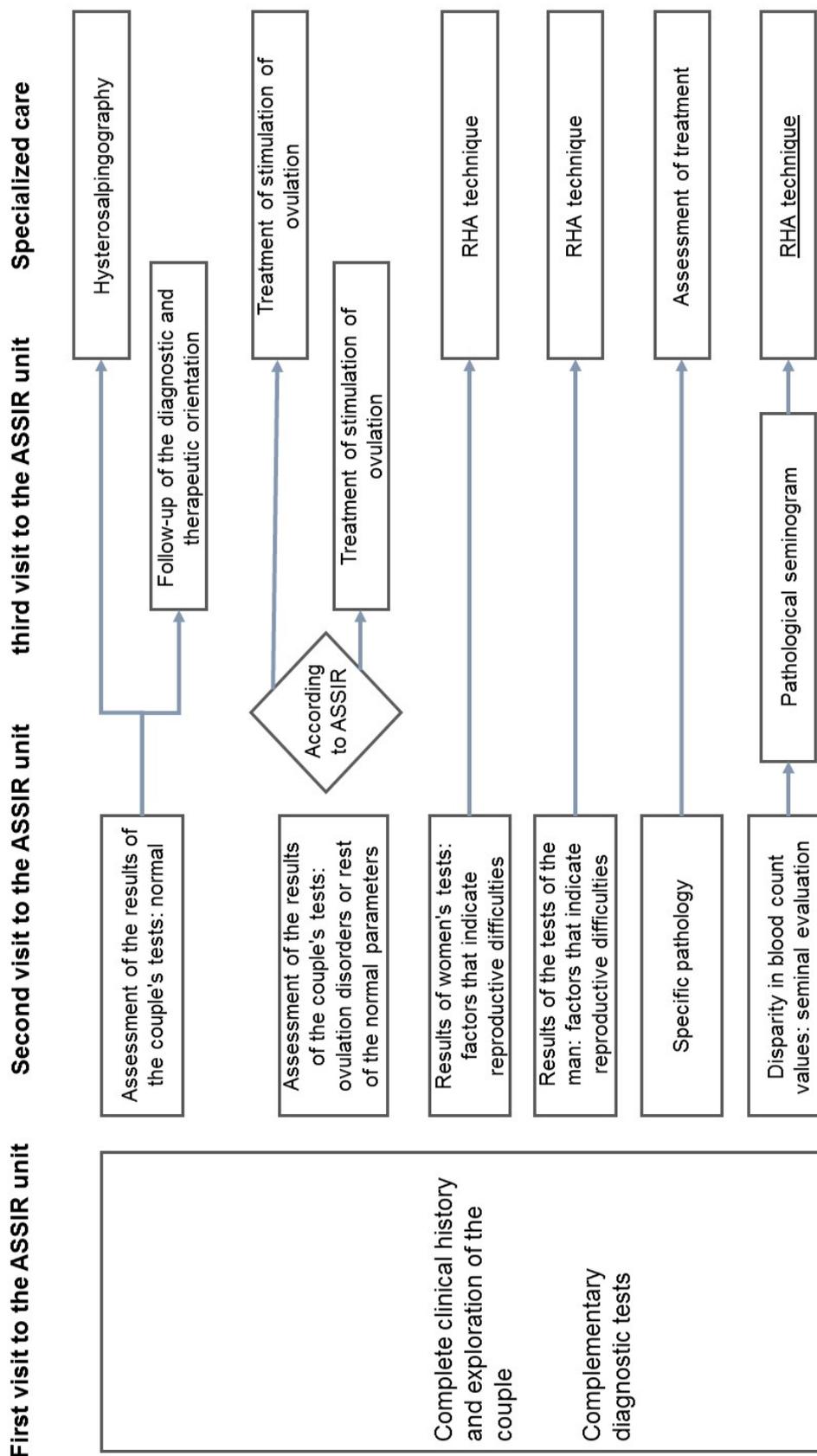


Figure 1.1: Visitor circuit of assisted human reproduction in Catalonia

Chapter 2

Theoretical framework

2.1 Introduction

This chapter provides a more detailed discussion of framing theory and domain theory, and of how they have been integrated into this thesis, in order to clarify the relationship between these theories and the methods used within this research. The chapter starts with the description and the background of the framing theory concept. It continues with the description of the expansion and usefulness of this interdisciplinary theory. Information about how the adoption of the framing theory is being explained in this study, and about how it has been used to analyze the content of the websites of fertility clinics, is also provided in this chapter. The chapter continues with a comprehensive explanation of domain theory and of how it has been integrated into this study. Also, the relevance of this theory and the applied methods in this thesis are provided in the following chapter. Moreover, Layder's theory of domains (Layder, 2005) has also been deployed in this chapter as an organizational device.

As will be discussed in greater depth in the following chapter, this research emphasizes the following domains: Psychobiography, situated activity, social setting and the contextual resources. Thus, the explanation of the mentioned four domains of Layder's theory is also provided in depth within the chapter. As mentioned, the first domain is the psychobiography which deals with individual experiences in one's lifetime and their reactions to it. This domain also explains the effects of social obstacles on individual's behavior. The second domain is situated activity which pertains to the individuals' interactions with their intimate circle like family and friends. The third domain is social setting which refers to the immediate environment in which people live, interact, and the things develop or happen. In other words it is the physical environment in which situated activities take place. The fourth domain is the contextual resources which refer to both material and

cultural dimensions and explains how material resources are assigned among groups according to macro-sociological forms such as class, ethnicity or gender. It also explores the social values of cultural elements such as knowledge, media representations, customs, art, and fashion. What's more, this chapter discusses some concepts and ideologies like feminism of motherhood and the development of assisted reproductive technologies. Finally, it describes the adoption of these four domains in the context of social egg freezing.

2.2 Framing Theory

This part describes the concept of framing theory. It also provides a review of the literature of this theory including the background of using this underlined theory within communication studies. Additionally, an explanation of the framing theory functions is also provided in this chapter. A description of framing effects, and how they can be used to design a persuasive message is also covered in this chapter.

2.2.1 Definition and background of framing theory

Framing theory has been applied in different researches and from various disciplines such as “Psychology, political communication, sociology, and media studies, cognitive linguistics, and communication” (Hertog and McLeod, 2001; D’angelo, 2002; Tewksbury and Scheufele, 2007). The theory of framing stems from psychology science (Bateson, 1972, p. 188). Despite that, it has been pointed out that this theory is located in interpretive sociology, which deals with the interpretation of people of their routine and everyday life (Sádaba, 2001).

The theoretical body of framing started to be developed since the 1970s, initially by the hands of cognitive psychology. In 1974, the framing theory was used in the field of sociology by Erving Goffman. He Defines the frames as a “schemata of interpretation”; that is, frames make us understand what is happening in the routine life and allow us to organize it (1974:21). In other words, for Goffman, frameworks as a social framework or as a mental schema organize individual’s experiences. He defines two principle actions for framing which are selection and salience. He argues that framing selects certain aspects of the perceived reality and highlights them in the informative text. Tuchman, in 1978, following the idea of Bateson defines the concept of frame by using picture frame analogy to explain people’s perception (Tuchman, 1978). Gitlin 1980, argues that frames convey people to only focus on the selected and highlighted messages. He describes frames as “persistent patterns of cognition, interpretation, and presentation, of selection, emphasis, and exclusion”.

Entman, in 1993, expresses the following definition of framing theory: “to frame is to

select some aspects of perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described” (1993: 52). That means frames highlight some particular features of reality while downplaying some other aspects of the reality and that affects the interpretation of the audience. For example, abortion can be framed as killing a human or can be framed as the right of having free choice (Matthes, 2012). Each of the above perspectives imply a completely different problem definition, causal interpretation, moral evaluation, and treatment recommendation. There are many studies analyzing media frames as well as the audience frames.

2.2.2 Framing theory in communication studies

Previous studies demonstrate that the analysis through framing theory has been used in psychology and sociology science rather than other fields (Goffman, 1974; Gitlin, 1980; Domke et al., 1998; Kahneman and Tversky, 2013a; Entman, 1991; Gamson and Modigliani, 1987). Framing is adopted by communication science at the end of the 70s (Entman, 1993). The majority of framing studies in communication field analyze the components of narratives such as words, images, symbols, phrases, the construction process and the style of presentation (Druckman, 2001, p. 227).

The messages on the media, either textual or visual are made following a certain thought. They have been structured not only base on the creators believes but also in a way that provides a certain framework of perception to their audiences (Ardèvol-Abreu, 2015).

Thus, as it has been mentioned earlier, frames draw the attention to some aspects of reality while downplaying the other aspect. For that reason, in order to define and describe that reality its important to take into account the aspects that have not highlighted or even mentioned.

Frames are in the minds of who creates them (sender) as well as who receives them (receiver), in the informative message and the in the culture. That can be seen also in the literature in which the audience frames and media frames are addressed differently Scheufele (1999).

The storyteller, for example, a journalist, who has to tell her story attractively, starts framing process by deciding what to say and how to say that, by choosing some aspects of the story and put more attention on it. So he defines the problem, pointing out the causes and proposing solutions to the problem and, finally, building a frame. This process has been addressed frame building due to its analogy with the better-known process of

agenda building (Gamson and Modigliani, 1987, p. 143). Subsequently, receivers interpret the frames based on social, individual elements and communicative situation.

Robert (Entman, 1993), points out the importance of framing theory in explaining how frames are constructed, how are they showed in the context and how they influence the audience's opinion. However, some theorists believed that there is a significant correlation between the frames of the sender, the receiver as well as text and culture.

Sádaba-Garraza stated that frames are “shared schemes underlying the attitudes of journalists, who organize the information; in the receptors, who can understand; in the texts that are hidden; and in the culture in which they are generated” (Garraza, 2001, p. 116).

2.2.3 Frames functions

According to Entman 1993, the frames are related to these functionalities: (i) they specify problems, (ii) establish causes, (iii) execute moral judgments and, (iv) propose solutions to such problems. However, it is enough that a frame fulfills one of those functions, not all of them are required. According to Entman 1993, the frames are approached through four possible focuses within the communication process, and these are the text, receiver, transmitter, and culture. Connecting with other similar work, Entman proposes another way to define framing:

Process of choosing a few elements of a perceived reality and assembling a narrative that highlights the connections between them and the promotion of a particular interpretation [...] The frames introduce or they raise the emphasis or the apparent importance of certain ideas, activating schemes that induce audiences to think, feel and decide in a particular way (Entman, 2007, p. 164).

Like Entman, De Vreese 2001 also believes that selection and emphasis are the functions of frames. In this way, we can understand how “the process of framing is a critical activity in the construction of social reality because it helps to share the perspectives through which people see the world” (Hallahan, 1999, p. 207). We can say frames are similar to the painting since both select a part of reality and make it salient while it is separated from what surrounds it.

From a sociological perspective, Goffman indicates that “when an individual in our Western society recognizes a particular event, he tends, whatever else he does, to imply in this response (and in effect employ) one or more frameworks or schemata of interpretation ... [which] is seen as rendering what would otherwise be a meaningless aspect of the scene into something that is meaningful” (Goffman, 1974, p. 21).

Simply put, the frames that we use create the interpretation of the experiences. Goffman states that frames function is to answer the question, “what is going on here?” (1974: 46). In other words, frames are the keys to understand what is happening and make a conjecture about what happened before and what is likely to happen next. So we could describe how the frames work from a sociological point of view. Goffman points out that frames are socially shared concepts while they are specific culturally.

Although the main function of framing is constructing the meaning of a given reality (Hänggli and Kriesi, 2010, p. 142), According to de Vreese, framing focuses on different aspects of a subject (De Vreese et al., 2011, p. 53). Also, it has been pointed out that framing has been used in the disciplines of communication. It works as a guide in the studies that deal with media contents as well as investigations about media and public opinion and their relationships (De Vreese et al., 2011, p. 51).

It is important to note that framing goes beyond that being just a theory. While it is beneficial in the field of communication and its associated literature, it can be used as a method for the investigations which seek to explore and discover the different sides and interests of a theme.

Thus, the theory of framing is not simply a theory, but also represents a useful and extended methodological framework in which multiple researchers have relied on to carry out their empirical studies. That is why this theory has been progressing as a theory as well as a tool for media analysis (De Vreese et al., 2011, p. 60).

Vicente suggested synthesizing the two dimensions framing theory (Vicente Mariño and López Rabadán, 2009, p. 22). Thus, this interdisciplinary theoretical theory progressed into praxis. In other words, it was converted into a set of theory and method, since it suggests the analytical procedure design beyond covering the theoretical framework. D’Angelo 2002 explains the empirical goals of framing:

The hardcore of the news framing research program is reflected in four empirical goals that individual studies pursue to varying degrees. these goals are (i) to identify thematic units called frames, (ii) to investigate the antecedent conditions that produce frames, (iii) to examine how the news frames activate, and interact with an individual’s prior knowledge to affect interpretations, recall of information social levels processes such as public opinion and policy issue debates.

Following this line, Reese 2007 emphasizes how the theory fits with qualitative and quantitative angles and how it can be used from a professional or an academic level; All

this makes it transcend fields and borders and increases its current importance.

Continuing with other perspectives, we come to two ways of analyzing the frames, proposed by authors such as Semetko and Valkenburg 2000 or de Vreese 2005: the deductive and the inductive. Let us start with the inductive, a very flexible perspective that starts from an uncertain origin about the frames that are being analyzed. De Vreese explains that In this type of analysis the frames emerge from the existing material in the process of analysis (De Vreese, 2005, p. 53). In other words, the frames are extracted from the data immediately and without being predestined.

Although extracting the frames directly from data allows having more accordance between content and the theory, the detections are based on the researchers' expertise, experience, and perceptions. This perspective is difficult to repeat since it tends to work with small sampling rates and is laborious.

The other way of framing analysis is the deductive form, which arranges an analytical variable based on proved frames. That means these frames are already determined, established and practically applied in a previous analysis (De Vreese, 2005, p. 53). Thus, taking as a starting point the theory and prior knowledge, we reach the frames that can later be found. In this way, it is vital to be very clear about what types of frames could appear in the media. With this way of acting, we can replicate the research, expand the range of data and come to understand what connects or distances different frames in all kinds of media, from the press to radio or television.

Furthermore, it is essential to mention the frame-building and the frame-setting that are defined as two other lines of research that can be easily distinguished (De Vreese, 2005; Scheufele, 1999; Zhou and Moy, 2007).

Piñeiro pointed out the difference between what the researchers who seek to understand the establishment of a frame from the traditional way in which the research faces its construction focus. The first tend to explore how these frames produce an impact on the way people interpret events and issues in terms of the learning that is derived and how they evaluate these elements. As a counterpoint, it is the structural values of the frames that most influence the latter, including the ideological angles, the individual and professional particularities, the processes and their routines as well as the organizational limits and their derived impacts (Piñeiro-Naval and Mangana, 2018).

Frames have been divided into dependent or independent as study variables (Igartua and Cheng, 2009). For example in news frames, they can be considered as dependents variables when they are produced in the communication process of media. In other words, the frames that are produced and structured to transfer information in media are depen-

dent study variables. Many studies are analyzing the way in which the information about social issues are framed and how these framing influenced the reception of the information. (Matthes and Kohring, 2008; Semetko and Valkenburg, 2000; Van Dijk, 2013).

Igartua and Cheng, 2009, pointed out that “news frames can also be conceived as independent variables, that is, as properties of informational texts that condition the processes of news reception and impact.”

2.2.4 Framing Effects

Many studies confirmed the influence of framed information conveyed through media (Boyle et al., 2006; Shah et al., 2004). For example, Igartua and Cheng, 2009 explained that these frames affect attitudes, beliefs, and the level of cognitive complexity with which people think about social topics. In another study, de Vreese et al. pointed out that “framing can help us to understand how citizens make sense of political, social, and economic issues” (2011:180). One of the essential elements based on which frames are constructed is emotions. Emotions play a crucial role in a frame by paying a certain attention to a special consideration which targets an emotional response from audiences (Gross and D’ambrosio, 2004, p. 124). So, according to that, frames affect both opinion and emotional response of the audiences (Gross and D’ambrosio, 2004, p. 19).

Individual experiences and background have also, has to be taken into account as key factors in framing effect process (Gross and Brewer, 2007). The previous background has been addressed individual frames and defined as “mentally stores clusters of ideas that guide individuals processing information” (Entman, 1993, p. 53). These ideas have been influenced by personal knowledge unique experiences, and also environmental factors such as other’s opinion.

According to Kahneman and Tversky (2013a; 2013b) framing is a different presentations of the same information which can influence choices and decisions makings. Thus, they specified different influences of gained vs. lose-frames. The authors pointed out that the tendency to take risks is higher when people receive a loss-framed message rather than when they receive the same message but gain-framed (Kahneman and Tversky, 2013b). Druckman addresses this approach as “equivalency” (2001: 228). The “equivalency” studies the influence of different structured messages which convey the same argument. This approach can explain how highlighting a part of a message influence people’s opinion by changing their center of attention (Druckman, 2001, p. 230). Although frames in different shapes and structures (for example loss versus gain) can influence the audience attitudes, beliefs and learning (Nelson et al., 1997; Iyengar et al., 1987; Ansolabehere et al., 1991),

some of the researchers expressed that the facts should be changed in some frames to make them effective (Domke et al., 1998; McLeod and Detenber, 1999; Nelson et al., 1997; Valkenburg et al., 1999).

2.2.5 Gain-loss framing

One of the aspects that have been studied in framing theory is gain versus loss frames. There are many studies in assessing the effectiveness of gain vs. loss framing of messages in order to compare the recipients' attitudes or behavior change. So, the results show that people respond differently to gain-framed and loss-framed when they receive the same information (Kühberger, 1998, p. 150). In other words, there is a difference between how persuasive a message is when it is presented in a positive form (offering a benefit) or a negative form (conveying a lose). Consequently, people respond differently to how each of these types are framed regarding decision making (Loroz, 2007). The impact of gain and loss-framed messages is connected with the prospect theory of Kahneman and Tversky's 2013a. This theory argues that the decisions of individuals are not necessarily rational in risky situations and it is affected by other elements Kahneman and Tversky, 2013b, p. 123. Kahneman and Tversky pointed out that "the psychophysics of how alternatives are described influences decision making, and that decision-makers frequently engage in heuristic rather than analytic processing". Prospect theory explains that the process of individual decision making has two steps. In the first one, the individuals' mind decodes the message into two alternatives of gain-coded or lose-coded. The second step is about evaluating the message. In this step, the message is evaluated the individuals based on their values (Kahneman and Tversky, 2013b). In this process of evaluation, the relative advantage of gain vs. loss frame is illustrated as the S-shaped value function (Figure 2.1).

This figure shows risk aversion of who tends to choose gain-framed messages and risk-seeking for losing framed elections. That is, for example in gambling who in the choice to win €100 surly rather than a 50/50 chance to win either 200 or nothing located in the concave curve or gained part. On the contrary whom choose a 50/50 chance to lose \$200 or nothing rather than losing \$100 for sure located in individual in the convex curve or losses part (McElroy and Seta, 2003). In other words, when outcomes are framed regarding gaining benefits, receiver tends to be more cautious considering the potential risks. However, when the outcomes are framed in terms of losses, receiver tends to accept the potential risks.

The concept of lose and gain-framed message has been applied to the context of persuasive message design. The results showed that gain-framed messages are more effective

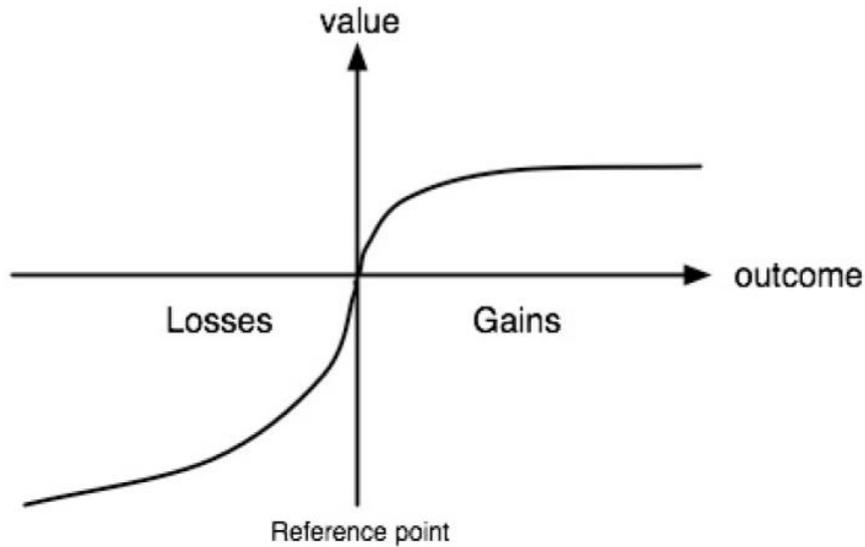


Figure 2.1: S-shaped value function of gain-loss frame (Kahneman and Tversky, 2013a)

than lose-framed messages in promoting cautious behaviors. That is, in a risky situation, people tend to choose gain-framed messages rather than take risks. For example, according to literature, prospect theory opposes this idea with the idea of rational predictions of expected utility theory (McElroy and Seta, 2003), which argues that style of presenting a message does not affect the receivers decision making regarding a tendency of either risk-aversion or risk-seeking decision (Von Neumann, 1944). Instead, prospect theory suggests that the way in which the messages are framed significantly influences the receiver's behavior regarding deciding risky situations (Kahneman and Tversky, 2013b).

Rothman and Salovey suggest that persuasive health messages follow the same line of prospect theory, creating messages with an emphasis on what can be potentially gained or lost in regards to specific behaviors (Rothman and Salovey, 1997). The studies have showed that to promote good health, the messages should be framed in a gain style (Detweiler et al., 1999). Hence, loss-framed messages are more effective in detecting and promoting the detection of health-related behaviors (Meyerowitz and Chaiken, 1987).

2.2.6 Persuasive Message Design

As stated by Rothman and Salovey, health behavior researchers seek to focus on two main kinds of behaviors: detection and prevention (Rothman and Salovey, 1997). As it is clear from the term, prevention behaviors decrease the risk of having poor health. Doing regular exercise to avoid related heart diseases can be seen as an example of that. These kinds of behaviors facilitate the preservation of good health, and, therefore, they can be seen as "Low risk" behaviors. On the other hand, detection behaviors perform tests in search of the existence of a specific health condition. An example would be carrying out a Pap

smear test in order to detect the possibility of having cervical cancer. These kinds of behaviors may certify the existence of potential disease, and by this way, they can be seen as “high risk” behaviors. Accordingly, risk can be described conceptually as the severity or undesirability derived from the ramifications triggered by a specific behavior, not as the lack of certainty of the outcome of that behavior.

Studies shows that, in the process of designing messages to encourage both prevention and detection behaviors, researchers use the gain or loss frames to target the benefits and costs linked to specific behaviors and test whether those kinds of behaviors will probably lead to getting or not getting specific favorable or unfavorable outcomes (Rothman and Salovey, 1997).

Gain-framed messages draw attention to get the desirable or avoid the undesirable. For instance, if a woman is doing regular exercises, she will probably make her heart health condition better and decrease the possibility of having a heart attack.

Loss-framed messages can be seen as the opposite. Their main focus is not on achieving the desirable or getting the undesirable. For instance, if the same woman we described earlier does not do the regular exercises, she will probably not improve the health of her heart and the possibility of having a heart attack will increase.

As it is mentioned, this theory fits nicely with the process of understanding the consequences and effects of the framing of messages on persuasion techniques connected with health, because it deals with how people behave and take decisions in risky situations (Kahneman and Tversky, 2013b).

The literature related to health communication includes many studies concerned with message framing and the way it influences on behavioral purpose, attitude and behavior (Rothman et al., 2006). It also contains studies on how the differences among individuals may have a moderating effect on the response to framed messages (Covey, 2014). There are various researches about behaviors in different fields, such as consuming fruits and vegetables (Churchill and Pavey, 2013) and doing sports (Gray and Harrington, 2011). Kao 2011also discusses messages feature that have been analyzed such as message sidedness and outcome explicitness. He found out as well that the consensus among researchers across this literature is that gain-framing is more efficient in the matter of encouraging prevention behaviors (Rothman et al., 2006).

When applying prospect theory to health behavior change messages, researchers found operational and conceptual challenges that drove the process towards a reconceptualization of a number of hypotheses of the theory. To be specific, the approach has been changed from asking people to pick between two program options that had an impact on population-

level health to requesting people to express how likely it would be their engagement in a single behavior that would impact health at an individual level.

They changed as well from being focused on risk regarding outcomes being uncertain, to risk in terms of the level of severity of the consequences of behaviors (Rothman and Salovey, 1997). Even though these changes could be said to be reasonable, given the essential nature of health behavior, by doing them, researchers may have taken the risk of putting limits to the predictive power of prospect theory and the relationship between gain-prevention and loss-detection.

This is, in fact, the conclusion reached by a collection of analyses by O’Keefe and his colleagues, who have analyzed a significant number of message framing studies in order to find out how much the distinction between prevention and detection is correct. Through a lot of analyses, the researchers haven’t located support for the hypothesis that gain-framed messages are more compelling for behaviors related to prevention and that loss-framed messages are more convincing for behaviors related to detection(O’Keefe and Jensen, 2009; O’Keefe and Wu, 2012; O’Keefe and Nan, 2012). Besides, other results have been found in the mentioned analyses that emphasize how essential perceptions of uncertainty and the larger or smaller probability of outcomes are when making decisions related to health.

To clarify the lack of consistency in the findings stated by the framing literature, Levin et al. 1998 created a topology related to three types of frames: risky choice, goal, and attribute. Researchers determine between these frame types in terms of how the frame is instantiated, what it impacts, and how participants react to the framing. Risky choice framing introduces two options to the participants. These two options are determined concerning their level of risk. Hence, the framing has an impact on the preference for risk, and participants must decide which they prefer from the two options.

Goal framing introduces participants to the results derived from a specific behavioral option. The framing has an impact on how persuasive the message is, and participants express the likelihood of engaging in the behavior that was recommended. Attribute framing emphasizes different features within a specific option. The framing has an impact on how the option is evaluated, and how the participants express the result of evaluating the option.

2.2.7 Communication strategies for social egg freezing in the websites of fertility clinics from the framing theory

Here, I explain the adaptation of framing theory to my thesis to explore how the fertility clinics seek to persuade their audiences about social egg freezing through their communication strategies.

According Goffman (1974), the study of frames allow us to find out “What is going on there?”, in fertility clinic’s websites.

As it has been mentioned earlier in introduction chapter, one of the main goals of fertility clinics websites is to attract women and encourage them to visit and pick one of their services, such as egg freezing about delayed motherhood. Therefore, the content of these websites should be framed in a way to fulfill their objectives. As has been discussed above, frames have different functions according to the way they specify problems, establish causes, execute moral judgments and propose solutions to such problems (Entman, 1993). Thus, from this approach, it is possible to study the problems, causes and solutions that fertility clinics propose in their website regarding social egg freezing.

Framing study helps to discover what information about social egg freezing is selected by fertility clinics, to get more attention, as well as, how this selection can influence the target perspective to this social reality.

Also, it is possible that the premises of gain and loss framed messages in regards to promotion may take place in different ways when we deal with websites of fertility clinics. Instead, it may be the case that gain-framed messages are in a dominant position in regards to fertility clinic websites because these clinics feel that giving information related to potential risks or negative outcomes of procedures could cause patients to reconsider their options. In fact, previous research has determined that websites associated with fertility clinics often give more importance to the benefits linked with social egg freezing process from many perspectives while at the same time diminishing the importance of any potential negative outcomes or of any associated risk (Avraham et al., 2014).

The websites of fertility clinics, in general, are created with the goal of promoting their services (Jain and Barbieri, 2005). The primary function of these websites is to describe their services and treatments, while the goal is to attract more clients. Most of these websites have a home page with lively colors, a big photo of one or a group of cute babies and happy doctors. In the page of egg freezing service, most of them show a high success rate, an offer on price or nice conceptual pictures of women. Figure 2.2 shows some examples of the web pages of fertility clinics related to egg freezing.



Figure 2.2: Examples of egg freezing sections in fertility clinics websites

Source: Fertility clinics websites: IVI, Eva clinic, and Institut Dexeus Barcelona

In this study, I use framing theory, as it fits nicely with the process of understanding first, designing persuasive messages as well as the effects of this framing of messages on women who are the potential target of this service. This theory also will be used to determine the relationship between the mechanisms of persuasive communication of fertility clinics related to social egg freezing and the knowledge and attitude of women about this subject.

2.3 The Concept and Background of Social Domains Theory

I start by giving an explanation of the concept of social domain theory which I have adopted to construct the theoretical frame of my thesis. In brief, this theory proposes a multidimensional view of society and social life in order to have a better understanding of social situations.

The main argument of the theory of social domain is to explore how encounters are formed of a combination of social and psychological domains. In other words, it seeks to understand the situations that come when two or more people share each others company for various reasons such as working, eating, speaking, etc., which happens in different state of affairs and locations such as, workplaces, restaurants, coffee shops, etc. Most social life activities and interactions embed in the above definition which (Layder, 2005) calls it situated activity.

To explain the theory of social domain better, it is necessary to understand the interactions between various domains of social life as well as their interdependencies. Therefore, to understand these domains better, we have to consider a wide range of domains and how they influence and depend on each other. It is also important to know how these domains intersect in social life. For that reason, Layder 2005 argues that society has to be

considered as comprising different dimensions with particular characteristics. According to Layder, there are four principal dimensions or domains in the theory of social domain, elaborated as follow:

Psychobiography, situated activity, social settings, and contextual resources are four social domains which Layder consider them essential to be taken into account to understand a social occurrence better. These domains are bound and connected by social positions and relations as well as power, practices, and discourses. They are related to each other not just as layers of social life but also as entities that stretch through space and time.

2.3.1 Some scenarios of social life

In order to explain these domains to clarify the relation between them, here I explain some practical and realistic kinds of events, situation, and circumstances that are indicative of social domains:

The first scenario is a woman sitting at her office, thinking about her life and all its general aspects. She thinks about her undesired pregnancy, all its emotional impact and the consequences of her life. She remembers how good she used to feel before her pregnancy towards marriage and also towards her work. She then visualizes how she could change the way she feels by doing an abortion.

This scenario emphasizes the first domain of the social domain theory of Layder, psychobiography. This domain focuses on the personal attitudes and feelings of different individuals. In this way, we can understand each person's unique individuality, by truly understanding how their behavior evolves in real scenarios throughout their existence.

Following scenarios are examples of real events for the second domain: two friends at a restaurant spending their free time talking about the state of their relationships; an argument between parents and children at a house; a fight between two young men in the street; an interaction between a seller and a an old woman in the bakery; the audience at an economics conference within a congress attended by professionals around the world and a carnival in the street.

These examples underline the field of situated activity whose key feature is transactions between people. The exchanges between the participants of all these scenarios are key to determine the outcome of these processes. The situated activity like psychobiography is not absolutely separated from other domains, while it has its own distinctive characteristics.

All the previous examples of situated activity take place within a specific location and

social organization, and those vary a lot. They happen in a particular setting that has a specific location. For example, the social status associated with certain jobs. Many work settings like hospitals and universities are highly organized, regulated and often have promotional procedures, reward system, and pay scales in contrast those that are less formally organized, especially those related to family settings and the private sphere of personal relations. Moreover, for example, street life, and public spaces have even less organizational features. In any case, the behaviors within them are still happening above an underlying layer made of a complex set of rules, obligations, and expectations. So, these examples emphasize how social settings cannot be understood separately and independently from the situated activities that take place within them, neither from the wider context around them.

The fourth scenario is related to contextual resources. This domain focuses on distribution and ownership of resources such as money, status or quality of life and lifestyle along different genders, ethnics, and classes. It also discusses the unequal distribution of cultural resources such as knowledge available across society like TV and newspapers. These examples emphasize the domain of contextual resources with its strong emphasis on power and domination. We are dealing mainly with a collective level of analysis concerning the ownership and distribution of cultural and material resources all across the social system. These systemic factors are directly connected to social settings and also to the structuring of self-identities through individual psychobiographies.

However, these systemic factors do not determine the subjectivities of individuals or the nature of any encounter. In the same way, psychobiography and interpersonal encounters do not cause or determine the nature of social settings. Each domain, although interdependent on the others, has its own features and a certain degree of independence. Apart from the previous characteristics, we can analytically distinguish between these scenarios in other ways. For example, they refer to different kinds of activity, such as solo activity (like the woman reflecting about her pregnancy problems), intimate scenarios (two friends discussing their relationships or the interaction between the lady and the homeless man), large gatherings (the economics conference), and till the largest collective level of distribution (Yellow jackets movement against government in Spain).

These scenarios vary a lot regarding personalization. That is, some events involve a high degree of intimacy between specific people (the two friends discussing their relationships, the argument within a family), while others are way more impersonal or removed from specific individuals (Yellow jackets movement, the economics conference). As mentioned, these domains are interconnected. Through different examples, we see how their

protagonists are linked with each other and how their behaviors and actions influence each other. As stated by Habermas, another key point to consider is how the perspective of these events changes as we move from solo, intimate settings to large groups and beyond where we take the standpoint of an independent observer (Habermas, 1985), from an external position. This does not imply that we are being more objective, it is simply a change of perspective. It means the analytic focus or point of view differ from different vantage points.

The theory of social domains has a lot in common with other approaches to social analysis. Among them, we can point out the theory of field and habitus by Bourdieu (2017) and social systems theory of Niklas Luhmann (1995). For example, social domain theory rejects seeing individuals as self-determined isolated units and, at the same time, it avoids considering people as if they were automate, unthinkingly moved and shaped by social forces. This theory tries to describe the situated activity as an interdependent but also partly independent social domains. This approach differentiates itself from many other approaches that tend to concentrate on one or two domains or dimensions of social analysis, such as functionalism of Parson and Marxist theory (Dillon, 2009).

2.3.2 Background of social theories

Giddens has sectioned the social analysis into two approaches which are: those that deal with interpretative analysis and those that deal with institutional analysis (Giddens, 1986). The interpretative analysis is related to other theories such as phenomenology. It tends to demonstrate the meanings people relate to their social world to explain that reality is what the people construct in their routine lives (Macionis, 2010). Analyzing the relationship between a woman and her doctor in a hospital, with her boss at work or with her friends, the argument between a teacher and a student at school, are examples of interpretative analysis.

The institutional analysis is associated with theories such as functionalism and structuralism. It focuses on social interaction mainly as an effect of the working of structural or systemic features of the society. Both seek to analyze the social phenomena from either individual's interaction perspective or macro social structures.

One of the ideas on this situation is to recognize that these two approaches can be brought together but still represent different domains of social reality. Habermas and Goffman agree with this point of view. Layder agreed to this approach but he thinks this is not sufficient to recognize the whole complexity of social life (Layder, 1996, 1990, 2014). In his theory of social domains, he suggested four domains instead of two domains (action

and structure) which he believes can better explain social phenomena (Layder, 2005).

Domain theory has reacted to the divide between action and structure (According to Layder action refers to agency/individuals and structure to system/function), by conceiving of society and the social life as a “unit of analysis” or “essential process” that is considered as the principles of social existence (Layder, 2005). These principles are named differently depending on the writer and the examined theory. The term in Layder’s opinion “social practices” describe the common subject of gathering different threads of social life to produce a synthetic unity by knowing the central characteristic of social analysis (Layder, 2005). For instance, Hilbert considers “local practices” as a very important subject of social analysis, as it’s the way that gives the feeling of social order to people (Hilbert, 1990). Foucault’s (1977; 1980) argument is about the influence of “discursive practices” and its relation to power. Giddens (1986) speaks of “social practices ordered across time and space”. Bourdieu (1977), emphasizes the key and central role of the attitudes generated socially that motivates people to act in certain ways in the context of his “theory of practice.” He addressed this as “Habitus”. For Elias (1978) the term “figuration” which puts the emphasis on the always changing networks that connect people is another way of speaking about “practices” without using the same term. He considers the term “figuration” as the basic aspect of social life. The other writer who does not use the term “practice” is Blumer (1969) who makes use of the concept of “join activity” to denote the interweaving nature of different sides of social existence (Table 2.1).

Table 2.1: Essential Process of social analysis

Theorist	Essential process of social analysis
Layder (2005)	Social practice
Bourdieu (1972)	Theory of practice Habitus
Giddens (1986)	Social practices ordered across time and space
Hilbert (1990)	Local practices
Foucault (1997)	Discursive practices
Elias (1978)	Figuration
Blumer (1969)	Join activity

All of them are expressing these different terms, the synthetic nature of society and social activity. What we are talking about here is absolutely a key concerning sociology. They express with these new concepts and terms the interrelated unit nature of social processes. They disagree with the idea which expresses that the social world has made of different but interdependent layers and domains. Layder does not reject entirely these

alternatives to a layered view of the social world, because he thinks that they all have a role in order to get a fuller understanding of the social world. However, Layder thinks that no one of these alternative frameworks fully explain the nature of social existence (2003).

The risk of this kind of strategy is mentioned in Giddens's insistence that the "basic domain of study for social science is social practices ordered across time and space" (1984). On the other hand, considering social practice as an essential emphasize in social studies by Layder does not mean that he agrees to monopolize the whole discourse about social life as Giddens suggests (1986). He believes, such a biased focus takes attention away from other equally important parts of the social world. By focusing so much on the target, it is possible to lose the chance to examine and understand the influence of different social conditions and contexts as the goal is trying to explain features of the social world (Layder, 2003).

Layder states although the way through which Giddens, Foucault, and Bourdieu use the term is different, the overall discourse is similar (2005). The overall effect is about occupying the analytic consideration and excluding of other key elements of social life. For the other "synthetic alternatives" the same story is true (Layder, 2005).

Here we explain some advantages of social domain theory. The theory of social domains possesses the advantage of having greater flexibility and helping researchers to understand other aspects of social reality.

After making the differentiation of domain theory clear from some current sociological approaches, let us now consider some of the sources that the domain theory draws upon. The first and the most important is that domain theory is related to the classical projects of Marx and Durkheim. Their point of view was to relate the study of social phenomena to the scientific analysis. Layder believes that there are different features of their work that are closely related to the theory of social domains. For example, their opinion which claims that many social phenomena have "objective" and "subjective" characteristics. This specifically is related to collective phenomena such as culture, institutions, and organizations (Layder, 2005).

This objectivity means that social phenomena have properties that cannot be simply clarified concerning the behavior of specific individuals, and it was considered as a significant contribution of these classical theorists. However, Durkheim and Marx, not only indicated this objective aspect but worked on understanding the relationship between the subjective and objective sides of social existence, as it is expressed in the relation between social institutions and the activities of those who are under their influence (Layder, 2003). They sought to connect the existence of dualism within the theory of social domains,

and this can be considered to be continuous with the classical projects of these authors. (Layder, 2003).

According to Layder, in domain theory, this outer objective realm provides a counter stand to those approaches such as phenomenology and interactionism which remove all “objectivism” from social theory. The theory of social domains do not support such rejections of objectivism. It expresses that as a consequence of this, many key properties of society have not been taken into account in social analysis. It is essential to recognize and analyze the objective realm and therefore domain theory is continuous with this central aspect of classical sociology.

In Layder (2005) studies, Talcott Parsons has been addressed as the principal author bridging modern and classical sociology in relation to recognizing and preserving that objective realm. Parson (1937) focuses on the layering of social organization such as social system; there is a lot which overlaps with aspects of domain theory.

In Layder’s opinion, there is a lack of a concept of power as domination in parson’s theory (Layder, 2005). However, he agrees with Parson’s insistence on the interdependence of each system level while still retaining their own features (Layder, 2005). In that sense, Parson manages to convey some of that interweaving nature of macro and micro aspects of society without ignoring the independent properties of both (Parsons, 1937).

In order to capture some appreciation of the forms of power and domination that shape the institutional structures of modern capitalist societies (factors that were not sufficiently addressed by Parson), we turn to Marx. His focus was on the historically emergent inequities and the importance of historical struggle and conflict between social classes constructing the current context of economic activity.

Marx emphasizes this in his phrase: “people make their history, but they do not make it just as they please; they do not make it under the circumstances chosen by themselves, but under the circumstances directly encountered, given and transmitted from the past” (Marx et al., 1968, p. 96). Marx’s words are aligned with some of the principles of the domain theory. Also, this link has been claimed by different approaches especially by the structuration theory (Giddens, 1986, p. 6).

Jurgen Habermas works to connect with Marx and has a lot in common with the domain theory. The distinction between “life-world” and “system” by Habermas is very suggestive. Lots of meanings and intentions of the theory of “communicative action” by Habermas fits well with what Layder says about the theory of social domains, though Layder is not in line with many aspects of the general framework of him (Layder, 2005). The way Habermas’ approach relies on and interprets the work of Marx, Durkheim, and

Weber, is fundamental; in this way Habermas tries to find a continuity between some of the assumptions of classical sociological analysis and contemporary theory. To be specific, Habermas tries to create a link between “systems theories” , which centralize the role of the “objective” institutional features of society, with “action theories,” which focus on understanding the way interpersonal encounters work (Schwinn, 1998).

The theory of social domains makes a similar connection between actions and systems approaches to social analysis which associates with Habermas works. However, as stated by Layder (2005) domain theory relies much more on the work of Erving Goffman. Layder indicates that for him, Goffman’s ideas have often been misinterpreted simply as a form of interactionism. However, different comments prove that Goffman held a view of society in which the “interaction” orders and the “institutional” orders are improved with the same value.

In this sense, Layder states that Goffman’s work is directly linked with Durkheim in the sense of trying to connect institutional constraints and resources with those that are specific to the interaction order itself. However, while Durkheim’s focus was the institutional constraints, Goffman concentrates on the dynamics of interpersonal encounters while locating them in a wider institutional context. This combination of classical theory, the nature of social activity and the social conditions that provide its environment mean that Goffman’s theories play an important role in the theory of social domains. For that reason, Layder used some of Goffman’s formulations as the foundation of a model of the relations between interpersonal encounters and the more encompassing settings in which they are played out (Layder, 2005).

Goffman’s approach is essential for the domain theory also because of his interest and his fascination by the details of everyday’s life (as opposed to structuralists and post-structuralist theories). Other approaches, such as Parson’s, mostly neglect this domain. It deals with mostly impersonal and macro features of society.

The general conclusion of these theories is that all issues related to the “inner” social psychological resources and dispositions of individuals should not be considered. While it is important not to simplify our social theories to the individuals’ behavior statements, Layder states clearly that we must not go to the opposite extreme. That means, it is important not to mix a concern of individuals into a generalized analysis of the social conditions and constructions which has a significant position in modern social life.

There are two main issues. First is the key aspect of face-to-face conducts in everyday life and the second is the fact that sociologists such as Goffman, Foucault, Elias, and Blumer have overlooked the psychological dimension of human existence in their attempt

to reaffirm the key importance of social forces. In this sense, the work of Giddens is much closer to Layder because he emphasizes the concept of human agents actively engaged in transforming their social context. In more general terms, domain theory regards Giddens' rejection of all forms of objectivism and dualism as premature and as an obstacle to an in-depth study of the relations between social domains (Layder, 2005). Table 2.2 provides a summary of how social domain theory is related to other theories.

Table 2.2: Related Concepts to social domain theory by previous social theorists

Theorist	Concept related with Social domain theory
Marx-Durkheim (1844-1982)	The existence of relationship between social institutions and the human activities The objective and subjective characteristics of a social phenomena
Parson (1937)	Social phenomena are interweaving nature of macro and micro aspects of society without ignoring the independent properties of both.
Marx-Giddens (1986)	People are able to make their history, but they are conditioned by structures.
Giddens (1986)	Human agents are actively engaged in transforming their social context.
Habermas (1985)	Similarly to Marx and Durkheim, makes a link between "systems theories" with "action theories"
Goffman (1967)	The interaction order and the institutional orders are improved with the same value The importance of everyday life to understand the social phenomena The role of emotion in social interaction
Foucault (1980)	Power is a social construct that exists and operates beyond the changes in individual motivations and reason Power reaches everywhere in the society
Denzin (1990)	The importance of subjectivities and emotional perspectives to understand the social phenomena

2.3.3 Power and Emotion in social domains theory

Here we take a look at the theory of power and emotion within social domain theory. We attempt to give a very basic introduction to key concepts and ideas, with particular attention to themes such as agency and structure as well as their subjective and objectives aspects.

According to Foucault "power is everywhere"; not because it embraces everything, but because it comes from everywhere. Moreover, "Power" insofar as it is permanent,

repetitious, inert, and self-reproducing, is simply the overall effect that emerges from all these mobilities, the concatenation that rests on each of them and seeks in turn to arrest their movement. One needs to be nominalistic, no doubt: power is not an institution, and not a structure; neither is it a certain strength we are endowed with; it is the name that one attributes to a complex strategic situation in a particular society” (Foucault, 1998, p. 93). For Foucault, power is seen as dispersed and subject-less, in fact, it is not ‘wielded’ at all. In other words, power is neither wielded by individuals nor by institutions (Gaventa, 2003, p. 3).

For Foucault, power is not just a material which enables having control over others or to limit the others actions. Instead, power disciplines minds and bodies through knowledge and social practice. To say it in another way, power is not just a negative forces that pushes individuals into doing things against their wishes, but can also be a necessary, productive and positive force in society (Gaventa, 2003, p. 2).

In Giddens, opinion power is transformative capacity and domination. Transformative capacity means the power of an individual that intervene causally in a series of events (Gaventa, 2003, p. 14).

Since the social rules and the resources are not equally distributed, that enabled deeper systems of domination. The concept of resources refers to structured properties of social systems like media through which power is carried on (Giddens, 1986, p. 15).

Layder agrees with Foucault’s vision of power as a social construct that exists and operates beyond the changes in individual motivations and reasons. He accepts Foucault’s perspective as the only possible one nevertheless he indicates that this perspective is limited in two fundamental ways.

Firstly, all links to the individual or “the person” are ignored and therefore power as an aspect of agency is excluded from analysis. Secondly, for Layder this theory does not allow us to consider how people deploy the resources they have at their disposal to achieve certain ends, which is a common feature of everyday life. Therefore, he argues in favour of including power as an aspect of human agency and not excluding it as Foucault does.

On the other side of Foucault’s understanding of power, Layder identifies another position in which power is exclusively equated with agency. That is Giddens’ view of power (along with Weber and interactionist writers such as Luckenbill). This action-centred view of power denies the existence of other modes and sources of power, of any purely structural, systemic or institutional phenomena. Table 2.3 demonstrates the differences points of view on power concept.

Foucault’s vision also excludes the structural dimension. In this way, he overlooks

the possibility of understanding power as a feature of relatively stable forms or structural domination that do not determine other power relations in any strong sense (Foucault, 1980). Layder criticizes Foucault for his analysis based on suggesting how modern forms of power operate before confirming it empirically. The way power operates and what form it takes should be answered only as a result of gathering evidence (Layder, 2005).

Table 2.3: Concept of Power in society

Theorist	Concept of Power in society
Foucault (1980)	Power is the most important element of the movements of social elements The agency is excluded from analysis about power
Giddens (1986)	This action-centred view of power denies the existence of other modes and sources of power, of any purely structural, systemic or institutional phenomena
Layder (1996)	Believes in the necessity of including power as an aspect of human agency and not excluding it as Foucault does He argues against identifying power exclusively with the agency and does not consider any level beyond that. Power is not the only essential ingredient that choreographs the movements of the social elements. Emotion is also a behind the scenes coordinator

Layder believes that if power is understood as in all the previous senses covered above, we have then a flexible way to work with a theory of power, one that captures power as a process but also reflects the multi-layered nature of society, its ontological depth. So, we can then understand power as an integral part of the structural parameters of the society, as an aspect of human agency and as an element in the psychological make-up of individuals (Crespi, 1992). Figure 2.3 shows the layering of social domains and relation of power:

Domain theory takes Foucault’s idea that power reaches everywhere in society seriously. Layder believes that power is a crucial element in the interweaving of social domains because it is everywhere in society (Layder, 2005).

However, Layder argues, power is not the only essential ingredient that choreographs the movements of the social elements. Emotion, is also a behind the scenes coordinator. Scheff has pointed out that this area has been very neglected by sociologists, even though Goffman did some pioneering work on the area 1990. Layder states that emotion also infiltrates itself everywhere in society like power (Layder, 2005). However this network

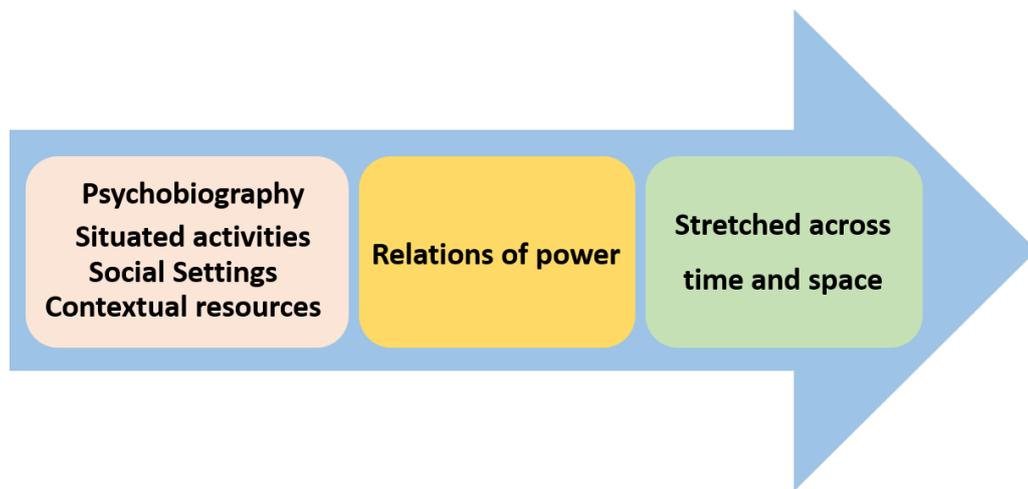


Figure 2.3: The layering of social domains and power in space from (Layder, 2005)

of emotions is subtly obscured by repression and the typical invisibility of much emotion work, and this is rarely acknowledged.

In the theory of social domains, emotion and power are considered to be close to each other, frequently linked. The distribution of occupations like nursing or social caring which needs emotional labor show the gendered distribution of care work and how they are implicated in patriarchal power. This structural asymmetry of gendered divisions occurs in all modern societies which point the existence of several domain “levels” (Layder, 2005).

Therefore, emotion shapes the social responses of people in their routine conduct (Layder, 2005). The role of emotion in social interaction, as Goffman has shown, is closely connected to status and power. That are, for example, the emotions of shame and pride which are related to the feelings of inferiority or superiority which is linked to power (Leonard, 1984).

In summary, most forms and instances of power have a complementary relation to emotion in social life. Sometimes emotion is the object of the strategies of power. This is the case, for example, of the manipulation of one person’s feelings by another, or the government’s use of public emotions for influencing political subjects.

In other cases emotions are just supporting the effects of power. For example in the cases of child abuse or poverty. Also, emotion can be a feature itself of power as when charismatic personalities give direction to the public. As it has been mentioned earlier, pride and shame are the main social emotions and are found everywhere in social life (Scheff, 1990). Layder suggests that this is because power is everywhere and emotion is its natural partner (2005).

By seeing power and emotion linked in this way, we can more easily connect them with issues of gender, racialization, and subjectivity. This is because gender relations

are the result and reproduce issues of power. Indeed women, in patriarchal societies, are subordinated to men. As part of these relations, women's experiences are made invisible in the mainstream narrative. Thus, some feminist theorists stated that the individual's interpretations, especially in the case of women, should be taken into account in order to understand power relations (Lengermann and Niebrugge-Brantley, 1996). Therefore, subjectivity should create a distinct level of analysis that provides a valuable mean of documentation for accounting for different women's experiences in social interactions and social life.

Very often, subjective responses are thought to be biased because they undo the rational and logical form of many sociological approaches (Wise and Stanley, 1983; Harding, 1987; Smith, 1987). Postmodernists aligned with that suggest more attention to subjectivities and emotional perspectives (Denzin, 1990; Rosenau, 1991). Domain theory underscores those points (Layder, 2005).

However, it is important to know that subjective perspectives are directly connected with the objective distributions of power and resources in society. Therefore the macro counterparts to these micro events must not be omitted from those subjective elements. Here is where domain theory diverges from some feminist and postmodernist writings because domain theory does not reject the notion of systematic and objective knowledge, but neither does it preclude the analysis of subjectivity (Layder, 2005).

2.3.4 The concept of restrictions in social domain theory

To counter the subjectivism by structuration theories by Giddens, Bourdieu, Berger and Luckmann, Blumer, Glaser and Strauss, it is essential to preserve some concepts of the objective aspects of social restrictions (Layder, 2005). For example, according to Giddens, restriction does not operate separately from people's reasons and motivations. He claims that these reasons are not external or objective (Giddens, 1986). Giddens rejects objectivism because it would mean excluding people's choices, reasons, and motivations. He fails to grasp the importance of moderate objectivism to account for institutional and cultural aspects of a social phenomenon (Layder, 2005).

More than people's motivations and reasons, it important to consider how restriction works. this is connected with the domains of situated activity, settings, and contextual resources that have a significant role in both enabling and restricting behavior from external and internal perspectives (Layder, 2005). Phenomena such as norms, expectations or discourses typically happen in a specific context. However, the impact and influence they have to reach other areas are beyond that context (Durkheim, 1982).

In the theory of social domains, subjective, intersubjective and objective phenomena are seen as different aspects of a shared social reality. Restrictions do not make sense separately from people, although they are not reducible to people's motives and reasons (Layder, 2005).

In this regards, feeling "compelled" by social forces happens when there is psychological engagement with them. This engagement can be either voluntarily or through coercion. However, the compelling feature of restriction is evident regarding making free decisions to follow goals, such as overcoming deprivation or achieving success. To reach that, it is necessary to conquer social obstacles, such as acquiring credentials or material resources through a socially accepted route.

2.3.5 Social domains theory explains women's perception about social egg freezing

This part provides an explanation of the adoption of social domain theory of Layder to this thesis. Social domain theory constitutes the conceptual basis for this study. This theory suggests a multidimensional (from both individual and structural perspectives) analysis of the social world to understand the social phenomena. Therefore, Layder's four domains (psychobiography, social setting, contextual resources and situated activity) have been applied to explore women's opinion, knowledge and experience regarding social egg freezing technology at an individual level as well as structural level.

Social domain theory suggests that researchers should go more in-depth into macro and micro phenomena. This theory also encourages researchers to consider different dimensions in the social world because in this way it is possible to collect the insights and contributions of all perspectives, objectivism, and subjectivism (Layder, 2005).

Layder believes that this can be achieved through approaching the social world from various dependent and independent domains. He suggests going beyond dualism to examine the multidimensional nature of the social world (2005).

This thesis seeks to examine women's knowledge, opinion, and experiences of freezing eggs for social reasons. Accordingly, this study aims to identify the factors and issues at an individual, social and institutional level that affected women in using this technology.

This theory of social domain is based on agency and structure: they are connected but at the same time differentiated from one another, and they should not be conflated or defined out of existence (2005).

This theory includes four domains of social reality, which are independent but interconnected. These four domains are psychobiography, situated activity, social settings,

and contextual resources. Significantly, none of these domains have analytical primacy. The two domains “situated activity” and “psychobiography” represent the more immediate personalised aspects of social reality, and can be seen as the component units of agentic activity, whereas the domains “contextual resources” and “social settings” are by comparison relatively remote and often structural in nature (Layder, 2005).

The first two domains, situated activity and psychobiography, represent individual’s aspects of social life. Thus, they can be identified in agentic level; the third and fourth domains, contextual resources and social settings, define the structural level of social life (Layder, 2005).

Here we explain the definition of each domain in the social domain theory of Layder briefly.

The psychobiographical domain highlights a unique individual’s existence from birth to the present. This domain detects the impacts of ‘critical experiences’ that could be a trauma or a crisis such as a loss or an illness. The psychobiography is a combination of an individual’s beliefs, understanding, reactions, and attitudes. For example, the egg freezing is a different experience for each woman. According to this domain each woman understands this technology differently and based on her own beliefs she will have distinct feelings, reactions, and attitudes.

Situated activity or in Goffman’s (1967) words “arrivals and departures” is the intersubjective dimension of social life which is governed by a different notion of time. Situated activity frames a period from the beginning to the end of encounters. It focuses on how individuals respond to their social environment through social interaction. For example, a quick encounter and the feeling that two people exchange about the weather or a more extended encounter as interactions with friends. Another specific example would be the interactions between women and their friends surrounding motherhood topic.

Social settings - Situated activity mediates between subjective and objective elements of social reality by filtering the influences of both psychobiographical and structural domains. It forms the immediate environment of situated activity. Relationships (settings) are different, from formal such as government, school, hospital, and informal such as friendships and partnerships. In the case of my research settings are fertility clinics, hospitals and other places in which motherhood and its practices are negotiated.

Contextual resources include two dimensions which are material (the material resources are unevenly allocated with groupings such as those based on class, ethnicity, age, gender, status and so on) and cultural (historical accumulation of cultural resources such as knowledge, mores, media representations, fashion and so on).

Although social domains are significantly different from each other, they are linked and there is a remarkable connection between them which is essential. Also, their operation is linked together and they do not drive autonomously.

Psychobiography and situated activity include subjective and inter-subjective components, and at the same time, they are influenced by the objective system domains of social settings and contextual resources. The same is correct about settings and contextual resources.

However, none of these domains exist independent of the activity. Besides, system elements cannot be reduced to subjective or inter-subjective phenomena. The elements of agency and system join together, but their characteristics do not change and influence each other and do not destroy their distinctive characteristics and generative power.

These domains and their influences on women's decision making about social egg freezing will be further discussed in chapter five. As part of the cultural dimension of this social theory, it is important now to consider the ways in which assisted reproductive techniques (and specially egg freezing technology) have been debated by feminist theories, as it provides relevant insights for the topic of this thesis.

2.3.6 Feminism and the concept of motherhood

The prosperity of feminist literature on the topic of assisted reproductive techniques has helped to get to an in-depth knowledge of the application of these technologies, and has also demonstrated a paradoxical tension of their use (Thompson, 2005), as well as how these techniques are both gendered and reproduce gender relations (Almeling, 2011; Courduriès and Herbrand, 2014). The increased use of ARTs is responded by feminists in two distinct phases with contrary concerns and anxieties (Thompson, 2005).

Whereas Shulamith Firestone (1970) rose that artificial reproduction could overcome gender differences, feminists were suspicious about the potential advantages of ARTs since the first steps (Stanworth, 1987). Reproductive technologies at the first phase (1984-1991) was highly under criticism and gained distrust from feminists as they believed that it is an example of creeping medicalisation and an expansion in male-control over previously sacred areas of women's health (Oakley, 1984; Rothman, 1987; Terry, 1989; Strickler, 1992). The control of reproduction was transmitted from mother to clinician meant adversative to feminist and this had exacerbated the mistrust of them (Klein, 1989; Corea, 1986). Furthermore, potential physical risks to women and their babies, as well as potential for the abuse of women, were anxieties which feminists were cautioned about, specially the way these technologies could emphasize on historical limitations on women with the excuse

of their “biological destiny” (Stanworth, 1987). Considering these concerns, feminists responded to new technological improvements were out of hesitation, if not absolute hostility (Strickler, 1992).

Feminists argued that new reproductive technologies just encourage women to admit defeat and to accept their biological destiny of mandatory motherhood (Terry, 1989; Thompson, 2005). There was a concern that these new technologies would adversely establish new controlling systems over women’s reproduction rather than make them more capable of take the control of their own choices and lives (Gupta, 1991). During this first phase, feminist theory insisted to shows anxieties with large-scale basic functionalist enlightenments of gender stratification, and ARTs were realized as socially and economically stratifying (Colen, 1995; Ginsburg and Rapp, 1995). However, at the end of this first phase of feminist literature on ARTs, anthropological and sociological experimental researches explored the experiences of women who had undertaken these technologies (Koch, 1990; Kirkman and Rosenthal, 1999). Whereas the women in some of these studies were still described as being ideologically deceived into intrinsically patriarchal and anti-women treatments, these researches demonstrated a variety of experiences of women applying reproductive technologies and, following debates over the legitimacy of the maternal instinct, the infertile woman’s desire to have a child was reckoned “more important and considerable than just a patriarchal obligation to reproduce” (Thompson, 2005, p. 67). Consequently, after the initial criticisms around ARTs, in the second phase of feminist reaction to ARTs (1992-2000) moral certainty was replaced by uncertainty where anxieties about the stratification of reproduction by class was replaced with concerns about the injustice in access along civilization and sexuality lines (Ginsburg and Rapp, 1995; Culley et al., 2009).

Current feminist deliberations are no longer concentrate on whether reproductive technology is fundamentally “good” or “bad”, although there are still some apprehensions about the medicalisation of reproduction remains. Instead, more nuanced situations related to contemporary neoliberal context, underline the deep uncertainties that ARTs generate (Franklin, 2013). Some authors have recognised Neoliberalism as the principal ideology in social, political and economic domains which has affected our world today (Yeates, 2002).

Neoliberalism is about the revolution of social, political and economic values to favour the withdrawal of the authorities and accountabilities of the state away from a providing social state and towards that of a facilitating state (Brown and Baker, 2012). Encouraging individualism, and the shifting authorities and accountabilities of state to the individual,

neoliberalism inspires individuals to construct their lives on their own desires (Brown and Baker, 2012). Individuals are responsible for managing their individual biographical projects as well as consequences of their decisions, or indecisions (Rose, 1990; Gill, 2007) . In relation to this, feminist analyses have acknowledged that, although new reproductive technologies certainly threaten to reproduce existing power relations, they also introduce new possibilities for disruption and resistance (Sawicki, 1991; Leve, 2013).

Feminist approaches to ART under neoliberalism emphasise the complex nature of this phenomenon and show concerns similar to the 1980s and 1990s. Different authors agree (Wilkes, 2015)(Hernando, 2017) on deconstructing the pillars of neoliberal individualism: the apparently-impartial values of choice, the self-sufficiency of the subject and the link between identity and consumption. Accordingly, they highlight different contextualized issues. Considering the regularised use of ICSI for male factor childlessness and the normalisation of medical-assisted reproduction, contemporary (feminist) perspectives critically address social stratification and the reproduction of inequalities based on class and sexuality lines. Other issues that are critically discussed include the medicalisation of “healthy” women for market benefits, which Leve (2013:277) calls ”reproductive bodies and bits” principally in the perspective of cross border reproduction; and the increase of social pressure and stress suffered by women to employ fertility technologies (Culley et al., 2011; Leve, 2013; Courduriès and Herbrand, 2014; Cattapan et al., 2014). Under neoliberal conditions, feminist positions face the challenge of discussing key liberal terms such as equality, free choice, autonomy and opportunity (Rottenberg, 2014) and engage in critically problematizing what has been termed as “post-feminist pressure of having it all” (Gill, 2007).

Chapter 3

Methodology

3.1 Introduction

As discussed in chapter two, there are very few qualitative studies examining the fertility clinics communication strategies as well as women’s experience, perspective, and knowledge about egg freezing technology. Although fertility clinics websites are examined for the credibility of their information (Abusief et al., 2007; Wilkinson et al., 2017; Hawkins, 2013; Jain and Barbieri, 2005; Huang et al., 2005; Spencer et al., 2016; Marriott et al., 2008; Avraham et al., 2014), as well as women’s motivations to undergo social egg freezing procedures (Baldwin et al., 2014; Witkin et al., 2013), very little research has been done about how these websites present social egg freezing and how the prospective users perceive it.

This chapter describes the design and methodology of the proposed research. It also discusses the applied methods and analytical processes. Moreover, it also describes the relationship between the theoretical framework and the applied methods.

As discussed in chapter two, theoretical framework, this research uses two theories: framing and social domain theory. The framing theory assists in explaining the online communication strategies of fertility clinics in connection with social egg freezing, while the social domain theory helps us understand this process from a woman’s perspective.

This chapter provides a description of the study design, considering the applied theories. First of all, the justification of data collection is argued, and then, the research design and methods carried out to gather our data will be discussed.

3.2 Justification of Data Collection

This research is based on the assumption that fertility clinics advertise egg freezing procedures for social reasons in an environment where there is some sort of social pressure

present on women to become mothers. Therefore, it is essential to know how fertility clinics frame their messages in order to persuade women, and also what are the woman's perceptions regarding this new technology.

As mentioned in the introduction chapter, according to Spanish legislation, fertility clinics must provide to users accessibility to information about their techniques; and this information must be clear and precise regarding the related activity and service, as well as the results of the centers (LEY 14/2006: 19948).

“Uno de los mecanismos prioritarios para contribuir a la equidad de esa relación es la disponibilidad de una información accesible a los usuarios de las técnicas que sea clara y precisa sobre la actividad y los resultados de los centros y servicios que las practican” (LEY 14/2006: 19948)

Previous studies demonstrate that the information presented in websites of fertility clinics are not always clear, and in some instances, misleading. This information is generally presented in a way designed to attract people to use the services. Thus, the primary objective of these websites is to persuade people to undergo their proposed treatments.

To this day, the characteristics of the messages connected to these experimental treatments are not well understood. Keeping this in mind, we propose the following objectives:

3.3 Objectives

Overall Objective

The overall objective is to determine the communicative treatments of Spanish fertility clinics regarding social egg freezing treatments and, to understand the perceptions of women regarding these procedures. To be more specific, the study seeks to describe how fertility clinics present information on the subject of social egg freezing in their websites, as well as to understand this phenomenon through the perspective of Spanish women.

Specific Objectives

1. To determine the main frames used by fertility clinics in the context of their websites, concerning fertility preservation through the egg freezing treatment.
2. To describe Spanish woman's perceptions on the subject of motherhood, as well as their views on the preservation of fertility for social reasons through the egg freezing treatment.
3. To narrate and understand the experience of some users of social egg freezing techniques in Spain.

Following is the definition proposed by the Cambridge dictionary. We will interpret a perception as “a belief or opinion, often held by many people and based on how things seem” (Cambridge dictionary).

3.4 Methodological Design: Applying Framing and Social Domain Theories

The first objective of this study is to link the fields of health and communication. This relationship is established through the framing techniques used by fertility clinics to promote the egg freezing technology for social reasons to women. The theory of framing seems the most suitable to describe the way in which these websites design their content.

The study applies a social domains theory for the second and the third research objectives, in order to provide a perspective on social egg freezing phenomena from Spanish women's perceptions. The theory of domains proposed by (Layder, 2005) allows us to understand different dimensions of this phenomenon in the context of society.

As we explained in chapter two, to frame is "to select some aspects of perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described" (Entman, 1993, p. 52). That means frames highlight some particular features of reality while downplaying some other aspects of it, and that affects the interpretation of the audience.

Thus, analyzing the content of fertility clinics websites through the lens of framing theory allows us to discover the perspectives of fertility clinics regarding social egg freezing. We can uncover the hidden aims for which the presented frames have been selected. Furthermore, it is helpful to describe the unselected parts of this reality, which are omitted in the websites. In other words, framing helps us to see both sides of reality.

For example, egg freezing for social reason can be framed as giving freedom to women to choose the time of becoming a mother or can be framed as seeing women as egoist or irresponsible for postponing motherhood. Each of the above perspectives implies a completely different problem definition, causal interpretation, moral evaluation, and treatment recommendation.

These websites comprise both visual and textual messages, following a particular thought. The messages have been structured not only based on what the creators believe, but also in a way that provides a certain framework of perception to women who are their targets (Ardèvol-Abreu, 2015). Frames are what is in the minds of who creates them and what is in the minds of who receive them. Thus, analyzing the frames will allow us to discover and understand them.

Within social domain theory, Layder explains the "conflationary" feature of social theories in which the perspectives or frameworks tend to collapse together (Layder, 2005, p.

264)). For example, the structuration theory of Giddens tends to unify the two theories of traditions functionalist and interpretive traditions. Layder suggests a theory which provides an overview of social agencies (Layder, 1997). This theory offers a method through which it is easier to understand the reality of the social world, what he sees as ‘textured, multidimensional and stratified in nature’ (Layder, 2005, p. 247).

Layder, in his theory of social domains, defines that “The concept of agency has to be decomposed into the constituent elements of psychobiographical inputs and the emergent dynamics of situated activity while structural or system elements are broken down into settings and contextual resources” (Layder, 1997, p. 247). He hypothesizes that his theory and its perspective is a good tool that allows the investigators, who are analyzing a social reality, to understand the agency-structure relations. He also notes that this theory helps researches focusing on social activity, as well as its institutional forms which provide their backdrop’ (Layder, 2003).

Layder’s theory of social domain discusses that while the agency and structure are different, they are connected and the relationships between them should not be defined out of existence (1997: 268). This perspective can be beneficial to analyze different dimensions of social phenomena. Thus, we used his four dimensions of the theory to design the data collection and analysis techniques. The following figure 3.1 shows the relationship between four domains of the social theory of Layder (2005).

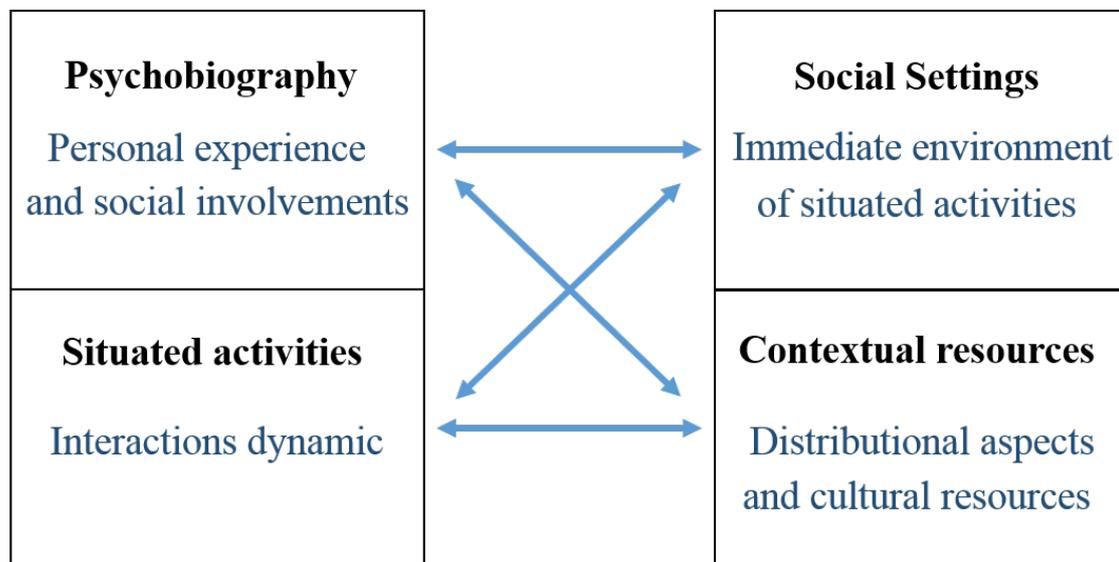


Figure 3.1: Relationships between four dimensions of Layder’s theory.

As it is shown in figure 3.1, the four domains of Layders theory are independent but interconnected at the same time. These domains reflect various dimensions of social reality. The first two domains, psychobiography and situated activity, can be seen as

units of agency, and the social settings and contextual resources as the structural ones. So the first two domains, psychobiography and situated activity, reflect the personalized aspects of social reality which embody subjective phenomena, while, the social settings and contextual resources reflect the social aspects of social reality.

3.4.1 Type of study

The research is descriptive. According to Rangarajan, descriptive research attempts to either identify the characteristics of an observed phenomenon or to explore possible associations among two or more phenomena (2013). Our study seeks to describe the communication strategies of fertility clinics via describing the frames used in the context of their websites, while on the other hand, it provides a description of social egg freezing procedures from women's perspective.

3.4.2 Universe and sample

The study includes two universes: the websites of fertility clinics in Spain and Spanish women.

Websites of Fertility Clinics

To meet the objective related to determining the frames that fertility clinics use in the context of their websites, all the websites of the fertility clinics which offer the social egg freezing treatment were selected. According to the Spanish Fertility Society, 136 medical centers in Spain offer egg freezing procedures. Appendix A.1 includes the list of all the participants centers within the Spanish fertility society (SEF) which offer social egg freezing services.

Information on fertility clinics in Spain was obtained from the last document of the Spanish Fertility Society (SEF), where 136 clinics and hospitals offered oocytes cryopreservation in 2016.

All of the websites and clinics were reviewed and 38 of them were found to not offer egg freezing treatments for social reasons. In public hospitals, egg freezing treatments were offered only for medical reasons, but in some of the private centers, the information did not appear on their website, although they were offering this procedure for social reasons. In a review process of the above clinics, the Google search engine of Spain (Google.es) found as well some other clinics, which were incorporated into the analysis, as shown in table 3.1.

Therefore, as indicated in Table 3.2, the final sample of fertility clinics websites are comprised of 101 websites.

Table 3.1: Clinics appeared in google.es

	Medical center	Province
1	Fiv Barcelona (gravida) (EN Hospital de Barcelona)	Barcelona
2	Gine Fiv	Madrid
3	Gineplus-Ana Fernández	Zaragoza

Table 3.2: List of medical centers that their websites were analyzed

No.	Medical center	Province
1.	Equipo Ron - Hospital Quiron A Coruña	A Coruña
2.	Zigos Centro Gallego de Reproducción	A Coruña
3.	ART Vitoria	Álava
4.	IMED Hospitales Alicante	Alicante
5.	In Vitam Centro de Medicina Reproductiva	Alicante
6.	IREMA	Alicante
7.	IVF-SPAIN (Alicante)	Alicante
8.	IVI Alicante	Alicante
9.	Unidad de Reproducción Clínica Vistahermosa	Alicante
10.	IVI Almería	Almería
11.	Unidad de Reproducción – Hospital Mediterráneo	Almería
12.	Unidad de Reproducción – Hospital Virgen del Mar	Almería
13.	IERA - Instituto Extremeño de Reproduccion Asistida	Badajoz
14.	Centro Medico Teknon	Barcelona
15.	Fertilab.Institut Català de Fertilitat	Barcelona
16.	Hospital Quiron Barcelona	Barcelona
17.	Institut Dexeus	Barcelona
18.	IVI Barcelona	Barcelona
19.	Clínica EUGIN	Barcelona
20.	SOMDE1 Dr. Santiago Deleus	Barcelona
21.	FivBarcelona (gravida) (EN Hospital de Barcelona)	Barcelona
22.	Clínica Rubal	Ciudad Real
23.	FIV Recoletos Ciudad Real	Ciudad Real
24.	Clínica Bau - Córdoba	Córdoba
25.	Clínica Povedano	Córdoba

26.	IFEM Córdoba S.L.P	Córdoba
27.	MAR&Gen	Granada
28.	Clínica Inagor	Granada
29.	Clínica Pedrosa	Granada
30.	Clínica Sanabria	Granada
31.	UR Hospital Inmaculada	Granada
32.	Vithas Hospital la Salud	Granada
33.	Fiv Recoletos Guadalajara	Guadalajara
34.	Instituto Vasco de Fertilidad Donostia	Guipuzcua
35.	Hospital de dia Quironsalud Donostia	Guipuzcua
36.	IVI Las Palmas	Las Palmas de Gran Canaria
37.	Centro Ginecológico de León	León
38.	FIVLleida	Lleida
39.	Clínica Ginecológica Juana Hernández	Logroño
40.	Amnios In Vitro Project	Madrid
41.	Centro Médico Milenium Alcobendas Sanitas	Madrid
42.	Clínica Ruber-Centro de Reproducción Madrid, S.L.	Madrid
43.	Clínica Tambre	Madrid
44.	EVA Q1 LAB, S.L	Madrid
45.	EUGIN	Madrid
46.	FivMadrid	Madrid
47.	Fundación Jiménez Díaz UTE	Madrid
48.	HM Fertility Center Montepíncipe	Madrid
49.	HM Fertility Center Puerta del Sur	Madrid
50.	Hospital Universitario Quirónsalud Madrid	Madrid
51.	Instituto Europeo de Fertilidad	Madrid
52.	IVI Madrid	Madrid
53.	Procreatec	Madrid
54.	URH Garcia del Real	Madrid
55.	GineFiv	Madrid
56.	Hospital Ruber Juan Bravo Quirónsalud-Centro de Reproducción Madrid, S.L.	Madrid

57.	IGMR Dres Ordás y Palomo	Madrid
58.	Centro Gutenberg	Málaga
59.	CERAM (Centro de Reproducción Asistida de Marbella)	Málaga
60.	FIV MARBELLA	Málaga
61.	HC-Fertility (El Centro de la Fertilidad)	Málaga
62.	Instituto de Fertilidad Clínica Rincón	Málaga
63.	IVI Málaga	Málaga
64.	Instituto Murciano de Fertilidad (IMFER)	Murcia
65.	IVI Murcia	Murcia
66.	TAHE Fertilidad	Murcia
67.	Unidad de Reproducción Hospital La Vega	Murcia
68.	CEFIVA - Oviedo	Oviedo
69.	FIV4-Instituto de Reproducción Humana	Oviedo
70.	Instituto de Fertilidad	Palma de Mallorca
71.	IVI Illes Balears (antiguo IBILAB)	Palma de Mallorca
72.	Estudio Médico Navarro	Pamplona
73.	Pamplona Quirón	Pamplona
74.	IVI Vigo	Pontevedra
75.	Clínica Mencía	Salamanca
76.	Centro de Asistencia a la Reproducción Humana de Canarias	Santa Cruz de Tenerife
77.	Centro Madre (Centro Mahtani de Reproducción)	Santa Cruz de Tenerife
78.	FIVSANTANDER	Santander
79.	IVI Sevilla	Sevilla
80.	MasVida Reproducción	Sevilla
81.	Hospital Quoronsalud Sagrado Corazon- Care Mujer	Sevilla
82.	Biogest	Tarragona
83.	Conceptum	Tarragona
84.	HM IMI Toledo	Toledo

85.	Clínica QuirónSalud Valencia	Valencia
86.	CREA Valencia	Valencia
87.	FIV Valencia	Valencia
88.	IMER	Valencia
89.	IVI Valencia S.L	Valencia
90.	Hospital Quironsalud	Valencia
91.	IVI Valencia 2	Valencia
92.	FIV Recoletos Valladolid	Valladolid
93.	Clínica Euskalduna	Vizcaya
94.	Consultorio Ginecológico Elcano	Vizcaya
95.	Instituto IGIN	Vizcaya
96.	IVI Bilbao	Vizcaya
97.	Quiron Bilbao	Vizcaya
98.	Reproducción Bilbao	Vizcaya
99.	Clínica Ginecológica de Zaragoza S.L.	Zaragoza
100.	IVI Zaragoza	Zaragoza
101.	Gineplus-Ana Fernández	Zaragoza

It should also be noted that two of the companies, IVI and Quiron, have several branches in different provinces of Spain. Their (individual) websites for their different centers were analyzed only once, because all of them offered the same information. Appendix B.1 includes a list of medical centers owned by the IVI and Quiron companies. Table 3.3 shows the number of analyzed clinics in each of the autonomous communities of Spain. Appendix C.1 provides the names of these clinics organized by autonomous communities and provinces.

Table 3.3: Number of analyzed clinics by communities

Community	Nº
Andalucía	21
Aragón	3
Asturias	2
Baleares	2
Canarias	3
Cantabria	1
Castilla-La Mancha	3
Castilla y León	5
Cataluña	11
Comunidad Valenciana	13
Extremadura	1
Galicia	3
Madrid	18
Murcia	4
Navarra	2
País Vasco	9
La Rioja	1
Total	101

3.4.3 Online questionnaire

In the next step, questionnaires were created to meet the second objective of the research process, which was to describe Spanish women's perceptions on the subject of motherhood and the preservation of fertility for social reasons through the process of freezing their eggs.

In order to set up the sample, the snowball technique was used. That is, taking as a starting point the contact and response of a woman, new women were contacted who proceeded to answer the questionnaire. The questionnaire was carried out online through the Google docs tool between January 20 and July 31, 2018, covering a total of 442 women. The questions were created based on the background review on related literature and also considering the four domains of social domain theory.

The questionnaire is composed of two main parts. One of them deals with the socio-economic characteristics of the women. The other one deals with the perceptions related

to egg freezing. The questions and answers were formulated in Spanish and Catalan. In cases where women had undergone egg freezing procedures, specific questions were displayed about their experience and opinion about the technique. Table 3.4 shows the structure of the questionnaire.

Table 3.4: Sections and topics addressed in the questionnaire

Section	Topic
Socioeconomic data	Age
	Civil status
	Sexual orientation
	Economic income
	Level of studies
Ideas and perceptions about the freezing of ovules	Ideal age to have the first child
	Family situation
	Interest in freezing their eggs
	Concern about deterioration of fertility
	Importance of being a mother
	Importance of having biological children
	Who should pay the egg freezing treatment
	Conditioning factors for the treatment of egg freezing

3.4.4 Semi-structured interviews

To understand the experiences of women who have used egg freezing techniques in Spain, semi-structured interviews were conducted with Spanish women who either had their eggs frozen for social reasons or were in the middle of the process of undergoing egg freezing procedures. As in the case of the questionnaire, in the interviews, the sample was generated from contact data supplied by the previous interviewees. In addition, a profile chart depicting women who were potential candidates for egg freezing procedures was created, taking into account the most relevant factors which have appeared in related literature (Gold et al., 2006; Tsafir et al., 2015). These studies confirm that most of the users of egg freezing procedures are single, heterosexual, highly educated and live in a good social context. Therefore, the key factors taken into account in order to build these profiles are: education level, relationship status, social status and sexual orientation, which in total generate 16 different profiles (see Table 3.5). The interview process continued until all the possible profiles were covered. However, four of these profiles were not covered by participants. These profiles include the combination of (i) high educated, low level social

status, and (ii) homosexual women. Finally, a total of 18 women have been interviewed.

Table 3.5: Interview sample profiles

Postgraduate degree High social status Single Heterosexual	Postgraduate degree Medium social status Single Heterosexual	Degree graduate High social status Single Heterosexual	Degree graduate, Medium social status Single Heterosexual
Postgraduate degree High social status Single Homosexual	Postgraduate degree Medium social status Single Homosexual	Degree graduate High social status Single Homosexual	Degree graduate Medium social status Single Homosexual
Postgraduate degree High social status In a relationship Heterosexual	Postgraduate degree Medium social status In a relationship Heterosexual	Degree graduate High social status In a relationship Heterosexual	Degree graduate Medium social status In a relationship Heterosexual
Postgraduate degree High social status In a relationship Homosexual	Postgraduate degree Medium social status In a relationship Homosexual	Degree graduate High social status In a relationship Homosexual	Degree graduate Medium social status In a relationship Homosexual

The interviews were conducted between 25th of February and 29th of October, 2018. 16 interview were done remotely through Skype, while 2 were done in person at the time and place of the participant's choosing.

The interview structure was devised based on the review of the academic literature on the topic of egg freezing. Analysis of the websites of fertility clinics, reading blogs, forums, newspaper articles and books on the topic of social egg freezing also helped. The final version was obtained after the questions were reviewed by two specialists in the field of communication and sociology.

The interview has six main parts: the socio-demographic data; the motivations for using egg freezing; the knowledge about egg freezing; support by others; the experience of egg freezing; feelings about future, and some questions about the web pages of fertility clinics.

The questions are open-ended, so the participants can respond freely, encouraging the opening of new perspectives beyond those expected by the researcher. The questions were designed to cover the four dimensions of social domains theory of Layder. Finally, a pilot test was run with one participant who was also a specialist in communication investigation,

resulting in minor modifications to the questions.

Since several researchers have applied interviews as a method to collect data on topics related to fertility, such as egg freezing, (Baldwin, 2016); we, therefore, conjecture that an interview is a suitable method to collect data for examining motherhood and fertility issues in the context of egg freezing.

Interviews are also known to be a suitable tool for sensitive topics, (Elmir et al., 2011) including those of this thesis.

The advantage of using semi structured interviews is that it makes it possible to choose the participants flexibly. Also, it enables the researchers to examine the personal reflections of participants. Moreover, it also opens the possibility of collecting data on some new lines which had not been predetermined.

In this manner, the researcher can explore the participant's experiences or feelings at a delicate level and in a subtle way. Therefore, this method is a suitable one that fits the psychobiography domain.

3.4.4.1 Interview process

As mentioned earlier, 16 interviews were conducted through online video calls and 2 were conducted face to face. These two participants were given a choice of location for the interview. One chose to be interviewed at her office within her work place, and the other one chose to be interviewed at the university. The time spent on each interview was on average 45 minutes and reached up to two hours. The face to face interviews lasted more than the online ones.

The interviews were opened by asking the participants about the way in which they learned about egg freezing and about what was their motivations to use this technology. Following, more specific questions were asked that allowed them to explore issues of their choice.

All interviews were recorded using audio recording mobile applications and then they were transcribed.

After finishing the first interview, the audio recordings were listened to and transcribed to see whether they needed any modification. 18 of the audio recordings were transcribed using Microsoft Word and subsequently moved to Nvivo software in order to be analyzed.

3.5 Analytical Process

The websites, questionnaires and interviews were analyzed through content and discourse analysis.

3.5.1 Content and discourse analysis

According to (Holsti, 1969), Content analysis refers to “any technique for making inferences by objectively and systematically identifying specified characteristics of messages” (Holsti, 1969). Content analysis as a systematic technique to categorize and organize a text based on a specific codification can be used to summarize the text, which enables researchers to detect and describe the central point of the individual, institutional, or social attention (Weber, 1990). It can also be used to make inferences out of the context, which can be supported using other methods. In this study, content analysis and discourse analysis complemented each other and provided a qualitative description of the subject of the research.

This thesis employs discourse analysis methodology by attempting to make a connection to textual communication and society. It uses the process to understand the phenomenon embedded in the texts, images and messages, and to link it with the representations of the social world.

Discourse analysis has been applied in various ways, from linguistic researches to the philosophical approaches. According to Van Dijk (2013), in discourse analysis, the discourses are analyzed from two dimensions: textual and contextual. The textual dimension deals with the main structure of the discourse, such as texts, images, talks, conversation, etc., while the contextual one deals with linking these structures and their representations of the social world, such as the cultural context in which a conversation can make sense (Van Dijk, 2013).

So, regarding the textual dimension, elements like the structure of subjects, phrases, titles, as well as rhetorical devices, syntax, intonations, meanings, metaphors, and for the contextual dimension, the process in which the discourse structure is made, the process in which it will be received by the audience and how they are related to the social world and situations, are the main elements to be analyzed (Van Dijk, 2013).

In discourse analysis, unlike content analysis, the focus is not on analyzing the message. It emphasizes the ideologies that are linked to the process of creating the discourses (Wolf, 1988).

In media discourse analysis, normally, both discourse production and reception by the audience are analyzed critically. So, it is essential that claims are logical and well-articulated. According to Potter and Wetherell, there are some principles in discourse analysis that can show its validity. He states that the analysis structure should be reasonable to make itself effective (1987).

It is necessary that the raw textual material appears in the analysis. This enables other researchers to see the process of analysis and follow the logic of the author. The analytical process should be logical and well explained in order to make the process understandable for others. Claims should be well articulated since they are the links to find the patterns, and finally, discourse analysis should cover a critical dimension other than observing the content and describing it (Potter and Wetherell, 1987).

In most of the cases, media, production of discourse and its reception by the audience are examined critically and not just descriptively. Discourse analysis is an adequate way to understand the communication process as well as the messages and their meaning.

Therefore, in order to understand the frames used in fertility clinics online communications, discourse analysis has been applied. This methodology provides an insight into the relationship between women, society, social beliefs, providers, and communication strategies through which information is presented and meanings embedded within the context of the websites of fertility clinics related to social egg freezing.

3.5.2 Analysis of fertility clinic Websites

An inductive method was used, using the tool NVivo12, to identify the framing used in the texts, images, and videos presented on the websites of the fertility pages, regarding the preservation of fertility through egg freezing procedures undertaken for social reasons.

Each website comprises many pages, among which the homepage plus an average of three pages deal with fertility preservation treatments. The entire content of pages which dealt with fertility preservation, was downloaded and collected as the sample of our study.

Content analysis, as well as discourse analysis, have been performed in our study. These analyses have been done from a framing theory perspective. The progress included various stages, which helped us perform a systematic analysis. Figure 3.2 shows the process of analysis:

In the first step, 20 websites were analyzed to identify two primary categories, one containing negative frames and the other containing positive frames. These categories were determined by considering whether the message is formed in a way which conveys obtaining a benefit or losing a chance. For example, the following messages are framed in a positive and negative form, while both of them embed the same information:

Positively framed: “The egg freezing technique protects the chance of being a mother for those who want to have higher education.”

Negative form: “Will the time required for higher education affect the fertility potential?”

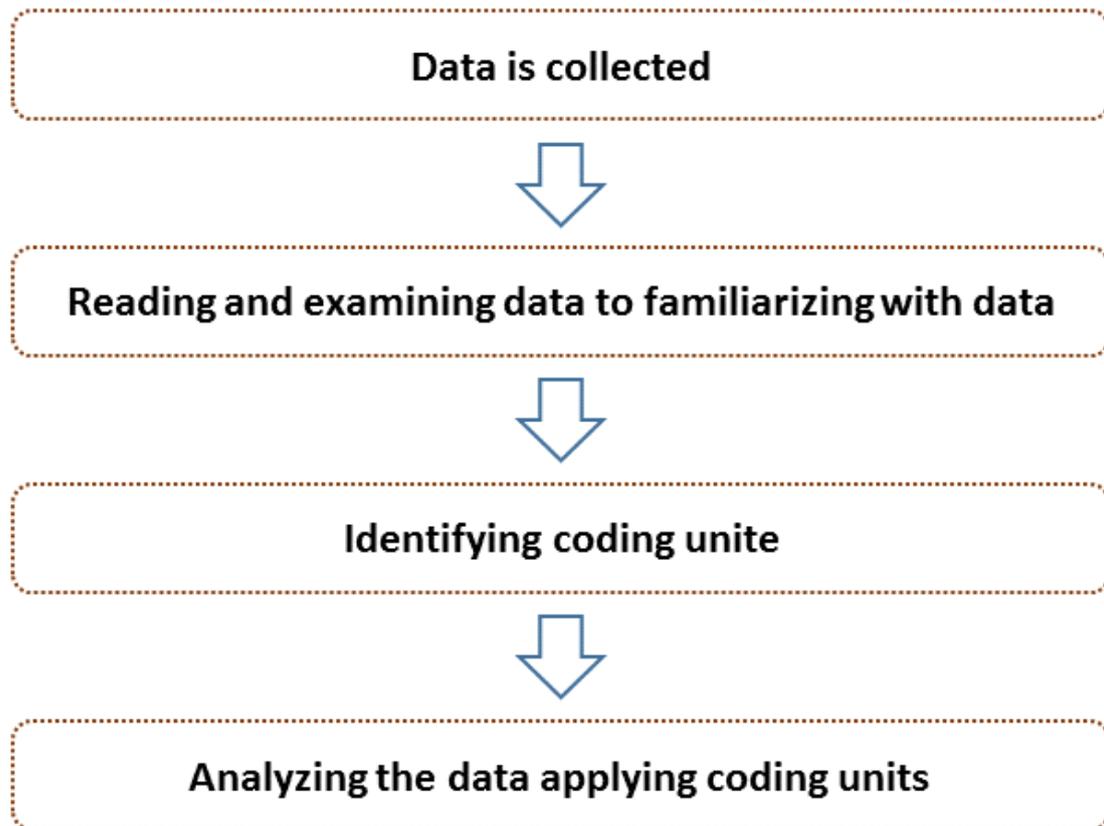


Figure 3.2: Process of analysis

Table 3.6 shows the Preliminary main dimensions and the categories determined in the first phase of analysis.

Table 3.6: Preliminary dimensions and categories

Dimension	Category
Negative	Dependente
	Inconvenience
	Regreted
	Stigmatized
Positive	Freedom
	Guarantee
	Power

Afterwards, these categories were reviewed by two experts in communication, thereby, a new version of the dimensions and categories was obtained. At this stage, each dimension, categories, and indicators have been defined. The dimensions and categories were defined

as follows:

1. Opportunities
 - 1.1. Capability: the ability to do the things that were impossible to do before.
 - 1.1.1. Choose: being able to choose other options apart from being a mother.
 - 1.1.2. Postpone the maternity: being able to preserve the maternity and postpone it.
 - 1.2. Freedom: the condition or right of being able or allowed to do, say, think, etc, whatever you want to, without being controlled or limited.
 - 1.2.1. Time management: not having a limitation regarding the management of time.
 - 1.2.2. Dreams: following one's dreams, a thought or image of the future life.
 - 1.2.3. Values: following one's principles or beliefs.
2. Overcome: to overpower or overwhelm in body or mind.
 - 2.1. Physical: that which refers to overcome the physical limitations
 - 2.1.1. Medical problems: illnesses that require chemotherapy treatment, such as ovarian cancer.
 - 2.1.2 Medical reason, first level: every phrase or section in which social reasons meet Medical reasons.
 - 2.1.3. Medical reason, second level: every phrase in which social reasons meet Medical reasons.
 - 2.1.4. Biological limitations: losing fertility potential due to age.
 - 2.1.5. Age: the range of age at which it is possible to freeze the eggs.
 - 2.2. Social: overcome limits related to social life.
 - 2.2.1. Not having an adequate partner.
 - 2.2.2. Not losing the professional career.
 - 2.2.3. Overcome the social pressure of being a mother.
 - 2.2.4. Not having a good economic situation.
 - 2.3. Emotional: overcome limitations related to emotional feelings.
 - 2.3.1. Readiness: Not being ready to be a mom.
 - 2.3.2. Bad feelings: including all the negative emotions that a woman could feel due to not becoming a mom.
 3. Technology: the study and knowledge of the practical, mainly industrial, use of scientific discoveries (Thomas Kuhn, 1970).
 - 3.1. Guarantee: success rate and the guarantee related to this technology.
 - 3.2. Quality: the quality of the equipment used in this technology.
 - 3.3. Services: the facilities offered by clinics related to this technology, including the quality care and price promotions.

Finally, to make the last adjustments, 10 websites (randomly chosen from the sample)

were reviewed and the last modifications were made to the analysis categories, obtaining the three dimensions: opportunities, overcome and technology, as well as several categories in each of the dimensions: (Opportunities: capability and freedom); Overcome: emotional, physical and social); and, (Technology: guarantee, quality and services) (Table 3.7).

Table 3.7: The final version of dimensions and categories

Dimension	Category	Indicator
Opportunities	Capability	Choose
		Postpone maternity
	Freedom	Time management
		Dreams
		Values
Overcome	Physical	Medical problems
		Medical reasons first level
		Medical reasons second level
		Biological limitations
		Age
	Social	Not having an adequate partner
		Not having a good economic situation
		Not losing the professional career
		Overcome the social pressure of being a mother
	Emotional	Readiness
Bad feelings		
Technology	Guarantee	
	Quality	
	Services	

3.5.3 Analytical process of questionnaires

The responses of the questionnaire presented to the women were obtained in Excel format and svx through the Google form tool. The descriptive analysis was done by reviewing the frequencies of the answers, by dividing them into sections referring to the socioeconomic data and ideas and perceptions about the egg freezing treatments and processes.

3.5.4 Analytical process of interviews

The responses to the interviews were analyzed qualitatively through the Nvivo tool. A thematic analysis has been conducted to analyze the interview related data. According

to Braun and Clark (2006), this process has six phases: familiarization with your data, generation of initial codes, searching for themes, reviewing themes, defining and naming themes and producing the report.

The analysis started after all the interviews were conducted. During the process of completing all the interviews and before starting to analyze them, I became familiar with the data, since I listened to the audios several times in order to transcribe them. Next, concepts from the previous literature were added as well to the coding process.

This coding framework was developed by reading the previous literature and interview transcripts. Once all the transcripts were coded, Nvivo software was used to analyze the data. An inductive approach to analysis was conducted in which 212 codes were created. All the parts of the transcripts were given at least one code.

The primary coding version contained 212 codes, and after reviewing it with two specialists in communication, some codes were modified. The codes were organized into categories for easier handling. Later, these categories were reviewed and some of them became subcategories.

The 7 main categories which were derived from this process included, motivation for social egg freezing; timing of motherhood; emotional and social support; risk; ambivalence about egg freezing technique; and opinion about fertility clinics website. These categories, then, were reviewed and a short definition of each of them were provided.

3.6 Ethical Conditions of Research

The questionnaires and the interviews conducted in this research were carried out through explicit consent given on paper or digitally by the participants.

This included ensuring the anonymity of the participants, data security, confidentiality, and the mentioned informed consent. All participants received the main information about the study. As stated above, they also gave explicit consent on paper or digitally (see Appendix E). They were allowed to quit the interview at any time. They were also allowed to ask any questions about the research at any moment during the interview or later.

3.7 Reliability of study

This thesis applies a qualitative methodology to the study of fertility clinics' online communication strategies and to the analysis of women's experiences of social egg freezing.

The methods used were in depth semi-structured interviews (18 in total), surveys (442 in total) and content analysis of the (101) clinics' websites selected for the research. These methods allowed to gather a large amount of data that served for the qualitative explo-

ration of women's perceptions of social egg freezing (so to answer The research questions).

The reliability of this thesis can be found therefore in its qualitative approach. The latter is meant to produce knowledge that is grounded in people's experience and offers in-depth insights into their situated realities.

Moreover, we can suggest that many individuals are likely to share similar experiences to those described in this study, given the diversity of cases analysed (Hardy and Bryman, 2004). So, if qualitative research includes sufficient information about the research criteria, the participants, the data collection methods, the period of time, as well as the location in which data collection has taken place, the results will be transferable to wider population (Shenton, 2004).

With these criteria, which this research includes, it is possible to suggest that the results of this thesis might be transferable or theoretically generalizable to other populations.

3.8 Limitations and Strengths of The Study

This study has some limitations. The sample size related to the interviews and the questionnaire is one of the significant limitations of this research. However, in the case of fertility clinics, all the available population samples in Spain have been analyzed. Therefore, the conclusions of this study can be generalized in the context of how fertility clinics frame their messages.

The next limitation of this study is that the interviews could not take place face to face, which may be a better format in relation to such sensitive topics. At the same time, however, remote interviews may be less stressful for the participants, since they preserve their privacy while they share their story.

Chapter 4

Analysis

4.1 Introduction

The analysis of this study includes three principal sections: results of fertility clinics websites analysis, analysis of the questionnaire, and interviews analysis. Each section provides a brief explanation of methodological design, sample collection, descriptive analysis and finally, exploratory data analysis.

4.2 Analysis of Fertility Clinics Websites

The first section presents an analysis of fertility clinics websites in order to answer the first objective of this study: “To determine the main frames that fertility clinics use in the context of their websites, concerning fertility preservation through the egg freezing treatment.”

This analysis has been done through a framing theory perspective. The analysis used framing theory to describe the strategies used by fertility clinics websites to design their content, with the objective of persuading women to undergo egg freezing technology treatments.

To determine the main frames used in the context of these websites, a total of 101 websites were analyzed. Relying on a literature review, a matrix of content analysis was set up to examine the contents of the web pages of the fertility clinics. The analysis identified three broad categories which are: i) opportunities, ii) technology and, iii) overcoming difficulties.

4.2.1 Descriptive analysis of fertility clinics websites

4.2.1.1 Fertility clinics websites sample analysis

The sample included 101 websites located in different autonomous communities of Spain. All the websites include information about the topic of fertility preservation through egg

freezing for social reasons. These clinics are distributed within the Spanish autonomous communities as follows. The communities that include the largest number of fertility clinics offering social egg freezing treatments are: Andalusia ($n = 21$), Madrid ($n = 18$) the Valencian Community, ($n = 13$), and, Catalonia ($n = 11$). Table 4.1 showcases the number of clinics (in each community and province) which offer social egg freezing in their websites. For more details, appendix A provides the names of these clinics organized by autonomous communities and provinces.

Table 4.1: Number of analyzed clinics by autonomous communities and provinces

Community	No. of clinics	Province Name	No. of clinics
Andalucía	21	Almería	3
		Cádiz	0
		Córdoba	3
		Granada	6
		Huelva	0
		Jaén	0
		Málaga	6
		Sevilla	3
Madrid	18	Madrid	18
Comunidad Valenciana	13	Alicante	6
		Castellón de la Plana	0
		Valencia	7
Cataluña	11	Barcelona	8
		Gerona	0
		Lérida	1
		Tarragona	2
País Vasco	6	Bilbao	4
		San Sebastián	1
		Vitoria	1
		Ávila	1
		Burgos	0
		León	1

	4	Salamanca	1
		Segovia	0
		Soria	0
		Valladolid	1
		Zamora	0
Castilla-La Mancha	4	Albacete	0
		Ciudad Real	2
		Cuenca	0
		Guadalajara	1
		Toledo	1
Murcia	4	Murcia	4
Aragón	3	Huesca	0
		Teruel	0
		Zaragoza	3
Canarias	3	Santa Cruz de Tenerife	2
		Las Palmas de Gran Canaria	1
Galicia	3	La Coruña	2
		Lugo	0
		Orense	0
		Pontevedra	1
Asturias	2	Oviedo	2
Baleares	2	Palma de Mallorca	2
Navarra	2	Pamplona	2
Cantabria	1	Santander	1
Extremadura	1	Badajoz	1
		Cáceres	0
La Rioja	1	Logroño	1

At the provincial level, the communities with the highest number of fertility clinics offering egg freezing for social reasons are Madrid (18), Barcelona (8), Valencia (7), Malaga, Alicante, and Granada (6), Bilbao and Murcia (4); while La Rioja, Cantabria, and Extremadura, with just one clinic, have the lowest number of fertility clinics, followed by Navarra, Baleares and Asturias (2). A visual distribution of the location of these fertility clinics within the different autonomous communities of Spain is shown in figure 4.1.



Figure 4.1: Visual distribution of fertility clinics in the different autonomous communities

4.2.2 The characteristics of the websites

First, the content of all the pages related to social egg freezing treatments has been checked. During the process of analyzing the clinics' websites, this study discovered that these websites follow different patterns, but most of them include colorful photos of babies, happy women, happy families and doctors. More information about fertility preservation has been found in the treatment sections. In the pages related to fertility preservation, the most visible and frequent link found was: to "set your free appointment" for consultancy. There were also other links to pages such as "calculate your fertility", "calculate your oocytes quality", and information about the procedure, success rate and price, together with different videos, photos, articles and blogs.

The majority of websites presented links to blogs or YouTube videos which had, mainly, a commercial nature, including persuasive information to promote social egg freezing. Different previous studies support this finding. For example, Jain and Barbieri asserted that even the doctors themselves that are working in fertility clinics recognize that those clinics promote their services utilizing the "information" on clinic's websites (Jain and Barbieri, 2005).

The most common features of these websites are connected to a range of perceptual factors linked with egg freezing and also to the process of selecting these clinics. These elements include clinics' features such as their success rate, quality, cost, place, and asso-

ciated promotions.

The information provided by these clinics is framed in a way that attracts women to the clinic. These frames, at a social level, focus on social issues faced by women, and at a business level, focus on factors that are key to clients when choosing a fertility clinic.

4.2.3 Exploratory analysis: Frames of the websites

The analysis has been done through an inductive method, using NVivo 12 software, to identify the frames in the content of the websites relating to egg freezing for social reasons, including texts, images, and videos. The codification has been carried out using a systematic process consisting of four steps: (i) total impression (from chaos to themes); (ii) identifying and sorting meaning units (from themes to codes); (iii) condensation (from code to meaning); and, (iv) synthesizing (from condensation to descriptions and concepts)(Malterud, 2012). This coding process has resulted in three main categories consisting of opportunities, overcome, and technology; with each category being further broken down into subcategories and indicators. These coding units have been applied to detect the frames in the websites of the fertility clinics. Table 4.2 shows the results of this analysis.

The analysis found 582 frames in the content of fertility clinics websites. The analysis exposed that most of the messages fit with the Overcome dimension (45%), followed by opportunities (34%) and then, the technology messages (21%).

Most of the messages represent the concept of overcoming difficulties. In other words, they focus on persuading women, highlighting that egg freezing is the solution for the problems and challenges women might face regarding motherhood and childbearing.

These problems and challenges have been categorized in three aspects: (i) social, (ii) physical and, (iii) emotional. Within these categories, physical aspects, with 52%, was the highest referenced, followed by social aspects (38%), and emotional aspects (10%).

The physical aspects include five subcategories. Since in these web pages, the information about social and medical egg freezing is positioned together, two categories within this part had to do with medical egg freezing and the position of medical versus social egg freezing within the web pages: (i) Medical reason first level, (ii) Medical reason second level. In this regard, whenever the terms social egg freezing and medical egg freezing appeared together, the priority associated with each of them was analyzed. The results showed that in 67% of the mentions, when the information was presented for the first time, social egg freezing was settled before medical, while medical egg freezing was incipient in 31% of the mentions. Some of the pages did not locate these two subjects together within the introduction part.

Table 4.2: Frames analysis of the websites

Dimension	Ref	%	Category	Ref	%	Overall %	Subcategory	Ref	%	Overall %		
Overcome	261	45%	Emotional	26	10%	5%	Bad feelings	1	3%	0%		
							Personal reasons	20	76%	4%		
							Readiness	5	21%	1%		
			Physical	136	52%	28%	Medical reason first level	43	31%			
							Medical reason second level	92	67%			
							Medical problems	86	27%	14%		
							Biological limitations	42	31%	7%		
			Social	99	38%	17%	Age	40	30%	7%		
							Not having an adequate partner	13	13%	2%		
							Not having a good economic situation	12	12%	2%		
Opportunities	198	34%	Empowerment	128	65%	22%	Not losing the professional career	45	45%	8%		
							The social pressure of being a mother	3	2%	1%		
							Social reasons	25	25%	4%		
							Values	30	42%	5%		
							Dreams	10	14%	2%		
							Time management	30	42%	5%		
							Choose	48	38%	8%		
Technology	123	21%	Services	23	19%	5%	Postpone the maternity	80	62%	14%		
							Guarantee	87	71%	14%		
							Quality	12	10%	2%		

27% of mentions in the overcome dimension, corresponded to a medical problem, which refers to egg freezing for women who are undergoing a treatment for cancer or other illnesses that can affect their fertility. Medical egg freezing might allow them to have biological children in the future.

61% of the messages in the physical category focused on biological limitation (31%) and age-related infertility (30%) as a threat for healthy women. This reaffirms that clinics put more emphasis on social egg freezing than on medical egg freezing in these web pages.

As discussed in chapter three, “biological limitation” and “age-related infertility” follow a similar concept, but approached from two perspectives. In these web pages, “biological limitation” represents a physical problem that threatens women’s fertility. That is, the female reproductive system has been assumed to be defective, which constrains the potential to be fertile to a certain age range. While “age-related infertility” expresses the same concept from the perspective of the eventually inevitable aging experienced by the reproductive system of both men and women.

Although “biological limitation” and “age-related infertility” frames argue the same concept, the features of these frames are different. The biological limitation framed messages transmitted a negative feeling to women for having a shortcoming which had to be resolved. While, age-related fertility messages, expressed it as a gain-framed message; conveying that egg freezing technology gives the opportunity of increasing the quality of the reproductive life. Therefore, this study interpreted biological limitation as a gender-centered frame, while the age-related infertility frame was interpreted as a gain-frame.

At a superficial level, both the social and medical reasons have the same relevance ratio in a general analysis of the clinics. However, a more detailed analysis shows that clinics tend to present more information about social egg freezing. Besides, public hospitals, which were not part of this analysis, only offer egg freezing for medical reasons. In public hospitals, social egg freezing is not accredited as an important treatment while in the private fertility centers it is promoted as a necessary procedure to save women from deficiencies associated with their reproductive system. However, egg freezing for social reasons is being increasingly promoted, given that the associated market is rapidly developing. This contradictory perspective in relation to social egg freezing has been a controversial topic among scholars.

The emotional category included three subcategories: (i) Personal reasons, (ii) readiness, and (iii) Bad feelings; among them, Personal reasons with 20 mentions was the most frequent frame. This frame covered all kinds of sensations connected with women choosing not to want to be mothers at a certain moment in time. The Focus of this frame was on

“unreadiness”, not on the reasons which cause unreadiness. This frame is very subtle and able to encounter a wider range of reasons, so that, more women might become convinced by this frame.

The social Category included five subcategories: (i) professional career, (ii) social reason, (iii) adequate partner, (iv) economy situation, and (v) social pressure.

The Professional career subcategory spanned 45% of the social category and had a significant social aspect. Thus, this frame is influential, since women who have a good job are the ones who can afford this treatment.

The second dimension of this framing analysis was linked to the opportunities that social egg freezing provides for women. This dimension comprised the two categories of empowerment (65%) and freedom (35%).

In the freedom category, time management and values had the same amount of mentions (42%), followed by dreams (14%). In the empowerment category, the most salient frame was “postpone maternity” with (62%), followed by “choose” framed phrases (38%).

Opportunity frames focus mainly on the potential ability to choose freely the other things that women desire to do apart from becoming a mother. This concept has been approached from different points of view: (i) giving freedom to women, (ii) providing them with new abilities, (iii) giving them the chance of choosing, and (iv) providing a way to make their dreams come true.

The third dimension was technology. Mentions to this dimension majorly belonged to the “guarantee” category (71%). Next, the “service” category appeared with 19%, followed by “quality” with 10%.

Speaking about technology is mainly related to the issue of guaranteeing the effectiveness of the egg freezing procedure; this includes presenting figures highlighting the specific aspects of the freezing process, rather than other stages of this procedure, including the quality of the eggs, the IVF success rate using frozen eggs, and the pregnancy and birth of healthy babies. The provided information was attractive, with only a little mention of the risks involved during these procedures, or of situations in which the technology, no matter how effective, cannot guarantee anything. Technology dimension consisted of the three categories of guarantee (14%), services (19%), and quality (10%).

In general, the most frequent frames were “guarantee” and the ability to “postpone maternity” (14%), followed by the freedom to “choose” and the ability to overcome the threat of “losing the professional career”(8%), and the “age” related infertility and “biological limitation” (7%). In total, 50% of the content is framed based on these concepts. That means, for fertility clinics, these concepts are the most significant challenges for

women in Spain. In other word, clinics use these notions to attract women to buy their services: trust in technology, the insecurity of the laboral situation, not being able to have children at older ages (in comparison to men), not being able to choose to do other things rather than becoming a mother at the optimum age, and being worried about age in general.

Within these categories, physical aspects with 52%, is the highest referenced, followed by social aspects 38%, whereas 10% referred to emotional aspects. Greater weight was put on social egg freezing vs medical egg freezing within these web pages.

4.2.4 Frames of websites by communities of Spain

The analysis showed that clinics in different communities use different frames. That might be because of the diverse cultures of each community of Spain, cultures which can be further studied in the future.

Although it is interesting to observe what the highlighted frames in each community are, this section selectively compares the framing patterns of fertility clinics websites of four autonomous communities, including these amounts: i) Andalusia ($n = 21$); (ii) Madrid ($n = 18$); (iii) Valencian Community ($n = 13$), and, (iv) Catalonia ($n = 11$).

Regarding the most frequent frames, the analysis showed that all the websites cover the "guarantee" one: Valencia (38%); Madrid(20%); Catalonia and Andalusia (19%).

Aside from Valencia, a high coverage of the "postpone maternity" frame has been shown by clinics in these communities: Catalonia (23%); Andalusia (21%), and Madrid (19%). A similar pattern has been found in relation to the following frames: "choose" and "the ability to overcome the threat of losing the professional career", with the following distribution: Catalonia (25%, 23%); Andalusia (22%, 20%), Madrid (19%, 22%), and Valencia (6%, 8%).

Considering the two frames of "age" and "biological limitation", the results showed: Valencia, lacking the "age" related infertility frame, but with a 42% coverage of the biological limitation frame, demonstrated a different pattern from the other three communities. Clinics from Madrid excluded as well the "age" related infertility frame, while it was included in clinics from Catalonia (8%), and Andalusia (4%). Table 4.3 demonstrates the mean of the coverage of each frame within these four communities. For instance, 20% of the framing patterns of each website in Madrid includes "guarantee". Figure 4.2 provides as well a visual representation of different patterns followed by these four communities.

Table 4.3: Frames coverage of fertility clinics by communities

Frames	Andalucía	Madrid	Valencia	Catalunya
Guarantee	75%	80%	58%	66%
Postpone maternity	86%	75%	6%	77%
Choose	86%	75%	0%	55%
Professional career	76%	69%	7%	53%
Biological limitation	45%	89%	62%	11%
Age	35%	75%	24%	66%

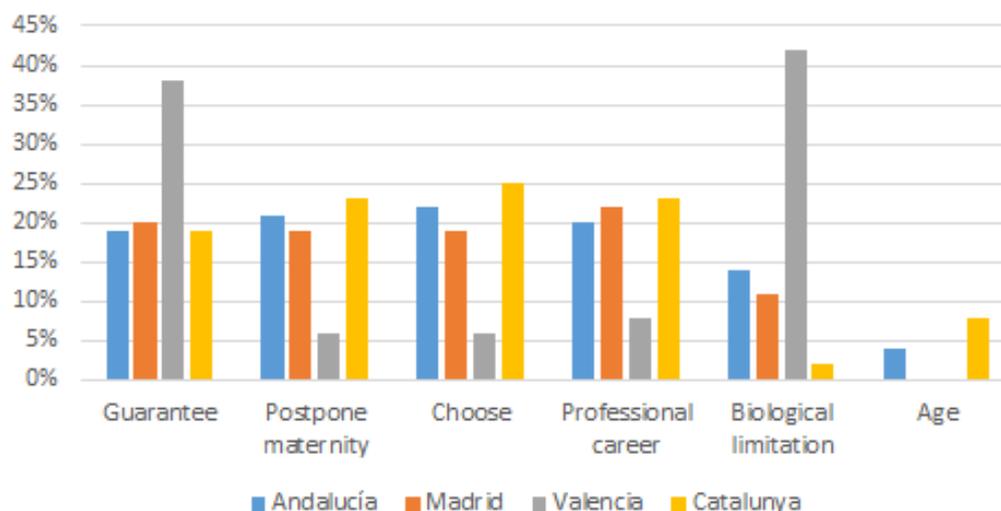


Figure 4.2: Framing by communities

As shown in table 4.4, each community follows a different pattern of framing. However, Andalusia and Madrid follow a similar pattern. The majority of fertility clinics in both of these communities follow the first three frequent frames: Guarantee, Postpone maternity and choose. Different patterns have been found regarding the biological limitation and age-related infertility frames. In comparison to Madrid, a smaller number of fertility clinics in Andalusia include these two frames. However, the majority of clinics in these communities include all of these highlighted frames.

In the case of Catalonia, the biological limitation frame has been found in small amounts. As mentioned earlier, this frame focuses on the gender aspect of fertility. Instead, clinics in Catalonia focus more on “age” related infertility, the same concept interpreted from a gender free perspective.

Finally, the framing strategy in Valencia seemed utterly different in the majority of fertility clinics of this community. As shown in table 4.4 very few of the Valencian clinics use the same frames as the other three communities. “choose” has not been used in any clin-

Table 4.4: Frames inclusion by four communities of Spain

	Andalucía	Madrid	Valencia	Catalunya
Guarantee	19%	20%	38%	19%
Postpone maternity	21%	19%	6%	23%
Choose	22%	19%	6%	25%
Professional career	20%	22%	8%	23%
Biological limitation	14%	11%	42%	2%
Age	4%	0%	0%	8%

ics websites. “postpone maternity” appeared just in one, and “age” in the three of them. The frames that match with the other communities are “guarantee” and “biological limitation”. Both of these frames have been used by more than half of the clinics in Valencia. However, there are other frames, apart from the above, which have been used by Valencian clinics. The results show that in 87% of clinics in Valencia the medical reason and social reason frames appear, although the social reason one appears more often before the medical reason frame. This implies giving more attention to egg freezing for social reasons, emphasizing that frame instead of the medical reason one. Table 4.3 presents the coverage of the mentioned frames organized by the number of fertility clinics in each community. For instance, 80% of fertility clinics in Madrid use the frame of guarantee in their websites.

4.3 Analysis the Photos and Videos of the Websites

4.3.1 Pictures analysis

All the pictures that appeared in the analyzed websites have been collected, named and, categorized as shown in table 4.5.

The analyzed websites included a total number of 183 pictures related to fertility preservation techniques. Most of these pictures, 49% of them, referred to egg freezing technology and science, with pictures of women located in the second place with a 25% coverage rate, followed by pictures of clocks, with 10%. Finally, 9% referred to children and babies, followed by 6% that belonged to other categories, as shown in figure 4.3.

Table 4.5: Analysis of photos

Category	Subcategory	References
Technology (90)	Laboratory	44
	Fertilized oocyte	28
	Certain stage of the process	18
Woman (47)	Colorful pictures of happy women	22
	Successful women	13
	Worried or reflecting woman in black and white or gloomy colors	12
Clocks (19)	Holding by a woman	13
	Only a clock	6
Babies (17)	Baby alone	11
	Baby and mother	6
Other (10)	Fertility calculation	3
	Graphics and magazines	3
	Germinating plant	2
	City	2

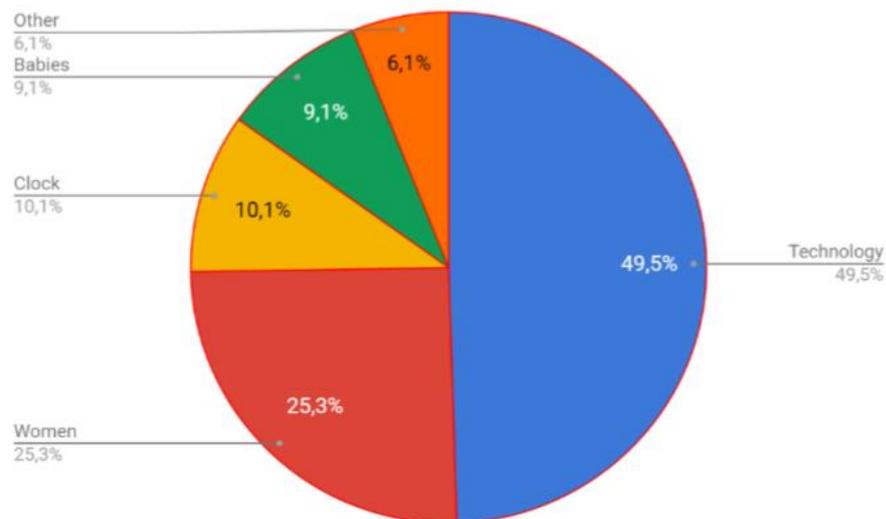


Figure 4.3: pictures categories appeared in the websites

The pictures related to technology sought to illustrate the scientific procedure that is carried out to preserve maternity through egg freezing. These pictures encompass three

different types: a) picture of a laboratory in which, typically, a woman is working, b) close up of a fertilized oocyte, and c) close up of a certain stage of the process. Although these images do not communicate much, they reinforce the idea that science can overcome women's fertility problem. Figure 4.4 includes one example from each type.



Figure 4.4: Examples of three types of technology related pictures; from left to right: a) picture of a laboratory in which, typically, a woman is working; b) close up of a fertilized oocyte; c) close up of a certain stage of the process

Source: Fertility clinics websites: Rubal clinic, and Institut Dexeus Barcelona

The second group were pictures of women that, we can assume, represented either the opportunity or the overcome dimension. Since these kinds of pictures focus on emotions, they may be perceived differently by different people and we could not fit them within any single dimension. These images of women appeared in three categories: a) colorful pictures of happy women who are smiling; b) successful women and, c) worried or reflecting woman in black and white or in gloomy colors. Figure 4.5 presents one example from each type.

In general, these groups of images tend to make a link to women with different profiles, so that women can identify or associate themselves with one or more than one of these pictures and complete the message with their particular experience.

The happiness in the first group of pictures, highlighted with sharp colors can be understood as the result of either overcoming a problem or being given the opportunity of living differently. So this group can belong to both of these dimensions. The second group is also in a similar situation, since it is assumed that becoming successful can be obtained through undergoing social egg freezing procedure. The third group of pictures are mostly presented in black and white or in gloomy colors, showing women thinking deeply, which can be interpreted as these women being reflecting about motherhood. This group of images can also belong to more than one dimension, since this reflecting state can be connected to different reasons.



Figure 4.5: Examples of three types of pictures of women; From left to right: a) colorful pictures of happy women who are smiling; b) successful women; c) worried or reflecting woman in black and white or gloomy colors

Source: Fertility clinics websites: Eva clinic, Pedrosa Granada clinic and MARGen

The third group includes photos of clocks which appeared either alone or being held by women. So, the pictures of clocks by themselves could belong to the age category in our coding list, while those clocks held by women are more related to the biological limitation one. The presence of clocks in these pictures can be understood as representing a deadline which is not that far. In the majority of these pictures, instead of a normal clock, a sand clock appears, which is an old time measuring instrument, often for measuring short amounts such as one hour. This message can be understood as transmitting hurriedness, which can cause stress in connection with the biological limitations. Figure 4.6 presents two examples of clock photos.



Figure 4.6: Examples of pictures of clocks; a) sand clock holding by a woman and b) sand clock

Source: Fertility clinics websites: IFEM Cordoba and Bau clinic

The fourth group includes pictures of babies. These pictures mainly depict healthy, nice smiling babies with nice colors, who appear both alone and with women. The message

that these pictures tend to convey can be: a) the good feeling of seeing a nice baby; b) the guarantee of being able to have babies using this technology. As pointed out before, these messages can be understood differently by each of the profiles. For example, women who are freezing their eggs because of the absence of a partner, would love to look at those pictures and imagine their future baby. On the other hand, these photos may bother women who do not want to be a mother and are freezing their eggs because of social pressure. Figure 4.7 shows some examples of this group.



Figure 4.7: Examples of pictures of babies; a) a Beautiful smiling baby with mother and b) alone

Source: Fertility clinics websites: IVI and Eva Clinics

4.3.1.1 Videos analysing

In this part, all the videos that appeared in surveyed websites ($n = 21$) were collected and organized in different categories as shown in table 4.6 .

Table 4.6: Video analysis

Categories	References
Specialists interview	8
Women interview	6
Scientific narrative of egg freezing	4
Press news	3

A total number of 21 videos were analyzed. Most of the videos that are presented on the websites of the clinics were interviews with specialists (38%) or with women who have frozen their eggs (28%).

Both of these kinds of interviews were designed to obtain more reliability in the results. Experts' opinions and explanations about this technology are perceived as correct and accurate by the audiences. And women's satisfaction about having undergone this procedure is also an evidence to its reliability.

In most of these interviews, the egg freezing technique is presented as a simple proce-

cedure with no associated risks. The interviews with the experts focused on the benefits of this procedure while the interviews with women were highly centered on the easiness and good ending of the process of undergoing this procedure.

The next category was the scientific narrative of egg freezing. These videos included animations or short attractive documentary pieces about egg freezing. They were visual interpretations of the information presented, containing mainly the same information which appears on the website.

Finally, the last category of videos was press news. These videos included news material that consisted of basic information about the egg freezing technique. The technology presented in these news has been simplified and depicts a risk-free procedure.

So far, this chapter has explained the results of the analysis of fertility clinics websites. It provided a description of the analysis of fertility clinics websites and their characteristics. It also presented the main frames that fertility clinics use in the context of their websites and in relation to social egg freezing. The analysis showed that the content of the websites focus on persuading women to undergo the egg freezing procedure and the main frames that they use to achieve their objective were: the ability to “postpone motherhood”; “guarantee”; “not losing the professional career”; opportunity to “choose”; “biological limitation”; and “age” related infertility.

4.4 Questionnaire Analysis

The second phase of this study was associated with the second objective of this thesis: “to describe the Spanish women’s perceptions on the subject of motherhood as well as the preservation of fertility for social reasons through freezing their eggs”.

The questionnaires were analyzed descriptively. After downloading all the answers using excel software, each question was firstly studied individually and then in contrast with other questions, in order to ascertain their relevance and relation to each other.

4.4.1 Descriptive analysis

4.4.1.1 Socio-demographic data of sample

A total number of 442 women were surveyed. They were between 20 and 47 years old. The most frequent ages were 30, 34, 36, 38 and 40 years old. Thus, most of the women who were the target of fertility clinics for the treatment of social egg freezing, were between 30 and 40 years old (58%). Followed the age range of 20-29 (31%), and finally the groups of 50 to 59 years old (11%) (Figure 4.8).

The majority of respondents were in a relationship (37%), followed by single women (34%), 10% divorced, and finally, 10% were married. Their sexual orientation was mainly

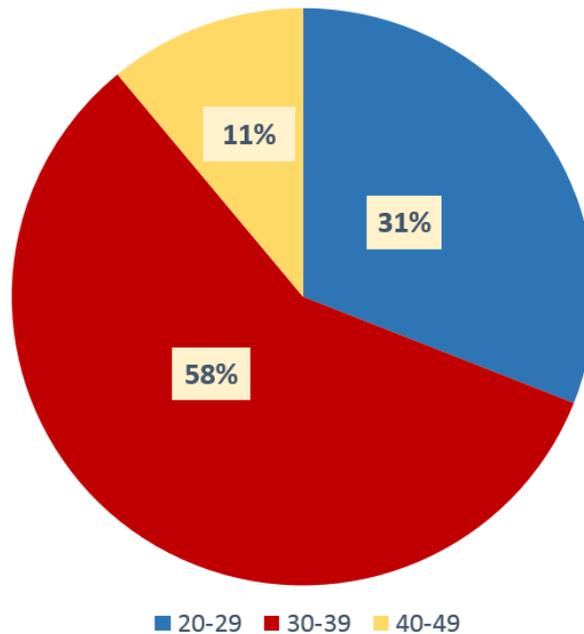


Figure 4.8: The age of the questionnaire respondents

heterosexual (82%), followed by a great distance by the homosexual orientation 10%, and then bisexual 6%. Regarding social positions, the respondents present a great diversity of professions, including the most repeated ones: university professor (12.5%), engineer (10%), businesswoman (7%) and journalist (5%).

Regarding income, the most frequented range of income was between 2300 and 2750 euros (49%), while 10% had between 2750 and 3550, and 29% of them had an income higher than €2750. The education level of respondents was mostly graduate or postgraduate at university studies (81%).

In general, the majority of the participants were between 30-40, in a relationship or single, heterosexual and highly educated with a good salary (2300-2700).

4.4.2 Ideas and perceptions about egg freezing and the concept of motherhood

The general section of the survey consisted of questions about the concept of motherhood and the egg freezing procedure. All of the 442 surveyed women expressed their perception and opinion about these concepts.

Regarding the first question, about the age preference to have the first child in an ideal condition, the most frequent answer was: 30 years old (33%), followed by 28 years old (11%) and 35 years old (8%). In total, 88% of women would like to have their first child between 25 and 35 years of age. According to this data, women did not show a tendency to postpone motherhood after the age of highest fertility.

Regarding the question of “indicate your family situation” in terms of having children or/and the desire of having them, most of the respondents who had one child, did show a desire to have another one. For every three participants who did not want to have a new child, there was one who would like to have more children.

In contrast, most of the child-free participants showed attraction to have a child. However, a remarkable proportion (11%) of child-free participants did not want to have children in the future. Figure 4.9 shows this data.

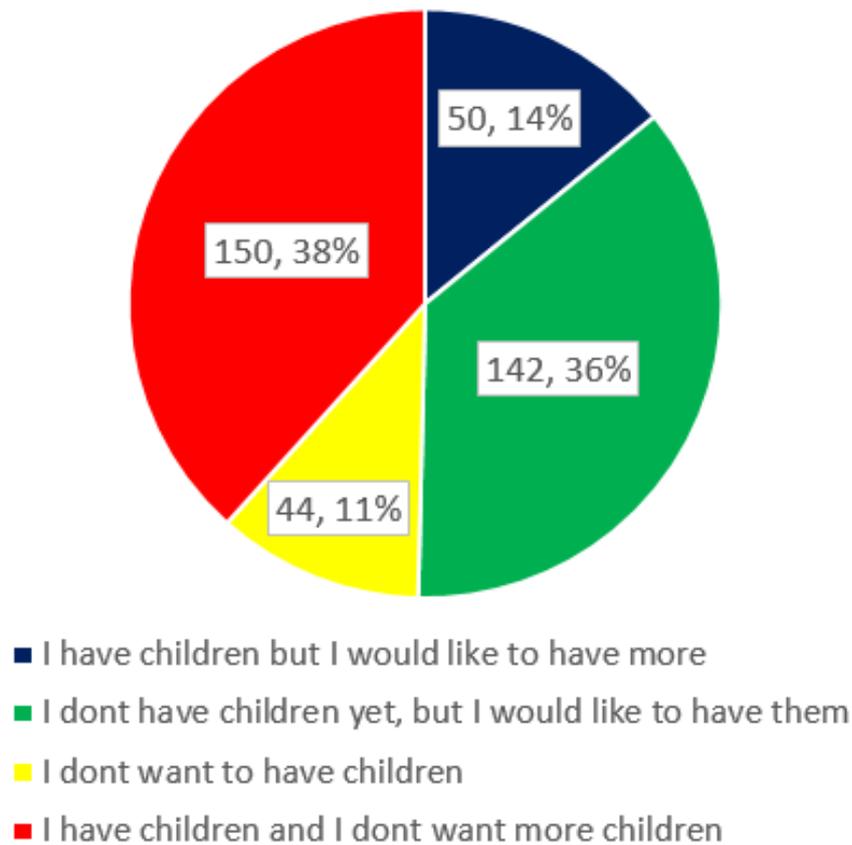


Figure 4.9: Family situation of respondents

Putting together the obtained data gathered from this question and the previous ones, demonstrated that the desire for motherhood is decreasing. For example, women in the 30-39 group expressed less willingness to have children compared with the 40-50 range. It is also shown that 65% of respondents who would like to have had their first child at the 25-35 years old range, did not have children yet after reaching 35 years old.

Next question was about the conditions in which to undergo social egg freezing procedures, from woman’s point of view. Almost one-third of participants disclosed the unlikelihood of undergoing egg freezing in order to postpone family planning (29%). Instead, the motivations for those with a tendency to freeze their eggs were mostly because of the absence of a partner or the absence of an adequate partner with whom they wishes to have

their children (27%); professional career (17%), and economic problems (16%) followed.

Although in an earlier question most of the respondents declared a lack of interest in postponing childbearing at the age that fit the best range to have the first child (25-35), this question showed a high likelihood of eventually undergoing social egg freezing for 70% of the participants.

The next question indicated that more than half of the respondents were not worried about age-related infertility (58%). However, 27% were concerned, and 15% were seriously worried. In total, 42% of those who were expected to be interested in egg freezing technology, showed their concern about this issue. However, putting together this data with previous responses, produces this conclusion: the predominance of the first group -who were not worried about their fertility- was more than the second group. That is, 45% of the participants of the second group, who were worried about age-related infertility, disliked egg freezing technology.

For the majority of the respondents, being a mother was very important or quite valuable in their life (65%). Taking all this data into account, this study concluded that there is no significant relationship between worries related to age-related infertility and desire for motherhood. The same conclusion applied to the desire to be a mother and undergoing the egg freezing process.

The importance of having biological children was the next question. For 51% of the respondents to have biological children was not important or a little bit important, while for 49% of them, it was an important matter. So, no dominant trend was detected regarding this question, as the different answers had equal proportions.

Comparing this data with the previous results showed that the majority of women who consider important being a mother, do not link that topic to being a biological mother. That means, for them the only important thing was becoming a mother. This can be interpreted in two ways; being a mother is so crucial to them that if after try all the options to have biological child, they would try other options to be mother; or they do not restrict themselves to have a biological child, and from the beginning they try other possible options, like adopting a child.

The next question was about the costs of this technology. The majority of participants, in connection with “who should pay for this treatment”, declared that it should be paid from one’s pocket (36%). Following, 33% of them, who believed that this price should be shared between the interested party and public aid. Finally, 15% considered that social health services should pay for this treatment. These numbers showed that egg freezing techniques offered for social reasons (from participants perspective), were not the kind of

treatment which can be paid by public aid and should be taken care of personally.

Although this technique is mostly seen as a private treatment by women, 50% of them stated that they would be willing to be given full or partial public support, as is currently the case for cancer patients.

Regarding the importance of the economic situation to undergo an egg freezing treatment, the analysis showed that for most women, the economic factor was very or quite conditioning (73%). Putting together this data with the previous results shows that the cost of treatment is significant and an important factor, at least for half of the respondents who indicated a willingness to receive public aid to pay for this treatment.

Along with this question, the participants were asked to determine the factors which might prevent them from freezing their eggs. Their answers included: the consequences of the treatments (28%); followed by misinformation or lack of information (14%); the information spread through media or social networks (11%); the professional friends opinions (10%); personal values (8%); and other factors such as the risks for the offspring, being experimental and religious reasons (Figure 4.10).

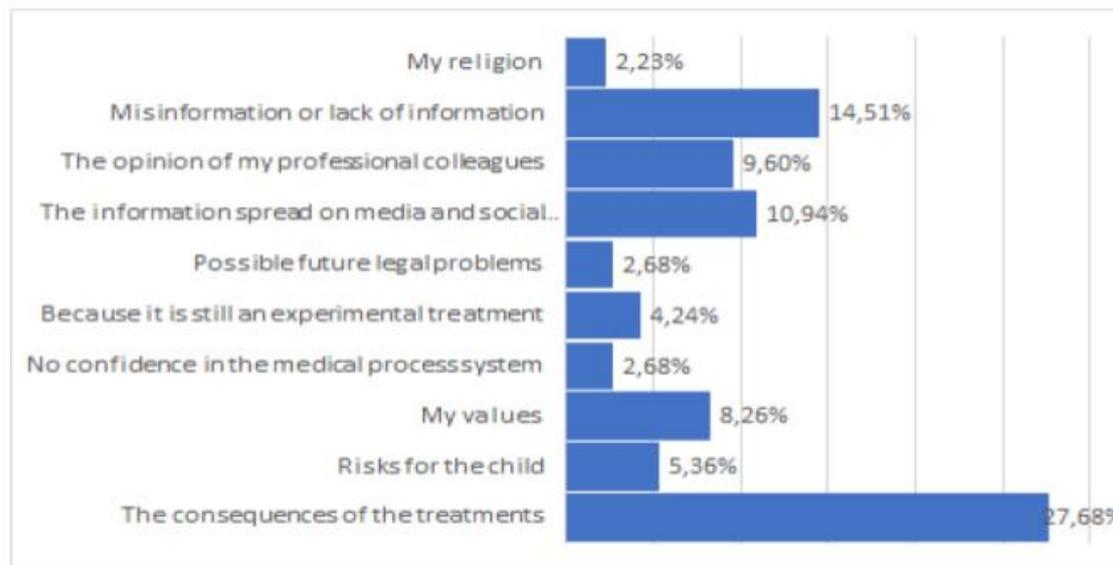


Figure 4.10: Limitation factors to undergo social egg freezing from interviewees perspective
Total number of respondents ($n = 442$)

These factors demonstrated a significant association with fear. Specifically, the fear of the potential risks of the treatment for women and children being a primary factor that conditions the decision to undertake egg freezing procedures (34%), which accounts for one-third of the whole population ($n = 442$). Adding to these two factors, the factor of

“being still an experimental treatment” and the “lack of confidence in medical treatment”, this fear reaches 62% of the surveyed women. This results also showed a lack of trust among participants. Especially the lack of trust on the information available on the media, social networks, etc. The unreliability of the medical system was an issue that prevented a small group of participants from undergoing this process. The information disseminated by social networks and media were also mentioned as a conditioning factor that influenced participants decision making.

This was the closing question of the first part, which sought to collect women’s opinion and perceptions about egg freezing and motherhood. As mentioned earlier, this part was answered by all the participants, since it included general questions. At the end of this section, women who did not undergo egg freezing treatments received a thank you note and were asked to leave their contact details in order to receive the results of this study, if they were interested.

The next part of the questionnaire included specific questions about the experience of undergoing the egg freezing treatment. Therefore, the respondents were only those who had undergone or were about to undergo a social egg freezing treatment.

4.4.3 Women’s experience undergoing eggs freezing tratmentfor social reasons

Characteristics of the Participants

As mentioned earlier, of the 442 respondents, 23 of them experienced egg freezing procedures, that is, 5.2% of the total number of the participants. According to the data of these 23 women, the age range in which they froze their eggs was between 35 and 42 years of age, with an average of 38.5 years of age. According to the available scientific research, the maximum age at which they can achieve an acceptable success rate in this process is at the maximum 36.

Most of the participants were in a relationship (43%), followed by 39% who were single and 12% who were divorced and finally, 6%, who were married. Among them, three participants had one child, but they wished to have more children in the future. Their professions were diverse, including a lawyer, a nutrition expert, a psychologist, a university professor, a business woman, etc. Apparently, most of them had a high education level except two, including a hairdresser and a singer, who graduated from secondary school.

Regarding their economic situation, most of them had an income between 2750 and 3550 euros, and in 8 cases, more than €3,550. All the participants were heterosexual, except three, who were homosexual.

Egg Freezing Experience

The first question in this section was about the way the participants learned about social egg freezing. Media, including news, social networks, blogs, fertility clinics websites, etc. was the channel most frequently mentioned. They also learned about this technology from friends and colleagues. Some of the participants received recommendations and information about this technology from their gynecologist. Additionally, to make the final decision, the majority of participants researched on the internet, including websites, blogs, forums, etc. in order to access information about this treatment. Participation in presentation sessions of fertility clinics has also been reported by participants.

The next question dealt with the reasons and motivations. The main reason to undergo social a egg freezing process for the participants was the absence of a partner. In particular, 12 of them stated the lack of a partner, and 11 of them, the lack of an adequate partner as their motivations. Putting together the results of this part with the first section, it can be concluded that some of the motivation did not appear in practice, at least not in our small sample group. For example, economic problems or professional career, highly mentioned in the general part, was not reported by those participants who experienced this technology.

A high success rate was the most frequent factor considered in order to select a fertility clinic; following, were two elements: being recommended by someone like a friend or an expert and, the quality of the physicians. Concerning the fertility clinics websites contents, there was a significant relationship between those factors that were most important for women, and the highlighted elements in the websites of fertility clinics.

Next, they were asked to evaluate their egg freezing process. For most of the respondents, side effects linked to medications were challenging during the egg freezing process. Some of them had bad experiences in terms of not being well-treated in the fertility clinics. Particularity, five of the participants reported having bad moments because of not being psychologically supported by the clinics. Although two participants did not express having problems during the process, they were not satisfied with the final result, regarding the amount and quality of the stored eggs.

The future plans, in terms of the time and the reason to use the stored frozen eggs was the subject of the next question. Different answers were stated by the participants; however, they did not clarify a specific time in which they would want to use their frozen eggs. Some of them were not even sure whether they would use them. However, they pointed out some conditions under which they would use their frozen eggs. Having a partner, a stable professional situation and, the arrival of the menopause, were the most

frequently mentioned conditions.

Finally, to answer the question of “would you recommend egg freezing to others”, 11 of them said yes, while 7 found it a very personal subject, dependent on many factors. Participants who had many difficulties during this procedure were not recommending it to the others, which can be considered to be a normal reaction.

The study proceeded to analyze the interviews which provided a more profound knowledge about the social egg freezing experience.

4.5 Interview Analysis

This part explains the findings from the 18 semi-structured interviews answered by Spanish women who used egg freezing technology or who were in the middle of the process at the time of the interview. It also discusses the findings in terms of the demographic characteristics and profile of the participants.

The third phase of this study was the analysis of interviews in order to fulfill the third objective, which was understanding the social egg freezing experience from its users perspective. The social domain theory of Layder (2005) was used to go deeper through the interviews. This theory helped to describe women’s perspective of the social egg freezing phenomena through the four dimensions of psychobiography, situated activity, social setting, and contextual resources.

The responses were analyzed qualitatively using the Nvivo 12 tool. As mentioned earlier in chapter three, this study conducted a thematic analysis to examine and categorize the data. The coding was developed using the previous literature and also, an inductive approach. Finally, through the coding process, four main categories were derived: (i) concept of motherhood; (ii) motivations about egg freezing; (iii) egg freezing experience and, (iv) opinion about fertility clinics websites and information related to egg freezing.

4.5.1 Descriptive analysis of interviews

Demographic Profile of Interviewees

The interviewees were set at different parts of Spain, mainly in Barcelona, Madrid, Valencia and Asturias. At the time of starting the egg freezing process, the age of participants was between 34 and 44 years of age, and on average of 39 years of age. Most of the participants were interviewed on average 5 years after they underwent the egg freezing process. Two of them had tried to use their frozen eggs after almost 6 years.

The majority of the participants identified themselves as being heterosexual, while two of them were homosexual. At the time of freezing their eggs, 83% of them were single. 83% of the participants had a postgraduate degree, and 17% held a professional

qualification while all of them were graduated at degree level. Job titles were different, but the most repeated ones were managerial roles, lawyer and university professors. Some of the participants were religious. These profiles (see table 4.7 conformed to previous literature during the last years (Gold et al., 2006; Knopman et al., 2008; Tsafirir et al., 2015)).

Table 4.7: Profile description of participants

Profiles	Number
Degree graduate, Managerial roles, lawyer, university professor,.. In relationship, Heterosexual	1
Postgraduate degree, Managerial roles, lawyer, university professor,.. Single, Heterosexual	9
Postgraduate degree, Managerial roles, lawyer, university professor,.. Single, Homosexual	2
Postgraduate degree, Managerial roles, lawyer, university professor,.. In a relationship, Heterosexual	1
Postgraduate degree, Office work jobs, employee jobs,.. In relationship, Heterosexual	1
Postgraduate degree, Office work jobs, employee jobs,.. Single, Heterosexual	2
Degree graduate, Actress, Singer Single, Heterosexual	2

The majority of the participants (87%) underwent the egg freezing process in a private clinic located in their residence city. All of them took just one cycle of the treatment. Regarding the number of collected eggs to be frozen, women had between three eggs (when recommended to undergo a second round) and 22 eggs collected, the average number being ($n = 13$): 3 eggs ($n = 1$); 1-5 eggs ($n = 3$); 6-10 eggs ($n = 5$); 16-20 eggs ($n = 8$) and, +20 ($n = 1$).

Following the age at which they underwent the treatment, only three of them started the procedure at 35 or less, which included 17% of the total amount of participants. 13 of them were between 38 and 40 years old at the time of undergoing the procedure, and

two of them were 40 years old or above. These findings were also similar to the data that appeared in previous studies (Klein et al., 2006; Knopman et al., 2008; Hodes-Wertz et al., 2013).

4.5.2 Exploratory analysis of interview

This section analyzed the four categories created to examine the questions used during the interviews. First, the participants perspective on the concept of motherhood, including timing and readiness for being a mother, and the issue of delaying childbearing, were explored. Then, it discussed the motivations linked to social egg freezing. The study, next examined the egg freezing experience from the participants point of view, and finally, their opinion about fertility clinics websites and other information related to egg freezing was analyzed.

4.5.2.1 Opinion on motherhood

Motherhood was an important concept for most of the participants, and many of them desired to become a mother. For some of the participants, being a mother was too important, and they were talking about that topic as if there was nothing more important to them. In other words, life was meaningless if they were not a mother:

I have always had a great relationship with children. I love them so much. they are the most beautiful creatures in the world. That's why I always wanted to be a mother.

P1: 38 years old, single, no child

I can not imagine that [...] not being a mother. It's just absurd [...]I mean, I want to be a mother and this is the next step of my life.

P2:38 years old, single, no child

However, some of the participants were not sure about the importance of motherhood in their life. 39% of them did not have a clear opinion about being a mother. This ambivalent feeling comes from the idea of not being sure if having children is what they really want or if other social factors influence their thinking. Therefore, egg freezing for them was like a guarantee to retain their fertility for an extended time until they could make their final decision.

I am not still sure [...] every time I think about this I end up being inconclusive. Sometimes I feel I am too old to have children, I mean [...]it requires real

patience, but sometimes I see my friends at my age and they are fine with that [...]

P3 : 41 years old, single, no child

I really don't know yet [...] I have to think about that seriously. I don't know if I want children because that's what I want or because I think I have to be mother, or maybe it's just the social influence on me [...] I am not sure [...]

P4: 38 years old, single, no child

Right now I am not sure if I really want to be a mother or not, but maybe in the future, I meet the love of my life, and I wish to have children with him. I don't wanna ruin that love because of not being fertile anymore.

P5: 41years old, single, no child

With my current partner, we are thinking in having children but at the same time, we are not completely sure. Since all our friends have children or are pregnant or in some way they are included in their life plan, that makes us feel unsure and indecisive about this issue.

P6: 39 years old, in a relationship, no child

However, some of the participants believed that egg freezing gives them a chance to be able to have children in the future if they decide to have them. So these women were not so obsessed about having children, while they would not discard it either.

Well...If one day I discover that I can have children, it's ok! My life has other dimensions as well. However, having more time to decide calmly and without being in a hurry seems good to me.

P7: 39 years old, single, no child

Right now there are a lot of things I have to do in my life and it's not the right time for me to have children. I don't even think about that [...] but I feel I have to take advantage of the options that we are given , to enlarge our time for decision making.

P8: 40 years old, in a relationship, no child

It is clear that all of these participants felt a commitment regarding childbearing. This feeling is even stronger in the case of women who are not even sure if they want children or

not. However, for them being a mother is a complicated and time-consuming role which changes someone's life completely. They also think motherhood is the most significant responsibility in one's life, and requires full devoting and sacrifices.

It is not that easy being a mother. All my friends who have babies, cannot do what they want. Basically, there is no time for that. They dedicate all their time and energy to their babies, and still, they need more time [...]

P9: 40 years old, in a relationship, no child

The things is I do not wanna be selfish and always do my things. I hear a lot that I can not be a complete want to if I can't devote part of my life to my child.

P10: 38 years old, single, no child

Definitely having children change your life completely. You could not be the same person, could not do the same things and in brief could not live in the same way. You have to forget about what you like and do what you have to do for your children, and this is magic.

P11: 38 years old, single, no child

In the next question, the participants were asked about the timing of motherhood and their points of view regarding the right time for becoming a mother. For all of the participants, the right time to have children was linked to a stable emotional and social situation. In particular, it was linked to having an adequate partner with whom they want to have children and being in a good and stable professional situation. Some of the participants mentioned the mental and physical readiness as an important element connected to the right timing for motherhood. For this group, it was very important to feel ready, both physically and mentally, because becoming a mother is a big challenge, and it requires a great state of readiness. For many of the participants, financial stability was very important. Some of them believed that by being completely prepared, as previously mentioned, they would be able to give their children a secure and stable life.

For me, motherhood does not have any certain timing, of course before the menopause [...], but the right time to have children depends on the person. For me maybe next year would be the right time since I am finishing some changes in my profession and makes me have a better financial situation to be able to provide a good life for my children.

P12: 40 years old, In a relationship, No child

I never liked to be dependent on a man financially, that is why I dedicated all my life to progress and improve my education and now my job. Now I am in a good position. I have not thought about getting married but once I find the right person, would be the right time to have children.

P13: 40 years old, single, no child

Well, for sure it is important that you get educational level and a good job and stability in your partner relationship. However, then there is also the personal feelings, and if you are really ready personally to be a mother or not.

P14: 39 years old, single, no child

Although most of the participants focused on the stable financial and social situation, they froze their eggs because of the absence of an adequate partner with whom they wanted to share the parenthood. As seen earlier, most of the participants were highly educated and successful in their professional lives. Most of them were financially stable and some of them emotionally and physically ready to have children. For many of them, having children was linked to creating a family, and that requires to have a suitable partner. Some of them also mentioned the importance of having a partner in terms of helping them to raise the child.

I do not want to say that children are not important, but what is more important is the love that you find in your life and then the children are its result. So that the partner is important, the relationship is important. It is essential that you are sure about the stability of your relationship. it should be chosen precisely because its base of the life and the family that you are going to create and live [...] But the problem is, these days men don't want to commit. It's complicated to find a man who wants the same things as you.

P15:37 years old, single, No child

It's all about family. It's OK if it fails, but then you have to go through the same path again. All I care about is raising my future children in a kind and loving environment [...]raising a child without the help of your partner is impossible.

P16: 38 years old, single, No child

Many of the participants mentioned the difference between men and women's attitude regarding childbearing. They suggested a different biological time of reproductive systems, gives men more time to live child-free. Therefore, for most of the participants, the right time to become a mother was when they are ready in all the respects. Consequently, when they were asked about delaying childbearing, most of them perceived it as a negative term and stated that they did not delay, and they had to wait for the right time of that.

The thing is that I did not delay on purpose. I mean, the situation has not allowed me to have children till now. Actually, I don't see that as a delay.

P 17: 36 years old, single, no child

I would have had children if I had the situation when I was younger, or even now. But it does not go always like what you want. When you don't have the right partner or when you think you have but he doesn't want to have children [...], I say it again that I did not delay it, it just happened like that.

P1: 38 years old, single, no child

However, some of the participants had a different opinion. For them, delaying childbearing had a positive meaning. Delaying was to change the situation to a better one in all the scene. In general, their main ideas were to provide a right family and supportive parenting which can not be achieved without the right partner and a stable and suitable social status for both of the parents.

I think if delaying childbearing makes you improve the quality of life for your future children, you should do it. It does worth it if you have children later but in a better condition.

P14: 39 years old, single, no child

It is really important with whom you are going to share parenthood. To make a good family later is better than to make any family earlier. To make a happy family I have to spend more time to find the best partner and then all the goods will come.

P16: 38 years old, single, no child

4.5.2.2 Motivations to undergo social egg freezing

In this part, the interviewees were asked about their reasons and motivations to freeze their eggs. According to the majority of the participants, they wanted to become a mother,

and they tried to find a suitable partner with whom they could have children. Since they were not successful in finding the right person, they preserved their eggs for the future.

Many of the participants did not expect to reach this situation, since they had had various partners. They never expected facing problems to find a partner. Many of the participants stated that they never imagined their life without children. Some of the participants were never single but were always in a short relationship which could not eventually bring them to becoming a mother. That was because for many of the participants, becoming a mother was a secondary priority after being in a stable relationship, and such stable relationship had not taken place at the time they desired to freeze their eggs.

Well, I do not know for you, but for me, it is difficult not having a partner. I mean it's difficult when you really want to have and you don't find anyone.

P 17: 36 years old, single, no child

It is a bit disappointed that the relationships do not last. For me having good family values and I just don't know why this happens to everyone but not me.

P16: 38 years old, single, No child

I always wanted to get married and have children [...] Living like this, e and without children was not my choice and I tried to change it [...] But this is my life and I have to adapt myself to this life. I am an intelligent person, so I have to find the best way of living for me despite being e. Although I do not have a partner who is somehow out of my control, there are always other ways.

P18:39 years old, single, no child

Actually I was in a perfect situation to start my family. The best partner, a good situation in my job and everything that someone could need for a perfect life [...] But, the things did not work (crying).

P14: 39 years old, single, no child

The majority of the participants stated that women freeze their eggs because they can not control the external key factors. For example, they can not control the time of finding an adequate partner or making a family. Some of them also mentioned the structural factors that could affect their decision to get pregnant, such as work regulations. For this group, there were some difficulties in the combination of their desire to become a mother

and their work life. One of these obstacles was a lack of enough employment opportunities for mothers.

It seems very difficult. My friends who have children told me that their maternity leave was very short and they had to come back to work while they were still a mess. Four months are nothing to recover completely. I hear always that they can not sleep all night and the day after they have to work. It is just terrible such a life.

P18:39 years old, single, no child

Many participants stated that they were not aware of age-related infertility, neither the importance of age of their eggs in the process of egg freezing. Some of them mentioned if they knew, they would have done it earlier, while the rest believed they never would do that since young women are not aware of personal and social challenges that appear later.

Well, you never think this can also happen to you. You always think that you have still time and a lot of choices till one day you realize that it was not like that.

P16: 38 years old, single, no child

I would have frozen them (eggs) earlier if I knew at this age the number and the quality of my eggs decrease so much.

P12: 40 years old, In a relationship, no child

I did not know that my life would bring me here, in this situation, I did not know that I would need to freeze my eggs, so it was the same even if I knew all about egg freezing when I was younger. I still would do the same. When you are young, it is difficult to feel the thread of getting infertile or see the problems related to work or partnership. You have no idea about managing life and things around it.

P13: 40 years old, single, no child

Many of the participants mentioned feeling like a failure when they did not have a partner or could not become a mother. This was so, even though all of them were successful in their professional career and they had mentioned this before. Some of them felt guilty or regretted not taking the right decision. They reflected on the issue of potentially being in a better situation if they had not lost their opportunities at younger ages. They also mentioned the threat of being stigmatized in society.

I am confused because despite having a good job and a good life, I feel like a failure. Because I cannot find a partner whom I want so that no children and as long as I cannot pursue That, I don't feel happy [...]

P16: 38 years old, single, no child

Sometimes I think I am responsible for saying no to my opportunities. Maybe they were not that bad or maybe I had to take it easier. Many friends of mine took it easier and they are all mothers now and they would think what's wrong with this girl (Me) [...] P1: 38 years old, single, no child

I think there is a social imperative that makes you feel you have not done it. Because the majority of society think and believe you have to be a mother and normal people does like that. So they see you abnormal with some problems if you don't do so.

P11: 38 years old, single, no child

There is something that I don't understand and bothers me; why people think it should be something wrong with women who don't have children?! To be honest I used to think like this until I found out that becoming a mother is not as easy that it looks like.

P3 : 41 years old, single, no child

In summary, for all of the participants, egg freezing was an alternative path, because their life did not go the way that they had expected, and they had to pay a cost to re-orient that path, based on their new situation.

4.5.2.3 Egg freezing experience: Decision making

The analysis found that decision making regarding the use of this technology was not a simple procedure for the participants and it took a long time for all of them to take a decision. This time was mainly dedicated to thinking, consulting and deliberating. The majority of the participants have taken the decision consulting with a specialist of a clinic, but always after speaking first with friends or family.

The majority of the participants had knowledge about the egg freezing technique before they felt the necessity of using it. However, they did not know a lot about the treatment. Some of the participants mentioned that when they first heard about egg freezing, they considered that it had a meager success rate, and they were not convinced about the efficiency of this technique. However, others stated that its success rate was good enough

for them to undergo the procedure since it was the only option they had to preserve their fertility for a longer time. As a side note, the second group mostly learned about egg freezing later than the first group, when the success rate was already higher than years before. Many of the participants were not sure whether to use their frozen eggs in the future, because they were young and they thought they would have enough time to give birth to a baby in the natural way.

I did not think that this treatment would work hundred percent, but it was the only thing that existed. And I had to do it. However, who knows?! Maybe I find someone soon and we can have children naturally.

P16: 38 years old, single, no child

When first I found out about this procedure, it had a very low success rate and I was not worried about freezing my eggs. But some years later when I decided to undergo through that it had already a good success rate and I read many good recommendations and good reviews about that.

P12: 40 years old, In a relationship, no child

Actually until the last minute, I was not sure about the success rate of this procedure but I had no other choice. However, all the people I spoke to had a good opinion about this [...] So, you know, In the end, we never know if I really need to use these eggs one day and if so, maybe, that day the success rate is higher than now.

P14: 39 years old, single, no child

4.5.2.4 Egg freezing experience: Risks

The cost of undergoing an egg freezing procedure, including its risks, was explored through the participants perspective. Obviously, for all of them, the financial factor was the first cost that they had deal with. Besides, they pointed out other potential risks as being other cost factors involved in undergoing an egg freezing treatment.

Most of the participants paid the regular price of the treatment, while some of them had extra expenses to deal with, regarding the preparation for the procedure. For example, one of the participants, who was a singer and dancer, had to stop working for three months to prepare her body for the procedure. That happened because during the stimulation process, intense physical movement is not allowed.

The cost of undergoing the egg freezing procedure was more or less the same for all of the participants, since they all did it in the same country and, in some cases, at the

same clinic in another city. The only difference was associated with the time at which they underwent this procedure. In this regard, the study found out that women who froze their eggs before 2014, paid a bit more than women who did it after 2014. That could be because of the increasing number of fertility clinics offering this procedure and the associated competitiveness factor.

The participants who underwent the procedure before 2014 paid up to €6000 ($n = 5$), while the others paid up to €4000 ($n = 13$). All of the participants paid this money out of insurance and without any organizational help. The majority of them used their savings, and some of them received some help from their family. One of the participants used a bank loan to pay for the procedure. This shows that this procedure is expensive and affordable only for some women. All of these participants were in a good financial situation, or they were supported by their families.

While there were some plans that provided funding for social egg freezing, none of the participants used them. That was because those plans are all for young women less than 25 years old, and these participants were all older than 34 years old at the time of undergoing the egg freezing treatment.

Regarding the investigation of the egg freezing process, including its prices, risks and all the details that participants needed to know before going through the procedure, the majority of the participants communicated similar considerations. They stated that they read a lot, searched on the internet and consulted with other people, including family, friends, and people who had information or experience about this procedure. However, some of the participants mentioned that they did not do any research and they trusted experts of fertility clinics who could give them reliable information in a shorter time.

So I didn't want to lose my time, searching on internet and even not being sure about the credibility of the obtained information. I preferred to ask for a consulting session in my clinic and asking experts all the questions that I had. like that, I could receive reliable information based on that and I could make my decision faster and easier.

P12: 40 years old, in a relationship, no child

Regarding other costs associated with this procedure, a small number of participants pointed out severe physical risks. Some of the participants declared the possibility of physical risks in case of using too much of ovarian stimulation drugs. Others suggested the importance of the center where they would undergo the treatment, since it can be very risky to do this treatment in a center that lacked the right expertise. For some of the

participants, the egg freezing procedure was a normal, safe and easy process, that many women were doing with no issues. Some of the participants disclosed the insufficiency of the data provided by the clinics while the others declared the unreliability of the available data. They believed that the given information was not enough to learn enough about the potential risks of this procedure.

I think there is no sufficient information related to the potential risks of this procedure. I did a lot of research but I could not find proper information about the potential risks of this procedure. Finally, I arrived at this conclusion that there is not any, I mean any serious one...because exceptions are always unexpected.

P16: 38 years old, single, no child

I read in one article the possibility of ovarian cancer as a potential risk of egg freezing. Well, it was not approved yet. The specialist in my clinic has not approved other risks like ovarian torsion or infection. It seemed that the information that I found was not true.

P7: 39 years old, single, no child

In the clinic, they told me about some possible risks, which at the end of the day are very small and rarely happen. Also, in the worst case if happen there are many ways to control them.

P13: 40 years old, single, no child

As shown, very little and hard to access information about physical risks exists. The most reliable source to find information for all of the participants were their clinics, where they were told very little about the risks. According to the clinics, the potential risks were very low, not serious and easily manageable. The clinics told them as well that they could calculate the possibility of the potential risks, and that they would have a high change of preventing them. All of the participants stated as well the importance of the reliability and expertise level of the center where they underwent egg freezing procedures, in order to avoid the potential risks. However, the potential risks of undergoing this procedure were not important to some of the participants, since they believed that not doing the procedure would be riskier. They were addressing the risk of getting pregnant at older ages, and the risk of feeling regret at losing their unique opportunity.

I Thought that it is true that there might be some potential risks like infection, etc. that can be controlled at the end, but the potential risks of not doing this would be more and serious and difficult to control. The emotional risks of not being able to have children, the physical risks of getting pregnant when you are older and at the end dealing with family problems and so on.

P2:38 years old, single, no child

I don't know. Maybe I will never use those eggs, maybe I will get pregnant naturally, maybe I will decide not having children. But I don't know yet and I don't want to regret it in the future.

P4: 38 years old, single, no child

4.5.2.5 Egg freezing experience: from finding a clinic to the emotional and physical problems

In this section, the experience of the participants in the process of egg freezing, including their feelings and their expectations, were examined. All of the participants except one, had completed the freezing process when they were interviewed.

To find a clinic, firstly they consulted with a third person, including friends or gynecologist, and if they did not receive satisfying suggestions, they searched on internet. For the participants who chose their clinics using a third person's recommendation, trust was the most important factor, while for those who searched on internet, factors such as reputation, price, success rate and location, were crucial.

First my gynecologist recommended me this clinic and then I read on internet that they had a good reputation [...].

P5: 41 years old, single, no child

A friend of mine works in that clinic, so that made me trust it easier [...].

P13: 40 years old, single, no child

I checked on internet to find one clinic with a good reputation and obviously a good price [...] It took me lots of time. Sometimes their prices were good but the success rate was not clear and sometimes they just didn't provide information on success rate [...].

P4: 38 years old, single, no child

All of the participants had taken just one cycle of the egg freezing treatment. The majority had shared their idea with their close circle, and they received emotional support from them. Some of the participants didn't receive support, since their close circle were against this procedure. However, some of the participants did not share their decision with many people, just with one person or two. Typically, this person was their mother. For them, that was a very personal decision and it was not right to share it. Also, some of the participants mentioned receiving practical support from their friends or family in regards to the injections. Finally, a minimal number of them reported receiving support from online forums and having good feelings about sharing their experience with other women in the same situation.

I told my family and my friends about that, and I am happy I did so. Without their support, I could not do it.

P15: 37 years old, single, no child

Just my mom and no one else knew about that. I think this is very delicate, and of course very personal. Why should I even have shared it?! No, I did not.

P1: 38 years old, single, no child

OMG!!!Self-injection without my friend's help was impossible. I have a phobia of needle and injection. Imagine how hard could it be for such a person to inject herself every day.

P7: 39 years old, single, no child

Since I have started speaking with those women in that group I felt much better. It is a good feeling that someone understands you without explanation. My family did not support me because they believed that it was the wrong decision.

P13: 40 years old, single, no child

In general, emotional support helped the participants feel better and reduce their anxieties. However, the challenges that they experienced during the egg freezing process were difficult for all of them. The majority reported a feeling of loneliness and worry. Most of them emphasized a feeling of depression and sadness, experienced often during the procedure. According to them, the hormonal stimulation process caused anxiety, an excess of sensitivity, and being tearful.

I was with a different feeling, sometimes I felt shallow and depressed and sometimes I was angry and crying for a long time. I was questioning myself why I am doing this [...] It was a very tense situation and very hard.

P 17: 36 years old, single, no child

It was tough and uncomfortable moments since I had to work and I was not emotionally stable [...] Every e thing made me cry and getting upset and thinking about my whole life [...] Why I never met the one whom I wanted? so these type of questions were coming to my mind. It was such an annoying situation.

P2:38 years old, single, no child

Many of participants criticized their clinics for the absence of emotional support. According to them, the clinic's staff were confused about the specific type of treatment, and they were asking the clients questions related to the IVF procedure. Those questions, about getting pregnant and having a baby, for someone who plans to postpone maternity, can not be pleasant. In the opinion of the participant, this was very disappointing, to inform the staff about the procedure in the middle of the session. Moreover, some suggestions were given by the participants themselves, including to provide further support to single women who are alone during this procedure.

She started to speak about babies, while she was doing the scan, and I told her, I am here to freeze my eggs, and she stopped speaking, she even did not say any e word, her face changed suddenly after hearing me. I mean, she had no idea of what she was doing [...] Imagine! No idea.

P5: 41 years old, single, no child

The egg freezing clients showed different feelings compared to the other clients of the clinic. As claimed by them, women who came with a partner vs those who were alone had different attitudes. They were looking at the photos of the babies, which could be found everywhere, expressing their desire to have one baby soon, while they were speaking together about their shared feelings and situations.

Regarding physical problems, stomach problems like bloating, pain or nauseous feelings were reported by the users. Also, Eyesight problems, being tired, weight gain, hormonal changes issues or becoming ill during the stimulation process, were declared as physical problems that almost all of the participants dealt with during or after the procedure.

In addition, some of the participants faced serious problems, like severe ovarian hyperstimulation syndrome. One of the participants, who was a physician, was diagnosed with breast cancer after undergoing the egg freezing procedure.

After some days I still had much pain, gaining 2 kilos every day, I went to the clinic, and they said that there was fluid in there, but they did nothing. After two more days when I ended up with a huge belly painful, they started to drain the fluid. However, I am still with this problem as you can see [...] I was skinny. Now I look like I am pregnant.

P13: 40 years old, single, no child

After the procedure I was diagnosed with breast cancer. I was not sure if that happened because of stimulation medicine or was just an accident. But, I had some hypothesis, and I started to research with the help of some colleagues, and we are still in the process of this research.

P9: 40 years old, in a relationship, no child

The participants were asked about their feelings after they completed the process. The main feelings reported by them included: (i) feeling relief, (ii) feeling empowered and, (iii) freedom. They felt the relief of overcoming the challenges of the procedure, physically and emotionally. They felt empowered because they could control and give another opportunity to their desires. In other words, they felt empowered because they could gain more time for their dreams to come true. The feeling of freedom was mainly linked to having enough time to make the best choice regarding motherhood and not feeling pressure regarding the time of becoming a mother or choosing a partner. However, as stated by some of the participants, after a while, their feeling changed and they felt the same as before undergoing the egg freezing procedure. They started to think that their frozen eggs were not going to work in the future, so that they could not count on that as they expected, and they needed to find a partner as soon as possible.

I feel relieved and relaxed. Yeah, I did it[...] It was too long, complicated and challenging. But, I feel good that at the end I could complete it, but right now I even don't want to think about the future.

P 17: 36 years old, single, no child

I feel empowered and proud that I did something that was not easy at all, and now I can take back some of my dreams that seemed expired before. I feel

empowered because statistically, I have given myself a longer chance even if it does not go as I expect. It is about doing something for you and to not let happen things that can be controlled now [...].

P13: 40 years old, single, no child

Well, The day I came back from the hospital (retrieving eggs) I just had a sense of freedom. It was a good feeling when you know that you have more time to choose your bests and not being forced to say yes to the things while you know they are not enough for you.

P15: 37 years old, single, no child

In the opinion of the participants, the high expectation connected with these treatments was not realistic. They had in fact a low level of expectations for this procedure. They were aware of having to complete an IVF treatment in the future in they wanted to use their frozen eggs. Some of them even reminded themselves of the possibility of having an unhealthy baby. However, some of the participants were optimistic and positive about the possibility of using their eggs in the future to become a mother. In their opinion, technology is improving every day, and it will work even better the day that they decide to use their eggs.

Although many of the participants did not expect a good result in the future, they were still happy with their decision to freeze their eggs. In their perspective, it was a way to increase the chance of becoming a mother, even if the chance of success was small. They disclosed that they would feel guilty if they had not undergone this procedure.

To be honest, I don't believe that freezing my eggs is insurance. Besides I am not even sure of using them in the future just because I already have them.

P15: 37 years old, single, no child

I don't rely on my frozen eggs; maybe it is because I have seen my friends did not get a good result. But still, it is OK, I don't mind if they do not work. I feel nice that I did this. I would feel guilty if had not done that. I would feel an inattentive person.

P12: 40 years old, In a relationship, no child

The thing is, this part of freezing normally goes well, I mean at the end you will have some eggs to preserve, but the real problem is IVF process which all

of us know, it is not reliable. Who knows?! Maybe in the near future, this technology works better and we will have better results for our frozen eggs.

P2: 38 years old, single, no child

If I have not done it, there would be no chance, and I would feel bad. However, I have a fear of using them because I have heard of the possibility of having unhealthy children. I would not be able to forgive myself if that happens. I still have time, and I think I will have more.

P 17: 36 years old, single, no child

4.5.2.6 Opinion about fertility clinics websites

Finally, the participants were asked to share their opinion about fertility clinics websites. Some of them criticized these websites for creating the wrong image of egg freezing technology users. According to them, not only these websites, but also all the media, do the same. In their perspective, this image of choosing to delay childbearing for the career, was not right. They reflected that choosing egg freezing was not a decision taken because of the need to delay childbearing for career reasons, but it was an option giving them more time to overcome the related obstacles. As declared by them, they did not know or never heard of a woman who froze their eggs because of the importance of her professional career. In their opinion, women freeze their eggs because they are not in a position to pursue motherhood. That declaration was consistent with the respondents' motivations, since all of them stated other reasons that did not include professional career.

I think obviously media misrepresent women who do not have children or who have children at an older age. I never heard any women delay childbearing for the career. I know many women who do not have kids yet, but that is because they still haven't found a partner with whom they want to share parenthood. I know women who have a partner but their partners don't want to have children and that is why they don't have children yet. The reasons that they don't want children are different in each case but as far as I know, it is not about a new financial responsibility.

P2: 38 years old, single, no child

The other criticism mentioned by most of the participants was about the absence of enough information or about the presence of unreliable information in fertility clinics websites. As claimed by them, they were not able to find the information that they needed

on fertility clinics websites, and they had to ask their questions by writing to the clinics or calling them. Both of those ways usually ended in a free appointment with an expert in the clinic. Others commented that most aspects of the websites were marketing centered, so that, it was difficult to rely on the information which had been designed to advertise a service.

In fact, it was not that useful for me, because I could not find the answer to questions that I needed to know. In the end, I called some of the clinics, and they offered me a free consultancy, and I could ask them all of my questions. Well, that was more like promoting their clinic which is normal but I found it a bit fake and boring.

P12: 40 years old, In a relationship, no child

Actually I did not like those pages, and they were like all focused on advertising the thing, you know [...] You can not trust this kind of information, exaggerating the success rate in such an obvious way. It is just losing time to search for data on these websites that are useless.

P2: 38 years old, single, no child

For some of the participants, the lack of a space such as a forum for current and potential users of this technology to converse about egg freezing and share their experiences, was a serious objection. They believed that they could experience this procedure in a more comfortable way if they knew about each others experiences.

I could not find any forum on these websites, which is a problem, I think. I even asked them, and they offered me a meeting to ask my questions [...] But I did not have any doubt or question [...] I just wanted to know others experiences. That is very important that they provide their clients with a place to share their experience. This kind of information is essential because its real information that you can trust on undoubtedly.

P 17: 36 years old, single, no child

Some of the participants also commented on the design of the fertility clinics websites. They suggested that they should use fewer pictures of babies in the pages related to social egg freezing. According to them, social egg freezing users are not interested in seeing babies pictures when they are going to postpone their maternity. In their opinion, these pictures not only do not motivate them but also could influence them in the opposite way.

Some of the participants mentioned that the clinics should study the profile of these new clients if they want to attract them to this new service.

I think they should reconsider the design of their website. They are offering a new service, but they do not know their clients. I mean they use the same pictures for the women who are trying to get pregnant for those who are trying not to. I think this just doesn't make sense.

P13: 40 years old, single, no child

One of the things that bothered me a lot was seeing pictures of babies everywhere [...] I think I have told you [...] on the wall, on the website, everywhere. I think that they just don't know who that now they have new clients who do not want to see babies pictures everywhere [...].

P15: 37 years old, single, no child

4.6 Summary

This chapter provided the results of the analysis of this study, including the framing analysis of clinics' websites, questionnaires and semi-structured interviews about women's experiences regarding social egg freezing procedures.

It explored the frames used by fertility clinics websites to persuade women to store their eggs for future use. It also examined women's opinions, perceptions, and attitudes prior to undergoing the egg freezing process. The remarkable findings of these analyses are provided in the following section. Then, the conclusion chapter will discuss these findings inside the theoretical framework of this thesis.

Notable Findings of Fertility Clinics' Websites Analysis

(i) This study found that the communicative strategy of fertility clinics in Spain is marketing centered. The information focuses on Social egg freezing rather than medical egg freezing, which also confirms that the content of these websites is more marketing oriented rather than informative.

(ii) The analysis found that the most referenced dimension was "overcome", which included the frames conveying the ability to overcome obstacles and threads regarding motherhood and age-related infertility. While the most frequented frames were, "guarantee" and "postpone maternity" from the "technology" and "opportunities" dimensions. The "guarantee" frame refers to the potential of technology to solve possible age-related infertility challenges. It was approached as an insurance service for future motherhood. The "postpone maternity" frame was a frequent one centralized on a powerful opportunity

provided by the social egg freezing treatment.

Notable Findings Of Questionnaire Analysis

(i) According to the participants, motherhood was an important concept. However, they showed an ambivalent feeling and attitude towards maternity and its timing. Although they were not concerned about potential age-related infertility, their thinking reflected a trend towards social egg freezing technology.

(ii) The most often considered reasons to undergo social egg freezing by surveyed women ($n = 419$), included the absence of a partner, their professional career and, their financial stability, while the only reason reported by the users ($n = 23$) of this technique was the absence of a right partner.

(iii) The side effects of the treatment were mentioned as the most likely potential risk that may prevent them from undergoing the social egg freezing process.

(iv) Media and the internet have been mentioned as the most reported initial source of learning about social egg freezing, and also as the most often used way to investigate and gather further information. This included as well the fertility clinic selection process, in which the most important factors involved were having a high success rate and an associated good level of quality.

Notable Findings of Interview Analysis

(i) Motherhood was considered to be an important concept by the interviewees. They reported a feeling of commitment regarding childbearing, while showing ambivalent attitudes. Accordingly, the right time to be a mother for the majority of them was linked to being emotionally and socially ready, which means having the right partner and being economically stable.

(ii) The notion of delaying childbearing in connection with the professional career has been criticized by most of the participants. In their opinion, women undergo social egg freezing not to delay motherhood, but to buy more time in connection with different social structural challenges which cannot be controlled by them. A feeling of failure, despite being successful in their professional life, was reported as a consequence of social pressure on women regarding motherhood.

(iii) The decision-making process was challenging due to the absence of sufficient and reliable information offline and online. The interviewees criticized the websites of clinics for being too marketing centered instead of informative, for lacking an especial space for clients to share their experiences, and for their graphical design. They also blamed the clinical staff for not providing them with the promised emotional support, neither with proper information about the potential physical risks.

(iv) The most reported physical problems included: stomach problems, becoming ill during the stimulation process, and, in some cases, severe ovarian hyper-stimulation syndrome. In the participants' point of view, emotional support was helpful to reduce the anxiety caused by hormonal changes.

(v) The main emotions disclosed by the participants after having their eggs stored, included three feelings: relief, empowerment and freedom. However, in their opinion, using the stored eggs in the future depended on various factors, and it was not assured. They also declared having a low expectation regarding the efficiency of the egg freezing technique, expectation that may change if the associated technology improved in the future. However, not only did they not feel regret, but also declared that they would have felt guilty if they had not undergone this procedure.

Chapter 5

Conclusions and Further Research Suggestions

5.1 Introduction

This thesis sought to understand how Assisted Reproductive Technologies (ARTs) affect women's perceptions of contemporary motherhood. Situated within communication studies, this thesis explores the online communication used by fertility clinics in order to offer social egg freezing to women. With a qualitative method approach, this thesis also analyses how women understand and experience this phenomenon.

In particular, the study provided, from this perspective, an exploration of online communication strategies used by fertility clinics through their websites. The study offered as well insights into how women perceive the opportunities, obstacles and the future of their reproductive life in relation to social egg freezing technology.

Accordingly, this thesis included three specific objectives: i) to determine the main frames that fertility clinics use in the context of their websites, concerning fertility preservation through the egg freezing treatment; ii) to describe Spanish women's perceptions on the subject of motherhood as well as on the preservation of fertility for social reasons through the process of freezing their eggs; and iii) to understand the perspective of some users of the social egg freezing technology in Spain.

Content analysis was carried out from a framing theory perspective, which allowed us to obtain an in-depth knowledge of the strategies used by fertility clinics websites to promote social egg freezing services. Analyzing the frames presented in these websites, helped us to identify and recognize the central concepts used to attract women to freeze their eggs for social reasons.

The theoretical section provided a history of framing theory in detail, in connection

with the involvement of this interdisciplinary theory (Entman, 1993; Goffman, 1974) within various fields of study. Framing is a remarkable theory in the communication field, which helps to uncover the keys of media policy (Tuchman, 1978). It facilitates an understanding of the strategies that media uses to "frame" the topics in order to attract the audience's attention to certain features of the subject or to determine interpretations which vary widely from other alternative perspectives (Shaw and Giles, 2009). Thus, in order to assess the details of what is happening with fertility clinic websites that specialize in social egg freezing, framing theory was used to conduct a content analysis of all the fertility clinic websites in Spain.

The methodology of the study used structured criteria to gather a sample consisting of all the fertility clinics in Spain offering social egg freezing services on their websites. This sample consisted of a total of 101 websites. Following this step, a content analysis was conducted. This approach is defined as a systematic technique to categorize and organize a text based on a specific codification to identify particular characteristics of the messages (Holsti, 1969).

Utilizing Nvivo 12, an inductive method has been applied to identify the presented frames in the content of the websites referring to egg freezing for social reasons, including texts, images, and videos. The codification method carried out a systematic process consisting of four steps: (i) total impression (from chaos to themes); (ii) identifying and sorting meaning units (from themes to codes); (iii) condensation (from code to meaning); and, (iv) synthesizing (from condensation to descriptions and concepts)(Malterud, 2012). This coding process has resulted in three main categories: opportunities, overcome, and technology. Each category has been broken down into subcategories and indicators. These coding units have been applied to detect the frames in the websites of the fertility clinics.

As previously mentioned, one of the main objectives of this study was to understand how women in Spain perceive and experience the social egg freezing phenomena. With this objective in mind, this study implemented the principles outlined in Layder's theory of social domain (2005). Layder's theory suggests a multi-dimensional analysis in order to understand better every social event or phenomena. Using Layder's social domain theory, this thesis focused on four dimensions which have been used to examine women's perception and experience of social egg freezing. These dimensions included psychobiography, situated activity, social setting and, contextual resources, which have been classified as independent domains and at the same time are interconnected. These domains reflect various dimensions of social reality, with the first two domains of psychobiography and situated activity representing units of agency, while the latter two domains deal with social

settings and contextual resources being viewed as structural components.

The analytical process applied to examine the second objective of this study included an in-depth description of the survey formulation and the application of a semi-structured interview. To collect the samples of this study, a snowball technique (Naderifar et al., 2017) was used. This technique acquired 442 answers to the questionnaire as well as 18 interview responses from women who have undergone an egg freezing procedure. Following this, a discourse analysis (Van Dijk, 2013; Weber, 1990; Wolf, 1988) using social domain theory was applied to explore the data collected from questionnaires and interviews. Having used four different dimensions of social domain theory to understand the social egg freezing topic, a multi-dimensional analytical tool was required. By using discourse analysis, it was possible to explore the textual dimensions of the results as well as consider the contextual aspects of the results which connect the structures and the misrepresentations of the social world, such as the cultural context in which a conversation can be interpreted.

The questionnaire and interview analysis conducted a descriptive analysis, including a socio-demographic analysis and an analysis of the frequencies of the responses. Following that, a discourse analysis was carried out utilizing the Nvivo12 tool. Similar to the coding process implemented earlier for the clinics' websites, a systematic coding process was implemented which identified four main categories: i) the concept of motherhood; ii) participant motivations for taking part in the egg freezing process; iii) the experience of undergoing egg freezing and participant perceptions of fertility clinics; and iv) information relating to egg freezing. These coding units were applied to explore women's experiences and understanding of social egg freezing in more detail. The findings of this thesis included the analysis of clinics' websites, questionnaires, and interview analysis.

Fertility Clinics' Communication Strategies on their Websites

The findings related to the first objective of this study determined the main frames that fertility clinics use in the content of their websites, regarding social egg freezing.

To explore the communication strategy of these clinics, their website content, including text, pictures, and videos, have been examined. This analysis identified how the content of these websites is framed to persuade women to undergo social egg freezing treatments. These findings confirmed that the content of these websites is more focused on social egg freezing than medical egg freezing. That could be because for fertility clinics medical and social reasons have different importance level. In other words, medical egg freezing as a necessary medical treatment highly recommended by doctors, to preserve the fertility of women who are undergoing treatment for cancer or other illnesses that can affect their fertility; and also covered by health insurance, does not require to be promoted as social egg

freezing does. However, social egg freezing with no insurance coverage and as a procedure for healthy women whose fertility is not threatened by any severe illness, demands to be marketed. Therefore, these findings declared, the content of these fertility clinics' websites is **marketing-centered** rather than **informational centered**. This finding implies that the content of these websites is framed to promote the egg freezing service as a necessity in women's fertility life.

These findings were similar to the previous studies, one of which proved that these websites are commercialized in nature, and which proved that their advertisements of social egg freezing do not follow the ASRM/SART (American Society for Reproductive Medicine/Society for Assisted Reproductive Technology) guidelines (Avraham et al., 2014). Aligned with that, other studies, besides confirming the advertised status of these websites, declared the provided information is insufficient (Abusief et al., 2007; Wilkinson et al., 2017; Hawkins, 2013; Jain and Barbieri, 2005). Also, the lack of reliable information has been concluded in other studies (Huang et al., 2005; Spencer et al., 2016; Marriott et al., 2008). This thesis confirmed that these websites were framed to persuade women without citing scientific sources or showing proof of their claims. For example, asserting a high success rate of egg freezing when this is still complicated to measure or compare to other centers because of a lack of a standardized protocol, is not trustable (von Wolff et al., 2015; Argyle et al., 2016).

Also, this study indicated that the **most frequent frames** were linked to the concept of overcoming the social problems and obstacles that women face while pursuing pregnancy. These obstacles included losing a **professional career**; finding a partner or an **adequate partner**; and the absence of a good **economic situation**. This notion that there are obstacles that can be overcome is itself a powerful concept, which conveys a feeling of empowerment, which is remarkably desirable. However "Professional career", was the most frequented frame in these websites, which indicates the importance of this frame compared to others, from these clinics' perspective.

Although these websites centralized on marketing frames, the interviewees criticized them for focusing on the wrong image of social egg freezing users. Our participants stated that their decision for social egg freezing was not influenced by their professional career but the absence of the required conditions for making a family, and on the top that, the absence of an adequate partner. In this way, fertility clinics showed that their understanding of the reasons women take up this service does not match the reasons reported by the clients themselves. However, putting together all of the most frequently used frames from these websites, a significant relationship between frames and the users' reasons to undergo this

procedure has been indicated. The most frequented frames in these findings included: guarantee, postponed maternity, choice, professional career, and biological limitations of age.

Moreover, the analysis demonstrated that the four selected communities —Andalucía, Madrid, Valencia, and Catalunya— including the highest number of fertility clinics followed different patterns on their websites to promote social egg freezing. Most of the websites of clinics in Andalucía and Madrid follow a similar pattern, highly utilized the frames of postponed maternity, choice and guarantee. This pattern in the neoliberal consumerism context (Brown and Baker, 2012) can be understood as encouraging to invest in a new technology, which offers the ability to choose the timing and postpone motherhood.

The clinic websites of Catalunya also showed a similar pattern, with a small difference in coverage of the “biological limitation” frame, which was very low compared to the other communities. Biological limitation in this thesis referred to women’s age-related fertility decline, which uses a gender framed language. As mentioned earlier (see chapter 4), addressing women’s natural biological fertility process as a deficiency implies a gender perspective to the topic. Having that in mind, clinics in Catalunya were less gender centered than the other three.

The pattern followed by Valencian websites, which focused on the guarantee and biological limitation, differed the most from the other regions. These websites patterns were marketing-centered with a gender perspective.

This study also analyzed the pictures and videos, presented on the clinics’ websites. The most frequent pictures were related to the freezing technology process. The classification of pictures consisted of three category including pictures of women, pictures of clocks, and pictures of happy children and babies. The picture framing of these websites intended to highlight the power of science relating to age-related fertility decline issue. In the videos, this analysis found an intention to attain reliability. The videos interview experts and women who have undergone egg freezing included gained framed discourses. That is, the conversations were mainly benefit centered, and the stated potential risks were easy to solve. For example, they addressed how easy was the procedure and how happy they were, after freezing their eggs, while they downplayed and normalized the problems that they had during this procedure.

Women’s Perceptions and Experience of Social Egg Freezing

In an attempt to explore the understanding and experience of social egg freezing users, responses from questionnaires and interviews have been analyzed. The questionnaires have been administered and responded by 442 participants. Among the participants, 23 women

were engaged with social egg freezing procedure, while the interview participants were 18 women, who had experienced egg freezing. Regarding the concept of motherhood, it has been found that for the majority of the questionnaire respondents, motherhood was an important concept, although they were not worried about age-related fertility decline and biological child. They disclosed the possibility of undergoing the egg freezing process in the absence of (i) an adequate partner; (ii) stable economic situation; or (iii) professional career. However, they argued that serious potential risks of the treatment side-effects for them and offspring, as well as lack of access to reliable information, would prevent them from engaging in social freezing.

The principal identified source through which the participants have learned about social egg freezing treatment was media including TV, radio, internet, printed press, social networks, blogs, and fertility clinics websites. Investigating on the internet to find information about this treatment was also reported by egg freezing users. Although the investigation about this treatment also included consulting with experts and friends, still the importance of online information on this topic is remarkable.

Each of the respondents explained the major motivating force that led them into taking up egg freezing which was the absence of a partner or an adequate partner. Although the absence of partner was not the most highlighted frame in the analyzed website, this study found a significant relationship between the main factors for women to choose a clinic and the highlighted elements in the websites of fertility clinics including high success rate and quality. However, a third person recommendation has been also mentioned as a significant element for the users of this technology. In respect to complications felt during the egg freezing process, the most reported and challenging problem was the side effect of the ovarian stimulation drugs.

In the participants' opinion, their stored eggs play an insurance role, and they had no certain plan to use them. Although the majority of users even were not sure of using their frozen eggs in the future, they still recommended it to the others.

The socio-demographic characteristics analysis of 18 interview participants indicated women of average 39 years old at the time of freezing, mostly heterosexual, single, post-graduate, in a stable job and a good salary. Next, an exploration of women's understandings and perceptions concerning following four concepts of motherhood (i) motivations about egg freezing; (ii) egg freezing experience; (iii) opinion about fertility clinics websites; and (iv) information related to egg freezing has been provided.

In consonance with the findings from the questionnaire, motherhood was reported as an important concept by most of the participants. Although they reflected a commit-

ment feeling regarding childbearing, they showed an ambivalent feeling that made them indecisive. This ambivalent feeling is driven from being uncertain of the actual reason for childbearing desire, the hesitancy of being influenced by social pressured rather than an individual desire. So, as discussed, egg freezing for them was like a guarantee to retain their fertility for a longer time during which they can make their final decision.

The right time to become a mother for the majority of the participants was linked to being emotionally and socially ready, which referred to have an adequate partner and being in a stable economic situation. However, the main reason for them to freeze their eggs was linked to creating a perfect family which requires to have the right partner. In the participants' opinion, the right partner was someone with whom they can create a life, based on love and raise the children together. Therefore, in their perspective, the course of time invested in the course of locating their right partner cannot be considered as delay childbearing since it is not controllable. They denied the concept of social egg freezing for a professional career which was the center of media messages around this topic. Instead, they argued the social structural challenges which influence women's lives regarding motherhood. Work regulation in terms of maternity leave, payment and fewer employment opportunities for mothers have been mentioned as some examples of structural challenges on the motherhood life.

The participants declared that biological limitation difference between men and women as a significant reason to dissimilar eagerness for parenthood timing. Egg freezing by giving more time to women could be a solution to make a balance for these differences. That is why, for other participants, the problem is about not being fully informed the of age-related fertility decline, and the potential challenges that a woman could face in this way. According to this group, this time is not short, but women need to be more knowledgeably informed about age-related fertility decline and assisted reproductive technology, from very younger ages. Besides having different time compared with men, the feeling of failure or guilty or stigmatized has been mentioned. These feeling are directly linked to a patriarchalism in which non-mother women cannot be regarded complete, but with defects.

The challenges of egg freezing experience including influencing factors on participants' decision-making process to undergo this process, and to select the clinic were examined. The participants commented that the decision-making process was challenging while the most important factors for clinic selection were someone's recommendation and price. The respondents had investigated the quality of service of their respective clinics through the internet or consulting with a friend or an expert. However, regarding the level of

experience exhibited by the various clinics, the factors that contributed to their critical comments were lack of emotional support by clinics staff and lack of information about physical risks or hiding them from clients.

In spite of doing a lot of investigation about the potential risks of this process on internet, clinics websites, blogs, other people and specialist, a serious problem in relation to paucity of non-promotional or genuine information with ‘no strong attached’ has been noticed. That is, participants were not informed about all the potential challenges which some of them have faced afterward. These problem as mentioned were physical and emotional which could range from simple stomach problems to severe ovarian hyperstimulation syndrome; In a case, breast cancer was diagnosed and the patient moved from crying to severe anxiety. In general, the emotional support reported as an anxiety reducer which was claimed to make the users feel better. A very little number of the participants preferred to keep it silent, therefore they do not receive support from their friends and families, but from online support groups. However, because of the challenging process of hormonal stimulation, the majority of the respondents reported a feeling of loneliness, anxiety and being sensitive.

Analyzing their feelings after undergoing social egg freezing and their expectations in the future included various reflections. Other feelings include the relief for the successful completion of the challenges, as well as empowerment and freedom, has been stated by most of the participants. They felt empowered because they could control and give another opportunity to their desires. The feeling of freedom was linked to having enough time to provide the ideal life and family for the future children and avoiding the feeling of being pressured regarding the time of becoming a mother as well as the choice of a partner. However, for some of the participants, these feeling did not last, as they became preoccupied with the thought of the possibility of deficiency of their eggs in the future, and consequently feeling pressured to make a family.

Despite having good feelings, many of the participants stated a low level of expectations. These low expectations were linked to their awareness about the low success rate of IVF, that they would have to take in the future if they want to use their frozen eggs. Instead of having low expectations, they have high hopes for improving technology for the day they need to use their eggs. To sum up, they commented despite all the challenges; they would have felt guilty if they had not undergone this procedure. In their perspective, dealing with the potential risks of undergoing this procedure is less than dealing with the risk of feeling regret because of losing the opportunity that they had one day.

Finally, the participants criticized the fertility clinics websites for three reasons. First,

the image of a woman who selectively delays childbearing for her professional career has been considered a wrong image created by fertility clinics websites and media which in their point of view had to be changed. The lack of enough or unreliable information as a strategy to end up setting a presidential session in which they might convince the clients to use their service was the second one. The third one was about using pictures of babies in the pages of social egg freezing. According to some of the participants, this strategy had a negative influence on women who were going to freeze her eggs for future use.

The following conceptual and theoretical discussion is what this study contributes to the knowledge about social egg freezing phenomena. After providing brief literature on the concepts such as neoliberal rationality and ideologies of intensive mothering (Bower and Hayes, 1998), this chapter provides a better understanding on how this phenomenon is perceived and experienced by Spanish women through four domains of Layder theory. It also discusses the linkage of main frames used in the fertility clinic websites with the participants' perceptions about social egg freezing, in the context of neoliberalism and consumerism. Following part discusses some ideas related to social egg freezing phenomena under four domains of Layder's theory and suggests some concepts which can be concluded from this study.

These concepts are formulated to describe the participants' decision-making process to undergo egg freezing, taking into account the influences of four dimensions of social domain theory. In the present case, how Individual feelings and experience, Partnership and family, Workplace and the labor situation in the context of neoliberalism and consumerism, influenced these women to use egg freezing technology.

As discussed earlier, this study showed that the contents of analyzed fertility clinics websites were marketing -centered framed which aimed to attract women to get their service. Including egg freezing industry as a part of contextual resources, this section provides an insight into how this communication strategy that fertility clinics use can influence women's decision making. It will also discuss the relationships between framed used in the websites and the participants' statements.

5.2 Neoliberalism and Neoliberal Attitude

Some authors have recognized Neoliberalism as the principal ideology in social, political and economic domains which has affected our world today (Alfredo Filho and Johnston, 2005). Neoliberalism affected social, political and economic values in contemporary society. Encouraging individualism, consumerism and the shifting authorities and accountabilities of state to the individual, neoliberalism inspires individuals to construct their lives on

their own desires (Brown and Baker, 2012). Individuals are responsible for managing their individual biographical projects as well as consequences of their decisions, or indecisions, (Rose, 1990). Drawing on apparently impartial values of choice, self-sufficiency, identity, and self-realization, which are entangled in dissertations of individualism and consumption (Wilkes, 2015), neoliberal wisdom notifies that individuals must understand and experience their life as reflects of their personal goals and actions as not as the outcome of a series of happenings.

For example, a research of users of IVF has notified that patients regularly wanted use IVF technology with the reason that they might regret later if they did not grab the opportunity or because they wanted to ensure themselves that they had tried everything possible. This conception of wanting to ensure everything possible can, therefore, be associated with the fear of regretting such inaction and being accused of any undesirable consequences such as unintentional infertility (Tymstra, 2007; Ziarnowski et al., 2009).

Tymstra also notifies the imperious character of medical-technical opportunities which make individuals not to refuse to experience them. This aspiration to experience opportunities when they arise can be noticed as one of the outcomes of ‘defining quality of our current moment’ in words of Adam (2009) which is, in fact, the ‘characteristic state of anticipation, of thinking and living toward the future (Adams et al., 2009). Neoliberal attitudes, emphasizing on consumption, empowerment, and self-determination, lead individuals not to refuse the alluring new technologies. This attitude has been observed in this study which further will be discussed.

5.3 Understanding Social Egg Freezing Decision Making through Social Domains and Frames

As demonstrated in figure 5.1, the discussion will explain how each dimension influenced women’s decision making. As mentioned earlier, the fertility clinics websites as a part of the fertility industry were embedded in the fourth dimension (contextual resources). Figure 5.1 also provides an indication of the key themes explored within each dimension.

Psychobiography

As explained in chapter two, this domain expresses a unique experience of individuals. It detects the impacts of ‘critical experiences’ that could be a trauma or crisis such as loss or an illness. The psychobiography is a combination of an individual’s beliefs, understanding, reactions, and attitudes. The interest of this study through this domain was to explore the women’s feelings, understanding, reactions, and attitudes about social egg freezing.

Therefore, each woman has a unique experience about social egg freezing which is

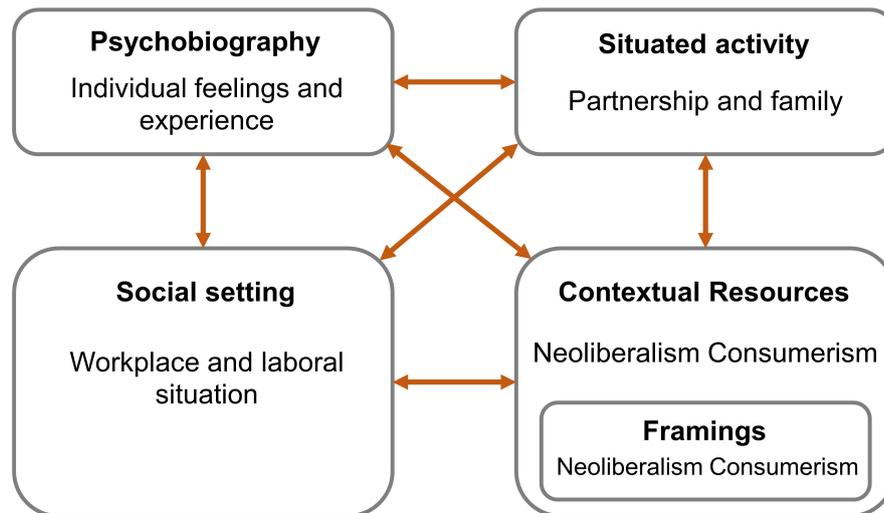


Figure 5.1: key themes indication within social dimensions

affected by various elements. For example, according to Layder, even small differences that make individuals experience things differently (Layder, 2005).

This study demonstrated different feelings about the concept of motherhood from the participants' point of view. They reflected diverse definitions of being supported emotionally and practically. Their beliefs and expectations were not the same. They also demonstrated different levels of knowledge about fertility decline. All of these differences can be explained by being psychobiographical different. Some of the participants expressed their disparate feelings with their friends and family members who have made a family. The feeling of being behind the natural social life or the feeling of not being good enough to have a partner or make a family have been mentioned by them. For example:

I don't know what is wrong with me that I can't find a partner. Participant 7

Meanwhile, others had dissimilar feelings, for them the situations were diverse and the life decisions were taken based on a certain situation. This group of participants' feelings was influenced by their internal criteria. They didn't feel pressured by living in a society where women at their age have children. However, there were other participants whose friends did not have children yet, so they could share feelings and that made them feel less anxious. This can be explained through dissimilar desires and needs that different women have.

The way and the situation in which individuals have been raised is not the same for everyone. According to Layder, this is also another factor which makes people live a unique experience. Some of the participants of this analysis mentioned their history which depended on being good or bad; they posited their expectations. For example, participant

12 who had bad memories from being raised by a single mum, did not wish to be a single mum for her future child. By contrast, the two other participants did not want to have children with their current partner because they were not sure if they were the right partners. They mentioned that their parents were always fighting and did not have a good relationship so that they did not want their children to live in the same situation.

Age and education and economy were also mentioned in some of the participants' histories. Some of them commented that the bad economic situation of their family was a problem for them and their sisters, so for them to have a good job was always important. There were similar ideas with parents education level or age difference. However similar situations did not have the same influence on all the participants. In spite of having been raised in a poor family, Participant 11 stated that she would not consider the economic situation as an important factor for the timing of motherhood.

Another concept that Layder uses to define psychobiography domain is critical experiences which refer to an unhappy and unforgettable memory like a trauma. In the above examples, the challenges of living with a single mum, seeing the parents fighting, economic problems could be also considered as a critical experience for the participants.

The other example of critical experience would be the fear of being infertile in the future. This is a very powerful trauma observed in the arguments of all the participants. Thus, this trauma influenced their decision making. To summarize, this section showed how individual life background and critical experiences affected women to undergo egg freezing.

Situated Activity

The situated activity domain is about how individuals respond to social encounters. What this study takes as the situated activity is the relationship with the family and partnership which are supposedly the closest relationships of a woman.

The majority of the participants did not have a partner or an adequate partner. Many of them expressed that their previous partners or the current partner were not ready for fatherhood or was not ready at that time. Compared with women, men showed less eagerness for parenthood (Hinton and Miller, 2013) which could be a significant reason for current delay childbearing. Most of the participants believed that men are less concerned because of their longer biological time. So, egg freezing is their response to this social encounter.

According to some of the participants, having their eggs frozen makes them feel more secure to meet men at older ages. So, they would not feel imperfection, and they would not lose their freedom to choose their adequate partner. As participant 13 stated:

I do not wanna lose good men just because of not being able to have my child at the time of meeting him.

They also mentioned the unequal situations for men and women to decide about the right time of having children. For that reason, many of the participants undergoing egg freezing was not their first option but was their response to not being able to control the time of childbearing. Thus, this unequal situation of having longer biological time gives more control to men in a relationship.

Another intimate relationship that the participants have been asked about was their family. Most of the participants mentioned that they had discussed the subject of childbearing with their family mainly with the female members. Some of them stated the desire and the cheering up to have children from their family. Although some of them liked this encouragement, they disclosed the feeling of pressure to have children. Undergoing egg freezing can be a response to this pressure for both sides, the family and the woman.

This family pressure is not always evident through words and advice. As one of the participants expressed her feeling when she sees her dad playing with his brother's grandson and wishing she had grandchildren. For her, it would be wonderful if she could bring a grandson into the world for her dad. Although this is not the only reason for this participant to undergo egg freezing, the influence of this feeling could not be denied.

Social Setting

Social setting is a mediate between subjective and objective elements of social reality, by filtering the influences of both psychobiographical and structural domains. It forms the immediate environment of a situated activity. The social setting taken in this study is the workplace and women's laboral situation in there.

In chapter four, laboral situation and the difficulties that mothers can have were discussed from the participants' point of view. Here, a broader context on this subject is provided. Majority of the users mentioned that the situation of working women doesn't encourage them to have children. They also commented that being a mother, women have fewer chances to find a job, because there are fewer opportunities for mothers in the labour market.

To be specific, they have mentioned four major problems which were: (i) low salary, (ii) short time maternity leave, (iii) shorter paternity leave and, (iv) the high possibility of losing the job.

Some of the participants commented that the maternity leave is too short and it is almost impossible for a single mom or someone without the extra help – from the family or friends- to manage everything and coming back to work. One of the participants had

seen some colleagues and friends who had serious challenges in a similar situation.

The other argument was that vacancy opportunities are lower for mothers in comparison with childless women. So they believe that women have to work the longest possible time before having children to reach an acceptable economy level in order to raise their children.

Many studies confirm this statement; that mothers experience discrimination in hiring and salary comparing to women without children (Anderson et al., 2002; Budig et al., 2012; Correll et al., 2007; Hebl et al., 2007; Heilman and Okimoto, 2008; Glauber, 2012; Miner et al., 2014). That is because of the negative stereotypes of the competence, commitment and the flexibility of working mothers (Heilman and Okimoto, 2008). Another study states that maternity leave has a very high impact on the company's running, where the efficiency of women is low when they return to their job (Guardian, 2014).

The Majority of the participants were aware of this laboral situation, having heard that from friends or colleagues experiences. Therefore, they consider this situation as an obstacle for their motherhood, and consequently, their decision making might be also influenced by this result.

Contextual Resources and Framing of the Websites

Contextual resources include two dimensions of material and cultural and focuses on the unequal distribution of material resources such as those based on class, ethnicity, age, gender, status and cultural resources like knowledge, mores, media representations, fashion and so on.

This chapter discusses various ideas in both material and cultural resources such as gender, culture, knowledge and, the information in the context of neoliberalism, and consumerism. It also examines the framed information in the fertility clinics websites in the context of neoliberalism, and consumerism. It then considers the possible relationship between the framing strategy used in websites and women's decision making undergoing egg freezing treatment.

Individuality

The content of these fertility clinics websites, to a certain extent, had been framed to convey the message of biological limitation for women which they have to overcome. This concept has been coded as "overcome" in the analysis, (see chapter three). The structure of these messages was individual-oriented; that is they address women as the only responsible for their possible age-related fertility decline in the future caused by social problems. Also, these social obstacles have been formulated as individual problems. The specific lexical choices such as personal pronouns and certain verbs and concepts presented

in those contents demonstrated how the responsibility is particularly on women. Through the use of specific terms like “who **could not** find an adequate partner”; “who **does not want to lose** her professional career”; “to avoid social pressure” and “not having a good **economic** situation”, women were constructed to take responsibility for their reproductive life individually. This responsibility requires economically, physically and emotionally individual management. All these examples that appear in the websites of fertility clinics significantly suit in a neoliberalism ideology.

The same perception has been attained examining the interviews and questionnaires. The majority of interviews did not expect to be economically supported by the public health system regardless of being expensive the process. Aforementioned confirms that women accepted taking care of possible age-related infertility is completely a personal responsibility. From their perspective, the non-medical egg freezing cost should be on individuals because of being elective treatment. Using phrases such as “That was **my decision**, so I had to pay it”; “I am **healthy**, so this is not a treatment I need to do it” and “there is **no medical obligation** to undergo this treatment” are examples that are significant in the neoliberal context.

Morality

In the neoliberal context, individuals are not only responsible and morally obliged to be healthy, but also to handle the financial costs. (Crawford, 1977; Lubben et al., 2002). In the content of the websites, appeared references which implies the concept of moral obligation to be healthy. For example, in some of the analyzed videos (addressed as women interview, see chapter 4) the interviewees pointed out that they wanted to avoid the feeling of regret in the future. This statement is also evidence in other framed terms such as **bad feeling** which has been included in the content of these websites (see Chapter 4).

This notion of avoiding bad feelings or regret also was reflected in many of the interviews. Statements such as “I just didn’t want to regret in the future”; “You have to try your chance if you can afford it”; “I might feel guilty in the future” and “At least I have tried”, are some examples show how the neoliberal ideology influence the individual’s decision making.

Another notion which also stems from being morally obligated is the action. This concept is also reflected in many participants stories who stated that they did not want to have a “**passive role**” in their lives or being the “owner” of their lives or just “**doing something**” reflected a strong subscription to neoliberal values of responsibility, self-sufficiency, and self-determined action.

Freedom to Choose

Another concept in this neoliberal context is autonomy and the freedom to choose, which appeared in the content of certain websites as well as interviews. As it has been demonstrated in (table 4.2, p: 74), “Opportunities” includes freedom and empowerment to choose are illustrated by remarkable coverage (34%) on the content of websites. As also discussed in the same chapter, these frames focus on how egg-freezing technology gives more opportunities to women, including the freedom to manage and prioritize their dreams by permitting them to choose the time of becoming a mother and, furthermore, postpone motherhood (see 4.2.3, p:73).

This framing strategy and placing egg-freezing as an important decision for the woman’s reproductive life leave three choices for them: (i) to become a mother in spite of not being ready or being in an unsuitable situation (deemed by the woman); (ii) to stay childless until the desired condition (which includes the risk of remaining childless) is achieved; or (iii) to undergo egg-freezing procedures and preserve their fertility potential.

So, under this circumstance, the only seemingly rational decision would be to choose to undergo this procedure. This strategy makes women feel that they have a choice and are also being responsible individuals by managing their reproductive life. It also gives a high level of rationality to this decision.

Another frame that fertility clinics use on their websites to promote egg freezing is to guarantee to ensure future fertility. This frame stems from consumers’ reliance on economic concepts. Like other insurances, fertility preservation has been seen as an investment for the unknown future. This framing is linked to rational and emotional decision making since there is no alternative rational choice offered, as previously discussed. The emotional side of this framing is related to an investment in true love with the “*right partner*”. This investment also deals with maintaining a good position in the marriage marketplace and not losing the chance to choose an adequate partner. As stated by participants, finding the right person is not easy; it takes time and feeling secure is important in this process. They have also mentioned that this process is not entirely under their control and so it is not predictable. Thus, extra time is what they need in the case of prolonging this process.

The emotional aspect of this insurance frame was linked to a feeling of contentment in finding true love and romantic relationships. This framing conveys positive feelings and hopes for the uncertain future. Therefore, it is an investment to buy hope for their future reproductive life.

In her studies, Tiffany Romain, quoting from Del Vecchio Good et al. (1990), argues the concept of “political economy of hope” in the business of fertility preservation Romain

(2012). The political economy of hope circulates the “message of hope”. Good argued that by giving a treatable perspective to a severe illness, like cancer, the political economy of hope generates actions against that disease (Del Vecchio Good et al., 1990). This hope has also been linked to biopolitics where it explains how the “political economy of hope” engages individuals in health technologies promotions by educating them, as well as organizing scientific research, and influencing health policy Novas, 2006, p. 291.

According to Novas, hope generates action to make a better future, both individual and collective (Novas, 2006). That has been reflected in the interviews regarding participants expressions like “*wanted to be proactive*”, “*wanted to do something*” or “*I have done my best*”. In this framing context, fertility preservation seems to be a more hopeful option to make better opportunities available to women.

I hope my frozen eggs give me enough time to find the one with whom I could have a baby. The quality of my eggs will not be as good as now by then [...] I hope they work and I can make my family with my future love of life [...] It’s like an insurance policy for me, I know there is no guarantee that they work but I hope they do [...] At least I won’t feel desperate [...]. Participant 5

Considering an insurance policy in the context of business and economy, fertility clinics’ websites are promoting hope to a better future through the egg freezing technology. As mentioned earlier, this hope generates actions which had been reflected in the interviews. Therefore, it can be concluded, in the neoliberal context, egg freezing for social reasons appears to be just another product in the market of consumerism. Indeed, the content of fertility clinics’ websites is framed to promote this procedure and the main frames used in their communications are marketing centered in favor of the fertility-preservation business.

The pressure placed on women concerning their reproductive life, through the mechanisms of the market demonstrates the way social behavior is along with the economy, in a neoliberal context. Egg freezing, as a form of consumption, has been expressed in the participants’ comments when they described it as an investment. For example, in their following mentions, “I see that as an insurance for the future”, “I know there is no guarantee, but it is still an insurance. It’s always better to have an insurance even if you never use it”, they see that as something that would buy them more time.

5.3.1 A case in point of domain influences

So far women’s perceptions of their use of egg freezing technology through four social domains, and also communication strategies of clinics websites through framing theory, have been discussed in detail. To make it clearer and easier to understand, this section

provides a visual map of these domains and the links between them, using one of the interview transcriptions. Figure 5.2 shows the social egg freezing experience of participant 8 through four domains, as well as possible influences by framed provider's communication.

This participant was a manager in a big company who had undergone egg freezing at 36 years old. She had been in a serious relationship, in which she had expected she would end up being a mother, but it did not work out. In the interview, she noted how her relationships did not work and how she was emotionally affected by them.

Her story reflected a critical experience about her sister and her challenging pregnancy, and her unhealthy nephew, which affected her decision making related to egg freezing. Thus, she had always the fear of having the same experience. This shows how her individual experience and intimate relationships, which are elements of psychobiology and situated activities domains, significantly influenced her decision to undergo egg freezing procedure. However, they were not the only factors, and in her story, the other two social domains have been reflected remarkably.

Her story reflected an explicit subscription to consumerism in a neoliberal context. As with many of the other participants, her story reflected the importance of elements such as responsibility, self-sufficiency, self-determined, autonomy and fear of future regrets as reasons for undergoing the procedure. She wanted to have children with a committed partner, but having children was not the main aim to make a family, as she stated that she wants to enjoy her partnership like men do, without being worried about childbearing. However, she mentioned that she would be ready for having children when she had a committed partner, as she had already enjoyed her child-free life.

In her interview, she mentioned how her career had meant that she had been able to travel the world, experience different cultures and learn a lot from them. Now she could also take her children to those places, which she could not have done before. Thus, she confirmed that the right time to become a mother for her also highly depends on her economic situation. She preferred to become a mother at an older age, therefore being able to provide a good quality of life for her children.

Contrasting her story with the frames used by the clinics' websites, some frames were suggested that could have influenced this participant's decision-making process. These frames including: overcoming obstacles like not having the proper partner; not losing her social position, which is the most frequent frame of these websites; to have more time to form your family; to make your family in an stable economic situation; not being dependent to the situation; managing your life; and seeing pictures of happy women traveling.

Interpreting this participant's story made clear the importance of all these four social

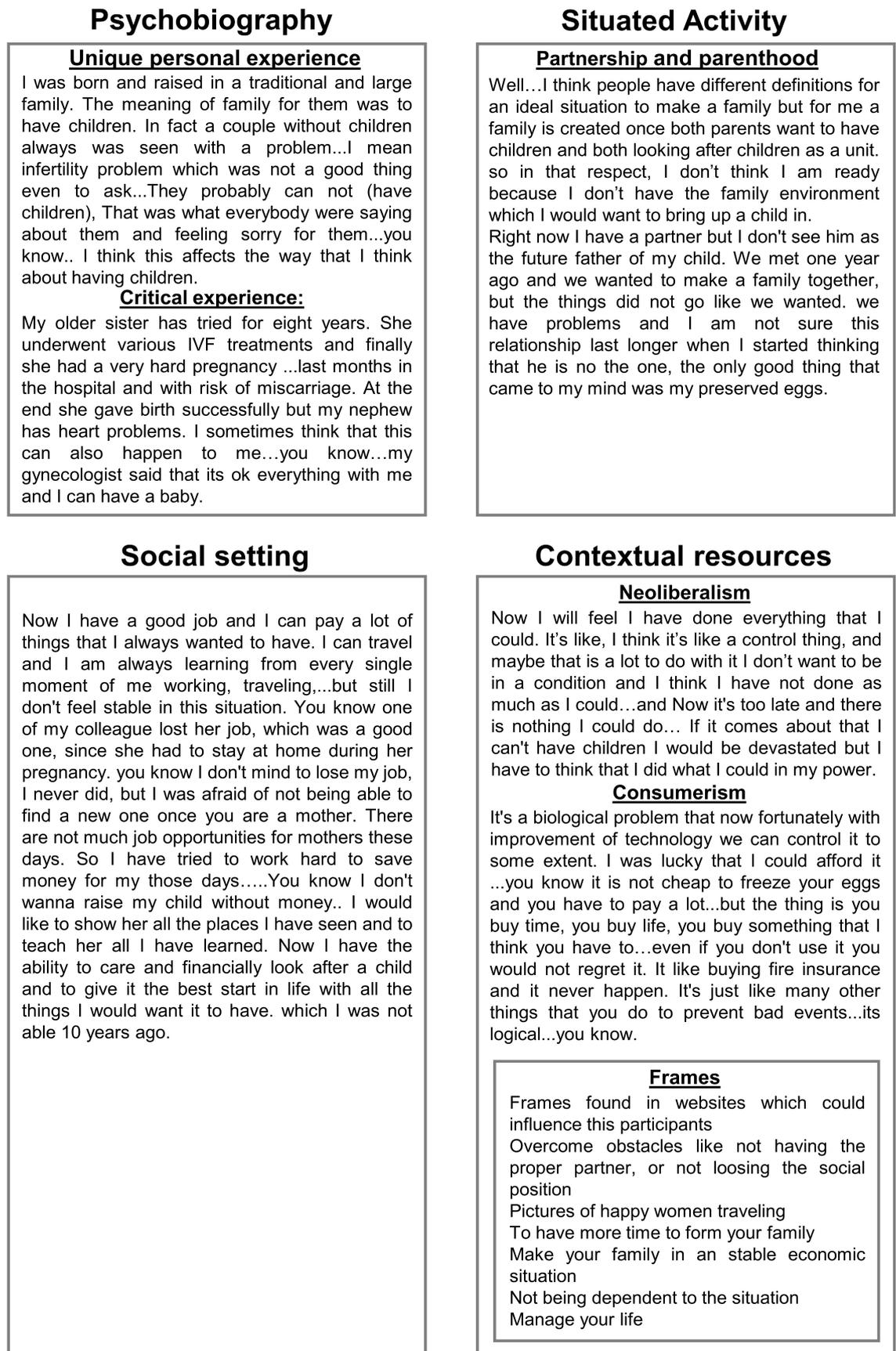


Figure 5.2: Social egg freezing experience of participant 8 through four domains

domains. As Fig.5.2 demonstrates, the personal elements like her life situation: her upbringing, family expectations and partnership experience, play an important role in her perception about motherhood and her decision making, alongside the social factors such as socioeconomic status and values like responsibility, self-actualisation, self-determined, autonomy and fear of future regrets, which find coherence in the consumerism and neoliberal context. This participant was one of the 18 women who disclosed the different dimension of their life which had influenced their perception and decision making to undergo this procedure.

5.4 Main Findings of Reserch

The thesis argued that the information about social egg freezing technology offered by providers of this technique is commercialized and framed to persuade women to use it. The website's analysis undertaken for this research identified how the dominant reasons for women's use of social egg freezing as presented in the fertility clinics websites were related to overcome the social obstacles related to motherhood, the opportunity to choose motherhood timing, and guarantee the future reproductive life.

Although many of the participants confirmed their awareness about marketing objectives of clinics' websites, and also they criticized the information provided by them, the influence of this communicative treatment is undeniable.

Through the use of framing theory, four social domains of psychobiography, social setting, situated activity, and contextual resources, and concepts of neoliberalism and consumerism, the thesis demonstrated that women's engagement with egg freezing technology for social reasons is influenced by both macro and micro sociological factors including ideologies of motherhood, partnership and, individual's social position, and social structure.

The thesis explained how the users of social egg freezing enacted reproductive responsibility when they faced the risk associated with age-related fertility decline; and how their action corresponds with consumerism and neoliberal values of individuals responsibility such as self-actualization and self-determined. It argued that social egg freezing is an individual reaction to take reproductive responsibility against future age-related fertility decline.

This individual responsibility about motherhood is being criticized nowadays through feminist movements in Spain, like the PETRA movement, which came up for the expansion of maternity leave, or the demand by associations such as AEPap to reach at least six months to facilitate breastfeeding. Also, El País published two interviews during three

weeks (6/03/2019 and 1/04/2019) from Esther Vivas, discussing that a motherhood is not only an individual responsibility but a collective one and it should be within the framework of an emancipating social project, which is only possible with changing the model of social reproduction, such as the labor market, public services, the family institution.

5.5 Further research suggestions

From the findings of this thesis, so far, an article has been published in “El profesional de la información” journal, and the main findings remain unpublished. Therefore, to publish various articles from this research in social science journals, would be the first intention of the author. These articles will present the theoretical and empirical findings of this thesis.

To date, the studies about motherhood timing and social egg freezing have focused just on women. Therefore there is an excellent contribution to this knowledge, to analyze the role of men. This role can be explored at an intimate level or a social level.

This research has highlighted the communication strategy of fertility clinics related to women; however, little search has explored the communication strategy used to attract men. Since men are also clients of these clinics, future research could usefully explore these subject.

The sample used in this thesis has reflected the interests and desires of heterosexual individuals; Further research could explore the interest of non-heterosexual women’s perceptions. This approach can be couple centered research including lesbian, bisexual or trans women and their perception about motherhood.

This thesis discovered that fertility clinics in different communities apply disparate framing patterns on their websites. That might be because of the diverse cultures of each community of Spain. A further cultural study can explore key dimensions of this observation.

This thesis explored the general opinion of Spanish women about social egg freezing; however, that could be done in other countries to compare the cultural influence factors as in the context of social domains. Also comparing the findings in a cultural context would contribute to this knowledge.

To date little is known about the future of frozen eggs; further researches should follow-up previous users to explore whether women return to use their frozen eggs in future, pursue other alternative options like adopting children or choose to remain childless and to explore the reasons for these different decisions.

In addition to pursuing women to undergo a fertility preservation process, there are various mobile applications which help women on decision making procedure; further

research may seek to explore the communication strategies of these applications, women's opinion and attitude about these applications.

Finally, since using social egg freezing is growing, further research can explore the ways through which the users of this technology are registering or documenting their experience of this technology online, through social networks, blogs, and websites.

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Appendix A

Participants of Spanish Fertility Society

Table A.1: Participants of Spanish fertility society

	Medical center name	Province
1.	Equipo Ron - Hospital Quiron A Coruña	A Coruña
2.	Zigos Centro Gallego de Reproducción	A Coruña
3.	ART Vitoria	Álava
4.	FERROBELAB SLP Alicante	Alicante
5.	IMED Hospitales Alicante	Alicante
6.	In Vitam Centro de Medicina Reproductiva	Alicante
7.	IREMA	Alicante
8.	IVF-SPAIN (Alicante)	Alicante
9.	Unidad de Reproducción Clínica Vistahermosa	Alicante
10.	C.H. Torrecárdenas	Almería
11.	IVI Almería	Almería
12.	Unidad de Reproducción – Hospital Mediterráneo	Almería
13.	Unidad de Reproducción – Hospital Virgen del Mar	Almería
14.	CERHA	Badajoz

15.	Instituto Eltremeño de Reproducción Asistida	Badajoz
16.	Centro de reproducción asistida clínica Sagrada Familia	Barcelona
17.	Centro Medico Teknon	Barcelona
18.	Clínica EUGIN	Barcelona
19.	Fertilab.Institut Català de Fertilitat	Barcelona
20.	Fundació Puigvert - Hospital de la Santa Creu i Sant Pau	Barcelona
21.	Gine-3	Barcelona
22.	H. De Sant Joan de Deu	Barcelona
23.	Hospital Clínic de Barcelona	Barcelona
24.	Hospital Quiron Barcelona	Barcelona
25.	Hospital Valle Hebrón	Barcelona
26.	Institut Dexeus	Barcelona
27.	IVI Barcelona	Barcelona
28.	SOMDE1 Dr. Santiago Deleus	Barcelona
29.	Clínica Dr. Enciso	Cádiz
30.	Clínica La Salud	Cádiz

31.	H. U. Puerta Del Mar	Cádiz
32.	Hospital Rey Don Jaime	Castellón
33.	Clínica Rubal	Ciudad Real
34.	FIV Recoletos Ciudad Real	Ciudad Real
35.	Clínica Bau - Córdoba	Córdoba
36.	Clínica Povedano	Córdoba
37.	H. U. Reina Sofía	Córdoba
38.	IFEM Córdoba S.L.P	Córdoba
39.	Clínica Inagor	Granada
40.	Clínica Pedrosa	Granada
41.	Clínica Sanabria	Granada
42.	H.U. Virgen de las Nieves	Granada
43.	Instituto Avantia de Fertilidad	Granada
44.	MAR&Gen	Granada
45.	UR Hospital Inmaculada	Granada
46.	Vithas Hospital la Salud	Granada

47.	Fiv Recoletos Guadalajara	Guadalajara
48.	Instituto Vasco de Fertilidad Donostia	Guipuzcua
49.	H. Juan Ramón Jiménez de Huelva	Huelva
50.	Ciudad de Jaén	Jaén
51.	H.U. Materno Infantil de Las Palmas de Gran Canaria	Las Palmas de Gran Canaria
52.	IVI Las Palmas	Las Palmas de Gran Canaria
53.	Centro Ginecológico de León	León
54.	FIVLleida	Lleida
55.	Clínica Ginecológica Juana Hernández	Logroño
56.	Amnios In Vitro Project	Madrid
57.	Centro Médico Milenium Alcobendas Sanitas	Madrid
58.	Clínica Ruber Internacional	Madrid
59.	Clínica Ruber-Centro de Reproducción Madrid, S.L.	Madrid
60.	Clínica Tambre	Madrid
61.	EVA Q1 LAB, S.L	Madrid
62.	EUGIN	Madrid

63.	Fiv Center	Madrid
64.	FivMadrid	Madrid
65.	Fundación Jiménez Díaz UTE	Madrid
66.	H. 12 De Octubre	Madrid
67.	HM Fertility Center Montepríncipe	Madrid
68.	HM Fertility Center Puerta del Sur	Madrid
69.	Hospital Clínico San Carlos	Madrid
70.	Hospital General Universitario Gregorio Marañón	Madrid
71.	Hospital La Paz	Madrid
72.	Hospital Nuestra Señora de América	Madrid
73.	Hospital Universitario Quirónsalud Madrid	Madrid
74.	Hospital Ruber Juan Bravo Quirónsalud-Centro de Reproducción Madrid, S.L.	Madrid
75.	IGMR Dres Ordás y Palomo	Madrid
76.	Instituto Europeo de Fertilidad	Madrid
77.	IVI Madrid	Madrid
78.	Procreatec	Madrid

79.	UNILABS Reproducción Humana	Madrid
80.	URH Garcia del Real	Madrid
81.	Centro Gutenberg	Málaga
82.	CERAM (Centro de Reproducción Asistida de Marbella)	Málaga
83.	FIV MARBELLA	Málaga
84.	H. Materno Infantil de Málaga - Carlos Haya	Málaga
85.	HC-Fertility (El Centro de la Fertilidad)	Málaga
86.	Hospital Costa de Sol	Málaga
87.	Instituto de Fertilidad Clínica Rincón	Málaga
88.	IVI Málaga	Málaga
89.	Hospital Clínico Universitario Virgen de la Arrixaca. Murcia	Murcia
90.	Instituto de Reproducción Asistida QuironSalud Deleus Murcia	Murcia
91.	Instituto Murciano de Fertilidad (IMFER)	Murcia
92.	IVI Murcia	Murcia
93.	TAHE Fertilidad	Murcia
94.	Unidad de Reproducción Hospital La Vega	Murcia

95.	CEFIVA - Oviedo	Oviedo
96.	FIV4-Instituto de Reproducción Humana	Oviedo
97.	H. Fundación Son Llatzer	Palma de Mallorca
98.	Instituto de Fertilidad	Palma de Mallorca
99.	IVI Illes Balears (antiguo IBILAB)	Palma de Mallorca
100.	Complejo Hospitalario de Navarra	Pamplona
101.	Estudio Médico Navarro	Pamplona
102.	Pamplona Quirón	Pamplona
103.	IVI Vigo	Pontevedra
104.	Clínica Mencía	Salamanca
105.	Centro de Asistencia a la Reproducción Humana de Canarias	Santa Cruz de Tenerife
106.	Centro Madre (Centro Mahtani de Reproducción)	Santa Cruz de Tenerife
107.	H. Universitario de Canarias	Santa Cruz de Tenerife
108.	FIVSANTANDER	Santander
109.	URA Valdecilla. Hospital U .Marques de Valdecilla	Santander
110.	CRTS Sevilla-Huelva	Sevilla
111.	Hospital Virgen del Rocío	Sevilla
112.	IVI Sevilla	Sevilla
113.	MasVida Reproducción	Sevilla
114.	Biogest	Tarragona
115.	Conceptum	Tarragona
116.	HM IMI Toledo	Toledo
117.	Clínica QuirónSalud Valencia	Valencia
118.	CREA Valencia	Valencia
119.	FIV Valencia	Valencia

120.	H.U. La Fe	Valencia
121.	Hospital Clínico Universitario de Valencia	Valencia
122.	IMER	Valencia
123.	IVI Valencia S.L	Valencia
124.	IVI Valencia 2	Valencia
125.	FIV Recoletos Valladolid	Valladolid
126.	Hospital Universitario Rio Hortega Valladolid	Valladolid
127.	Unidad Reproducción, Servicio Ginecología y Obstetricia del H.C.U. de Valladolid	Valladolid
128.	Clínica Euskalduna	Vizcaya
129.	Consultorio Ginecológico Elcano	Vizcaya
130.	Instituto IGIN	Vizcaya
131.	IVI Bilbao	Vizcaya
132.	Quiron Bilbao	Vizcaya
133.	Reproducción Bilbao	Vizcaya
134.	Clínica Ginecológica de Zaragoza S.L.	Zaragoza
135.	Clínica GOBEST	Zaragoza
136.	IVI Zaragoza	Zaragoza

Appendix B

Centers Owned by IVI and Quiron Companies

Table B.1: Centers owned by IVI and Quiron companies

Compay	Medical center	Province
IVI	IVI Alicante	Alicante
	IVI Almería	Almería
	IVI Barcelona	Barcelona
	IVI Las Palmas	Las Palmas
	IVI Madrid	Madrid
	IVI Málaga	Málaga
	IVI Murcia	Murcia
	IVI Illes Balears	Islas Balears
	IVI Vigo	Vigo
	IVI Sevilla	Sevilla
	IVI Valencia S.L	Valencia
	IVI Valencia 2	Valencia
	IVI Bilbao	Bilbao
	IVI Zaragoza	Zaragoza
Quiron	Hospital Quiron salud La Coruña	A Coruña
	Hospital Quiron Barcelona	Barcelona
	Centro Médico Teknon	Barcelona
	Iera - Instituto Extremeño De Reproducción Asistida	Badajoz
	Quiron Bilbao	Bilbao
	Hospital De Día Quirónsalud Donostia	Guipuzcua
	Hospital Universitario Quirónsalud Madrid	Madrid
	Instituto de Reproducción Asistida QuironSalud Dexeus Murcia	Murcia
	Pamplona Quirón	Pamplona
	Hospital Quirónsalud Sagrado Corazón - Care Mu- jer	Sevilla
	Hospital Quirónsalud Valencia	Valencia

Appendix C

Analyzed Clinics by Autonomous Communities and Provinces

Table C.1: Analyzed clinics names by autonomous communities and provinces

Community	Province Name	Nº	Clinic name
Andalucía (21)	Almería	3	IVI Almería
			Unidad de Reproducción – Hospital Mediterráneo
			Unidad de Reproducción – Hospital Virgen del Mar
	Cádiz	0	
	Córdoba	3	Clínica Bau - Córdoba
			Clínica Povedano
			IFEM Córdoba S.L.P
	Granada	6	MAR&Gen
			Clínica Inagor
			Clínica Pedrosa
			Clínica Sanabria
			UR Hospital Inmaculada
			Vithas Hospital la Salud
	Huelva	0	
	Jaén	0	
Málaga	6	Centro Gutenberg	
		CERAM (Centro de Reproducción Asistida de Marbella)	

			FIV MARBELLA
			HC-Fertility (El Centro de la Fertilidad)
			Instituto de Fertilidad Clínica Rincón
			IVI Málaga
	Sevilla	3	IVI Sevilla
			MasVida Reproducción
Hospital Quirón salud Sagrado corazon-care mujer			
Aragón (3)	Huesca	0	
	Teruel	0	
	Zaragoza	3	Clínica Ginecológica de Zaragoza S.L.
			IVI Zaragoza
Asturias (2)	Oviedo	2	CEFIVA - Oviedo
			FIV4-Instituto de Reproducción Humana
Balears (2)	Palma de Mallorca	2	Instituto de Fertilidad
			IVI Illes Balears (antiguo IBILAB)
Canarias (3)	Santa Cruz de Tenerife	2	Centro de Asistencia a la Reproducción Humana de Canarias
			Centro Madre (Centro Mahtani de Reproducción)
	Las Palmas de Gran Canaria	1	IVI Las Palmas
Cantabria (1)	Santander	1	FIV SANTANDER
Castilla-La Mancha (4)	Albacete	0	
	Ciudad Real	2	Clínica Rubal
			FIV Recoletos Ciudad Real
	Cuenca	0	
	Guadalajara	1	Fiv Recoletos Guadalajara
Toledo	1	HM IMI Toledo	
Castilla y León (4)	Ávila	1	Art Vitoria
	Burgos	0	
	León	1	Centro Ginecológico de León
	Salamanca	1	Clínica Mencía

	Segovia	0	
	Soria	0	
	Valladolid	1	FIV Recoletos Valladolid
	Zamora	0	
Cataluña (11)	Barcelona	8	Centro Médico Teknon
			Fertilab.Institut Català de Fertilitat
			Hospital Quirón Barcelona
			Institut Dexeus
			IVI Barcelona
			SOMDEX Dr. Santiago Dexeus
			Fiv Barcelona (grávida) (EN Hospital de Barcelona)
			Clínica EUGIN
	Gerona	0	
Lérida	1	FIV Lleida	
Tarragona	2	Biogest	
		Conceptum	
Comunidad Valenciana (13)	Alicante	6	IMED Hospitales Alicante
			IVI Alicante
			Unidad de Reproducción Clínica Vistahermosa
			IVF-SPAIN (Alicante)
			IVI Alicante
			Unidad de Reproducción Clínica Vistahermosa
	Castellón de la Plana	0	
	Valencia	7	CREA Valencia
			FIV Valencia
			IMER
			IVI Valencia S.L
			HOSPITAL QUIRÓN SALUD VALENCIA
			IVI Valencia 2
Clínica Quirón Salud Valencia			
Extremadura (1)	Badajoz	1	IERA - INSTITUTO EXTREMEÑO DE RE-PRODUCCIÓN ASISTIDA

	Cáceres	0	
Galicia (3)	La Coruña	2	Hospital quirón salud La Coruña
			Zygos Centro Gallego de Reproducción
	Lugo	0	
	Orense	0	
	Pontevedra	1	IVI Vigo
Madrid (18)	Madrid	18	Amnios In Vitro Project
			Centro Médico Milenium Alcobendas Sanitas
			Clínica Ruber-Centro de Reproducción Madrid, S.L.
			Clínica Tambre
			EVA Q1 LAB, S.L
			FivMadrid
			Fundación Jiménez Díaz UTE
			HM Fertility Center Montepríncipe
			HM Fertility Center Puerta del Sur
			Hospital Universitario Quirón Salud Madrid
			Instituto Europeo de Fertilidad
			IVI Madrid
			Procreatec
			URH García del Real
			GineFiv
			Hospital Ruber Juan Bravo Quirón Salud-Centro de Reproducción Madrid, S.L.
			IGMR Dres Ordás y Palomo
			EUGIN
Murcia(4)	Murcia	4	Instituto Murciano de Fertilidad (IMFER)
			IVI Murcia
			TAHE Fertilidad
			Unidad de Reproducción Hospital La Vega
Navarra (2)	Pamplona	2	Estudio Médico Navarro
			Pamplona Quirón

País Vasco (6)	Bilbao	4	Clínica Euskalduna
			Instituto IGIN
			IVI Bilbao
			Quirón Bilbao
	San Sebastián	1	Instituto Vasco de Fertilidad Donostia
Vitoria	1	ART Vitoria	
La Rioja (1)	Logroño	1	Clínica Ginecológica Juana Hernández

Appendix D

List of Analyzed Fertility Clinics' Websites

List of the websites of the analyzed fertility clinics

1. Equipo Ron Hospital Quiron A Coruna
<https://equiporon.com/>
2. Zigos Centro Gallego de Reproduccion A Coruna
a <https://zygos.es/>
3. ART Vitoria Alava
<https://reproduccionart.com/>
4. IMED Hospitales Alicante Alicante
<https://www.imedhospitales.com/en/>
5. In Vitam Centro de Medicina Reproductiva Alicante
<https://urvistahermosa.com>
6. IREMA Alicante
<https://www.irema.org/en/>
7. IVF-SPAIN Alicante
<https://www.ivf-spain.com/fertility-clinic-spain-alicante>
8. IVI Alicante
<https://ivi.es/clinicas/alicante/>
9. Unidad de Reproduccion clinica Vistahermosa Alicante
<https://reproduccionasistidagrupour.com/clinica-de-fertilidad-alicante>
10. IVI Almeria
a <https://ivi.es/clinicas/almeria/>
11. Unidad de Reproduccion – Hospital Mediterraneo Almeria
<http://urmediterraneo.com/>
12. Unidad de Reproduccion – Hospital Virgen del Mar Almeria

- <http://www.almeriafiv.com/en/>
13. IERA - INSTITUTO EXTREME NO DE REPRODUCCI ON ASISTIDA Badajoz
<http://www.iera.es/>
14. Centro Medico Teknon Barcelona
<http://www.teknon.es/>
15. Fertilab. Institut Catala de Fertilitat Barcelona <https://fertilab.com/en/>
16. Hospital Quiron Barcelona
<https://www.quironsalud.es/hospital-barcelona>
17. Institut Dexeus Barcelona
<https://www.dexeus.com>
18. IVI Barcelona
<https://ivi-fertility.com/clinics/barcelona/>
19. Clinica EUGIN Barcelona
<https://www.eugin.es/>
20. Somdex -Dr. Santiago Dexeus
<http://www.santiagodexeus.com/>
21. FivBarcelona (gravida) (EN Hospital de Barcelona)
<https://gravidabcn.com/>
22. Clinica Rubal Ciudad Real
<https://rubal.es/>
23. FIV Recoletos Ciudad Real Ciudad Real
<http://www.fivrecoletos.com/>
24. Clinica Bau Cordoba
a <https://www.clinicabau.com/>
25. Clinica Povedano Cordoba
<https://doctorespovedano.es/>
26. IFEM Cordoba S.L.P
<https://www.clinicaifem.es/>
27. MARGen Granada
<http://www.clinicamargen.com/en/>
29. Clinica Pedrosa Granada
<https://cpedrosa.com/>
30. Clinica Sanabria Granada
<https://clnicasanabria.com/>
31. UR Hospital Inmaculada Granada
<http://www.urinmaculada.com/>
32. Vithas Hospital la Salud Granada

- <https://vithas.es/Granada/home>
33. Fiv Recoletos Guadalajara Guadalajara
<http://www.fivrecoletos.com/servicios/unidad-reproduccion-asistida/>
34. Instituto Vasco de Fertilidad Donostia Guipuzcua
<https://www.ivfdonostia.com/>
35. HOSPITAL DE DIA QUIRONSAUD DONOSTIA Guipuzcua
<https://www.quironsalud.es/donostia>
36. IVI Las Palmas
<https://ivi.es/clinicas/las-palmas/>
37. Centro Ginecologico de Leon
<https://www.centrogine.es/>
38. FIVLleida Lleida
<http://fivlleida.cat/es/tratamientos/>
39. Clinica Ginecologica Juana Hernandez Logrono
<http://www.clinicaginecologicajuanahernandez.es/>
40. Amnios In Vitro Project Madrid
<https://www.amnios.es/>
41. Centro Medico Milenium Alcobendas Sanitas Madrid
<https://centromedicomilenium-alcobendas.sanitas.es/>
42. Clinica Ruber-Centro de Reproduccion Madrid
<https://www.ruber.es/es/cartera-servicios/unidad-reproduccion-asistida>
43. Clinica Tambre Madrid
<https://clinicatambre.com/>
44. EVA Q1 LAB, S.L Madrid
<https://www.evafertilityclinics.es/clinicas-eva/clinica-de-fertilidad-en-madrid-velazquez/>
45. EUGIN Madrid
<https://www.eugin.es/madrid/>
46. Fiv Madrid Madrid
<https://fivmadrid.es/>
47. Fundacion Jimenez Diaz UTE Madr
id <https://www.fjd.es/>
- 48.HM Fertility Center Montepincipe Madrid
<https://www.hmhospitales.com/servicios-al-paciente/especialidades/especialidades/fertility-center>
49. HM Fertility Center Puerta del Sur Madrid
<https://www.hmfertilitycenter.com/>
50. Hospital Universitario Quironsalud Madrid

- <https://www.quironsalud.es/hospital-madrid>
51. Instituto Europeo de Fertilidad Madrid
<https://www.iefertilidad.com>
52. IVI Madrid Madrid
<https://ivi.es/clinicas/madrid/>
53. Procreatec Madrid
<https://procreatec.com/>
54. URH Garcia del Real Madrid
<https://www.urh.es/en/home-ingles/>
55. GineFiv Madrid
<https://www.ginefiv.com/>
56. Hospital Ruber Juan Bravo
<https://www.ruber.es/Quironsalud-Centro de Reproduccion Madrid, S.L.> <https://www.quironsalud.es/madrid/es/cartera-servicios/reproduccion-asistida>
57. IGMR DresOrdas y Palomo Madrid
<https://www.arpamedica.es/>
58. Centro Gutenberg Malaga
<http://centrogutenberg.com/>
59. CERAM (Centro de Reproduccion Asistida de Marbella) Malaga <http://www.ceram.es>
60. FIV MARBELLA Malaga
<http://www.fivmarbella.com/es/>
61. HC-Fertility (El Centro de la Fertilidad) Malaga
<https://www.elcentrodelafertilidad.com/>
62. Instituto de Fertilidad Clinica rinco Malaga
<https://www.rinconfertilidad.com/>
63. IVI Malaga
a <https://ivi.es/clinicas/malaga>
64. Instituto Murciano de Fertilidad (IMFER) Murcia
<https://www.imfer.com/>
65. IVI Murcia Murcia
<https://ivi.es/clinicas/murcia>
66. TAHE Fertilidad Murcia
<https://www.tahefertilidad.es/>
67. Unidad de Reproduccion Hospital La Vega Murcia
<https://urlavega.com>
68. CEFIVA – Oviedo Oviedo
<https://www.cefiva.com/>

69. FIV4-Instituto de Reproduccion Humana Oviedo
<https://fiv4.es/>
70. Instituto de Fertilidad Palma de Mallorca
<https://institutodefertilidad.es/>
71. IVI Balears (antiguo IBILAB) Palma de Mallorca
<https://ivi.es/clinicas/mallorca/>
72. Estudio Medico Navarro Pamplona
<https://www.estudiomediconavarro.com/>
73. Pamplona Quiron Pamplona
<https://www.quironsalud.es/pamplona>
74. IVI Vigo Pontevedra
<https://ivi.es/clinicas/vigo/>
75. Clinica Mencia Salamanca
<http://www.clinicamencia.com/>
76. Centro de Asistencia a la Reproduccion Humana de Canarias Santa Cruz de Tenerife
<http://www.fivap.com/>
77. Centro Madre (Centro Mahtani de Reproduccion) Santa Cruz de Tenerife
<https://www.healthspainoptions.com/clinicas/180/centro-madre>
78. FIVSANTANDER Santander
<https://www.fivsantander.com/>
79. IVI Sevilla
<https://ivi.es/clinicas/sevilla>
80. MasVida Reproduccion Sevilla
<http://www.masvidareproduccion.com/>
82. Biogest Tarragona
<https://www.biogest.es>
83. Conceptum Tarragona
conceptum.es/es
84. HM IMI Toledo
<https://www.hmimitoledo.com/>
85. Clinica QuironSalud Valencia
<https://www.quironsalud.es/valencia/en>
86. CREA Valencia
<http://www.creavalencia.com>
87. FIV Valencia
<https://www.fiv-valencia.es/>

88. IMER Valencia
<https://imer.es/en/>
89. IVI Valencia S.L
<https://ivi.es/clinicas/valencia>
92. FIV Recoletos Valladolid
<http://www.fivrecoletos.com/conoce-fiv-recoletos>
93. Clinica Euskalduna Vizcaya
<http://www.clinicaeuskalduna.com/>
94. Consultorio Ginecologico Elcano Vizcaya
<http://elcano7.com/>
95. Instituto IGIN Vizcaya
<https://www.institutoigin.com/es/>
96. IVI Bilbao Vizcaya
<https://ivi.es/clinicas/bilbao/>
97. Quiron Bilbao Vizcaya
<https://www.quironsalud.es/bilbao>
98. Reproduccion Bilbao Vizcaya
<https://reproduccionbilbao.es/en/>
99. Clinica Ginecologica de Zaragoza S.L.
<https://ginecologiabolonia.es/>
100. IVI Zaragoza Zaragoza
<https://ivi.es/clinicas/zaragoza/>
101. Gineplus-Ana Fernandez Zaragoza
<https://gineplus.com/>

Appendix E

Consent form Example

Research Interview Consent Form

Please read the following items carefully and sign it to show that you have read, understood and agree to each item.

1. I am over 18 years of age, and I voluntarily agree to participate in a research project conducted and outlined to me by Leila Mohamamdi, a PhD Student at Universitat oberta de Catalunya.

2. I have been informed about the aims and objectives of the research and my role and rights as a participant of the research.

3. I understand that the whole interview will be recorded but if I wish to stop the recording at any time I can do so.

4. I have been informed that I may withdraw from participation if I so wish and my data will be appropriately destroyed.

5. The researcher has offered to answer any questions concerning the research procedure and I have been provided with her contact details.

6. I understand my personal information will be kept confidential and anonymous.

7. I understand that my name and any personal details will not appear in any report concerning this study, and I agree that any of the anatomized data I provide may be used by the researcher in her Ph.D. thesis, future publications in academic journals and conference presentations about the study.

8. I understand that if I wish I can have a copy of the research findings and I agree for the researcher to contact me for this purpose.

Name: Signed: Date:

Researcher's signature:

Date: *****

Email: *****

Researcher's contact details:

Tel:*****