University of Pardubice

Faculty of Arts and Philosophy

Social Pressure and Late Motherhood Phenomenon

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Master thesis

2020

Univerzita Pardubice
Fakulta filozofická
Akademický rok: **2016/2017**

ZADÁNÍ DIPLOMOVÉ PRÁCE

(PROJEKTU, UMĚLECKÉHO DÍLA, UMĚLECKÉHO VÝKONU)

Jméno a příjmení:	**Bc. Katarina Grujičič**
Osobní číslo:	**H16496**
Studijní program:	**N7507 Specializace v pedagogice**
Studijní obor:	**Resocializační pedagogika**
Název tématu:	**Sociální tlak a fenomén pozdního mateřství**
Zadávající katedra:	**Katedra věd o výchově**

Zásady pro vypracování:

Master's thesis Social pressure and late motherhood will deal with problematic of late motherhood. The fact is that there is still a lack of literature focusing on social in comparison with medical or psychological aspects of this phenomenon. The theoretical part of the thesis will consist of reflexion on possible reasons of postponing the role of mother and efforts to describe this phenomenon in general. In the practical part of the thesis, we will try to understand how social pressure as a concrete social mechanism is influencing acceptance of the role of mother as well as how big is its impact in comparison with other factors on actual postponing acceptance. The research will be done in the fertility clinic, where the author is employed as a coordinator and is responsible for accompanying patients during their whole treatment of infertility. Research sample will consist of female patients who were actively trying to have the first child earliest from the age of 30. Data will be gathered through the half-structured questionnaire and subsequently analyzed qualitatively.

Rozsah grafických prací:

Rozsah pracovní zprávy:

Forma zpracování diplomové práce: **tištěná/elektronická**

Seznam odborné literatury:

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Katedra věd o výchově

Datum zadání diplomové práce: **31. března 2017**

Termín odevzdání diplomové práce: **31. března 2018**

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Author's Declaration

I hereby declare that I have written the Master paper on my own. All the literary sources and the information used are listed in the bibliography. I was familiar with the fact that rights and obligations arising from the Act No. 121/2000 Coll., the Copyright Act, apply to my thesis, especially the fact that the University of Pardubice has the right to enter into a license agreement for use of the paper as a school work pursuant to § 60, Section 1 of the Copyright Act, and the fact that should this thesis be used by me or should a license be granted for the use to another entity, the University of Pardubice is authorized to claim a reasonable fee to cover the costs incurred during the making of the paper, up to the real amount thereof. I agree with the reference-only disclosure of my thesis in the University Library.

In Pardubice on July 1, 2020

Bc. Katarina Grujičić

Acknowledgements

I would like to express my sincere gratitude to my advisor Mgr. Adriana Sychrová, Ph.D. for her understanding, patience and encouragement throughout the research process.

Immeasurable appreciation for the help belongs to all the respondents who have contributed in making this study possible.

I would also like to thank Ms. Bobby Pacewicz for proofreading the paper and ensuring that it is well understandable and linguistically correct.

Many thanks go to my colleagues who were willingly helped me gather data for the research.

I extend my gratitude to Ing. Jaroslav Myslivec, Ph.D. who advised on the statistical analysis of the research.

Last but not the least I would like to thank to my friends and family for their constant support and inspiration.

TITLE

Social Pressure and Late Motherhood Phenomenon

ANNOTATION

Master's thesis Social Pressure and Late Motherhood will deal with the social influences connected to the transition to motherhood. The theoretical part of the thesis will consist of efforts to describe phenomenon of delayed motherhood and will reflect on both biological and social aspects of it. In the practical part of the thesis, we will try to identify the social pressures surrounding motherhood transition perceived by women of advanced reproductive ages and compare it amongst the age groups and on reproductive ability. The research sample consists of women facing infertility and a control subsample of women not having reproductive issues that are either willing to become or already are mothers. Data will be gathered through a semi-structured questionnaire and subsequently analyzed quantitatively using mainly statistical tests of difference between independent samples.

KEYWORDS

Social pressure, late motherhood, reproductive strategies, social norms, infertility

NÁZEV

Sociální tlak a fenomén pozdního mateřství

ANOTACE

Diplomová práce Sociální tlak a pozdní mateřství se zabývá sociálními vlivy spojenými s přechodem do mateřství. Teoretická část práce spočívá ve snaze popsat jev pozdního mateřství a zamyslet se nad jeho biologickými i sociálními aspekty. V praktické části práce se pokusíme identifikovat sociální tlaky kolem přechodu do mateřství, který je vnímán ženami v pokročilém reprodukčním věku a porovnat ho mezi věkovými skupinami a reprodukčními schopnostmi. Výzkumný vzorek se skládá z žen, které čelí neplodnosti a z kontrolní podskupiny žen, které nemají reprodukční problémy, které se buď chtějí stát nebo jsou matkami. Data budou shromažďována prostřednictvím polostrukturovaného dotazníku a následně kvantitativně analyzována především pomocí statistických testů pro rozdíly mezi nezávislými vzorky.

KLÍČOVÁ SLOVA

Sociální tlak, pozdní mateřství, reprodukční strategie, sociální normy, neplodnost

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0. Introduction

Reproductive behavior has been undergoing enormous changes in the past decades. One of the most portraying features of this change has been delayed parenthood (Billari et al., 2007; Lesthaeghe, 2010). Several interrelated factors were driving it such as better access to and longer education, transformation of families and partnership roles (postponing the marriage, higher divorce rates, multiple unions across the lifetime etc.) and increasing economic uncertainty of young adults (Beaujouan and Sobotka, 2019).

There is vast literature from across a range of academic disciplines addressing different aspects of parenthood postponement. They vary from those focusing on individual characteristics, to those exploring on a large-scale level the socioeconomic and cultural development and its impact on fertility patterns. Recently, researchers started taking into account factors operating at the meso-level of social interactions. They realized that despite the fact a couple considers childbearing a private matter, couple reproductive attitudes and behavior are confronted with the attitudes, behavior, and suggestions of others, including neighbors, co-workers, family members, and close friends. Having these social relationships makes a couple exposed to the different models of parenthood which can afterwards impose a social pressure on couples.

Individual fertility patterns are transmitted in social networks through two main mechanisms - social learning and social influence (Montgomery and Casterline, 1996; Bongaarts and Watkins, 1996). The social learning aspect includes the spread of ideas, values and knowledge regarding parenting in social interactions, along with learning from observation of appropriate behavior of others and its consequences. Social influence on the other hand implies a group culture and pressure may be enforcing fertility norms on couples. Social support is considered as an addition to those mechanisms (Rossier and Bernardi, 2009) because child care that social networks can offer especially in settings with little public child care provision is an influential factor in deciding about childbearing and realizing first child intentions.

Social pressure is defined in this paper as the individual's perception of what relevant others approve or disapprove of. These perceptions are used in evaluation of social costs and benefits that acting on or ignoring the opinions of relevant others would bring (Bernardi, 2003). It is a stronger form of social influence due to its sanctioning and rewarding function. Social pressure can be understood both as the mechanism of social interactions and of descriptive norms (perceptions of behaviors which are typically performed). Social norms are maintained in large

social groups thus they could represent different mechanisms with respect to social influence. Nevertheless, social norms are an inseparable part of the social influence dynamic and we will devote a large portion of our attention in examining it theoretically and practically.

The second-demographic transition framework has led researchers to question the role of social pressure in today's society. Nevertheless, several researchers are concluding that it is not disappearing, but changing its form. Life course literature discusses (Heckhausen, 1999) that it is expected that as societal regulations became more lenient, that one's choices will be more regulated with internalized social norms about age-appropriate behavior and its sequencing, than with the raw form of trying to avoid the sanctions of not complying to external expectations. According to the theory of planned behavior (Ajzen, 1991), the experience of being under the social pressure of members of their immediate personal network to engage in preferred kind of behavior can lead to a formation of the subjective norm, that has been proven to be a dominating factor in the case of intentions for a first child in the study conducted by Billari et. al. (2009).

Although there has been considerable effort to examine the role of social interaction in the dynamics of fertility choices, there is little empirical evidence about the social influences in the context of infertility. Using a sample of women undergoing infertility treatment, this paper examines how women started trying to have their first child at an advanced age perceive social influence and particularly social pressure connected to their reproductive decisions.

In this paper the emphasis is on the subjects' perceptions of a sensitive and private matter. The author was having day-to-day contact as a treatment coordinator in an infertility clinic thus, these women were willing to share their experiences to a certain extent. Nonetheless, encountering the inability to become a parent makes our research sample vulnerable. Being aware of this, the research design together with the form and timing of data collection was carefully planned so as not to interfere with treatment purposes or upset the respondents. It is noteworthy mentioning that the initial plan of the researcher was to examine the topic through qualitative analysis of in-depth interviews with women. However, after the pilot interviews, the amount of data that could be gathered this way was questionable as in conversation women were neglecting social pressure and its impact on childbearing decisions. To secure a larger amount of information and to allow time for individual self-reflection, the form of written questionnaire had been chosen. The questionnaire was created purely for the purposes of this

research, partially consisting of open questions and translated into the native languages of respondents.

Our purpose in this paper is to identify the normative pressures on mothers at advanced age and the effect of normative responses on reproductive decisions, as well as to compare perception of social influence of women facing the infertility and women not having any reproductive problems. For these comparative purposes, women willing to be mothers or already mothers without infertility in medical history had been as well invited to participate in the research.

Quantitative research methods were considered to be better suited to address our research questions as they allow us to statistically compare influences across the two subgroups of women. Therefore, the analysis of data was done using mainly statistical tests of difference between independent samples. Statistical comparisons have been done in several research questions between women starting their efforts for a first child after the age of 35 years and before the age of 35 years, not necessarily taking into account their reproductive ability.

The remainder of this master's thesis is structured in two parts – theoretical and practical. The theoretical part consists of three sections. Section 1 introduces the phenomenon of late motherhood, defining it through physiological factors and later discussing Assisted Reproductive Technology impacts on this concept. Section 2 deals with the social aspects of this phenomenon pointing out the changes fertility patterns have undergone since the early 20th century until today, discussing the role of social norms in forming those fertility patterns, explaining the social interaction mechanisms that are impacting on childbearing decisions and distinguishing the influences from different social actors. Section 3 provides a literature overview giving an insight into the interdisciplinarity of fertility research and scientific discussion on positive and negative aspects of delayed motherhood phenomenon. The practical part of the paper is divided into sections explaining the research goals and questions, methods of data collection and analysis as well as sections introducing the results that were collected and conclusions reached. The limitations of the study and suggestions for further scientific efforts are discussed in one of the subsections.

I. Theoretical part

1 Biological aspects of late motherhood

The shift in the timing of transition to motherhood is often portrayed as postponed or delayed motherhood, both in the field of demographic and population studies and in sociological literature (Bartošová, 2009). The use of this term implies the existence of a certain norm or most suitable time for the birth of a child. This period can be defined differently, either biologically, as recommended by physicians, or socially, depending on what is considered the norm in a particular society.

The following subsections will be devoted to exploring the biological factors participating in the construction of this phenomenon, are they able to be overcome by Assisted Reproductive Technology (ART) and what outcomes can be reached from pushing these biological limits.

1.1 Physiological factors of fertility

Knowing the age patterns of so - called fecundity, the potential number of children that a woman is able to give birth to at a particular age, and the age limit for successful pregnancies can answer the question women often have: how late can I wait until I get pregnant? This knowledge could serve as a guideline in the reproductive decision-making process and its timing (Menken, 1985).

Nevertheless, studies have demonstrated that both men and women are often unaware of age-related biological boundaries and its connection to the increased risk of infertility, involuntarily childlessness or inability for multiple pregnancies (Schmidt, 2010). Lampic et al. (2005) research sample was significantly overestimating a woman's ability to get pregnant and only just over 50% of respondents of the Tough et al. (2007) research were aware that women over the age of 35 have more difficulties conceiving a child. Less than half of the same study knew that the pregnancy in the mentioned age is connected to increased pregnancy complications (risk of stillbirths, preterm delivery, bigger risk during multiple births etc.). Poor knowledge about female reproductive aging was present even across well educated women (Daniluk et al., 2012).

Several years before menopause there comes to a decline of the chance for a woman to carry a pregnancy that would end in a live birth. Studies that support this finding are using data from "natural fertility" populations across different historical settings where contraceptive practices

were not present (Bongaarts, 1975; O'Connor et al., 1998). Thanks to these we know that fecundity starts to decline from the age of 25, and that it accelerates in the mid-30s, that the median age of women at last birth is around 40-41 years but also that signals of the approaching end of fecundity were about to be expected several years prior to menopause.

Once a woman enters puberty, each month her body releases one of the more than 400,000 oocytes (female gametes, also called eggs) that are stored in her ovaries, that can be fertilized. By the time a woman reaches her late 30s or 40s, her ovaries begin to shut down, the menstrual cycle begins to change and stops releasing eggs regularly. A woman becomes less able to get pregnant as the variability of the length of menstrual cycles increases which makes it more difficult for a couple to achieve conception, and it may be a sign of predisposition to fetal problems. Menopause represents the end of menstruation and is considered as the upper limit for the reproductive life span of women. Age at menopause greatly varies among women from age 40 to age 60 years but the average is about 50-51 years in Western countries. Genetics largely accounts for the variation, up to 85% but it also partially depends on a woman's contraceptive use and number of children. Moreover, menopause age seems not to be an object to change that would go parallel to prolonged human vitality and rescaling of the life course in response to prolonged life expectations. There are several cases of post-menopausal fertility with Assisted Reproductive Technologies (ART), but permanent sterility (physical inability to have a child without medical support) usually precedes menopause by a couple of years (Billari et. al., 2007).

Leridon is a researcher dedicated to revealing how biological aging is having an impact on sterility. His estimates were that the prevalence of infertility increases from 1% at the age of 25 to 5% at age 35, 17% at age 40 and up to 55% at age 45. He points out that not all women at advanced childbearing ages will be able to have a live birth due to increased miscarriage probabilities reaching 20% at age 37, 30% percent at age 44, and 40% percent at age 48. Although, only 5% of couples in which the woman is 35 years old are sterile, approx. 20% of women conceiving at that age will experience spontaneous abortion (Leridon, 2008). He concluded that under natural conditions, 75% of women who try to conceive at age 30 will have a conception ending in a live birth within 1 year; 66% at age 35 and 44% at age 40 (Leridon, 2004).

Another study of natural fertility population (O'Connor et al., 1998) concluded that the declining fecundity with maternal age is primarily a result of aging at the level of the ovaries.

Statistics of infertility treatments also indicates that poor oocyte quality is the primary barrier to pregnancy in older women. With ART using the woman's own eggs, the percent of live births per cycle sharply declines with age, starting from 37.4% for women younger than 35, around 20% for women in their late 30s and dropping below 0.2% in the early 40s. In contrast, the steady success rate in ART cycles using egg donation, which is around 50% without indicating an age decline until the mid-40s (Centres for Disease Control and Prevention [CDC], 2019).

Attribution of the male partner age on fertility has been less widely investigated. A significant decline by the late 30s of males has been documented. It has been accompanied by a trend of reduced sperm quality. The male reproductive potential has been to a larger extent connected to changing life style and environmental exposure to chemical substances both of which could cause occurrence of male reproductive health problems, including poor semen quality. Poor semen quality can have a serious impact on the future child as there is an increased risk of schizophrenia and new mutation autosomal dominant disorders present in children whose fathers were of advanced age (Billari et. al., 2007).

The difficulties of anticipating menstrual changes and ovarian reserve with age could clarify a portion of high female sterility at more advanced ages. Besides this, it is known that the sexual activity of couples declines with age and the length of union. Colombo and Masarotto (2000, in Billari et al. 2007) managed to distinguish between the effect of this changing level of sexual activity from the effect of age on fecundity. They developed a way of measuring it via a menstruation and intercourse diary. The same method was used by Dunson et al. (2002, in Billari et al., 2007) who has shown that women’s fecundability considerably decreases by the late 30s.

Significant efforts have been made in order to improve the predictability of the change in a woman’s fecundity with age. In the past several years, more information campaigns have been presented as well as technological progress in reproductive science. There has been a technique developed which together using transvaginal sonography and a mathematical model computes the ovarian reserve of a woman. The study describing the technique highlights the enormous value of such a direct assessment of ovarian reserve for women considering delaying parenthood for social reasons (personal and professional development) or those considering undergoing ART (Wallace and Kelsey, 2005).

1.2 Treatment of infertility through ART (Assisted Reproductive Technology)

Additional signs of decreasing reproductive ability associated with delayed childbearing is the rising demand for infertility treatment by means of assisted reproductive technologies. Many women planning to have a child in their late 30s and early 40s are likely to face infertility and turn to ART treatment.

Infertility is clinically defined as a failed attempt of a couple to achieve pregnancy after a year of regular unprotected intercourse (Zegers-Hochschild et al., 2009). Such a pair is referred to in medical terminology as sterile and should seek professional medical help.

Increased interest in ART is certainly not only ***the effect*** of delayed motherhood phenomenon but it is as well the ***cause*** of it. Later childbearing trends can be partially attributed to the widespread misperception that ART can compensate for age-related infertility, and this gives women an illusion of fertility control (Beaujouan and Sobotka, 2017).

Different definitions are used for Assisted Reproductive Technology but they all agree that ART includes all fertility treatments in which either eggs or embryos are manipulated in laboratories. Not all of them are performed in order to establish a pregnancy at the point of performance neither always for treating infertility (e.g. social freezing) nor to achieve pregnancy for the patients whose gametes are manipulated. However, ART procedures involve surgically removing eggs from a woman's ovaries, combining them with sperm in the laboratory, and returning them to a female patient or gestational carrier (surrogate mother) or donating them to another patient. (CDC, 2019)

ART is categorized differently, but for the purpose of this research, simplified categorization of all methods will be introduced. Conventional and unconventional methods will be described in the following subsections.

1.2.1 Conventional fertility treatment

Among this category, the author summarized the infertility procedures where own gametes of the couple are used in order to achieve pregnancy.

1. Non – ART methods: sperm transfer to the woman's uterus (i.e., intrauterine insemination) or procedures in which a woman takes drugs only to stimulate egg

production without the intention of having eggs surgically retrieved, but used to reinforce natural conception and predict the best timing for intercourse.

2. The main type of ART is in vitro fertilization (IVF) where after fertilization of the eggs in the laboratory, the resulting embryos are transferred back into the uterus of the female patient whom the eggs were previously obtained from. They can differ depending on the fertilization methods used.

The specialized and popular method is intracytoplasmic sperm injection (ICSI). The ICSI method can be useful in overcoming the limits of male gamete parameters such as its' progression quality. High demand for ICSI treatment among couples seeking ART is about 66 percent in the United States (CDC, 2019) and cannot be explained by a proportional increase in male infertility but rather by a liberal use of this technique in cases with mixed infertility, unexplained infertility, mild male factor infertility, low oocyte number and fertilization failures.

This is by far the most common procedure, the failure rate per cycle to result in a live birth is more than 60 percent for women younger than age 35 and increases to more than 85 percent for women in their early 40s (CDC, 2019). The effect of women's age on treatment outcome was clearly shown in European data from the 2013 ESHRE report resulting in a similar number as those from the USA. The pregnancy per aspiration in IVF cycles decreased from 36.6% in women aged less than 35 years, to 16.9% in those aged 40 years (Calhaz-Jorge et al., 2017).

3. Not all of the obtained eggs are fertilized straight away, some of them are frozen for later fertilization. Some fertility institutions on the other hand prefer immediate fertilization of retrieved eggs but freezing the complete embryos for later trials. Freezing is possible as in hormonal stimulation cycles, a woman can produce multiple oocytes. Single embryo transfers are the recommended option by physicians due to health complications connected to multiple pregnancies especially in older women. The remaining embryos give a chance to couples to have another child but also the bigger hope of becoming parents as the success rates are not always in favor of couples. (Calhaz-Jorge et al., 2017)

Despite what people and infertile patients are often inclined to think (Lampic et al., 2005), conventional ART therefore cannot offset age-related loss of fecundity and for many women it

does not provide a realistic chance of having a child after the age of 40 (Leridon 2004; Wyndham et al., 2012).

Conventional methods are problematic as the cost per live birth increases sharply after the age of 40. Big portion of women after age 40 do not reach pregnancy even after six or more ART cycles, which could be very discouraging (Beaujouan and Sobotka, 2017).

1.2.2 Unconventional fertility treatments

In this category are listed the remaining methods that can erode the conventional boundaries of female reproductive lifespan marked by follicular depletion and menopause. Nevertheless, they imply somewhat a compromise in the sphere of genetic or pregnancy experience.

1. Some women that are aware of their biological limits and own inability to realize pregnancy are choosing the treatment option of egg banking also called "*social freezing"*. These women are undergoing the surgery of oocyte retrieval during their reproductive age, securing quality eggs in the hope that later when conditions for realizing pregnancy will eventually be fulfilled. Eggs can be stored in *cryobanks* for decades without affecting their quality. Cryopreserved oocytes taken at younger ages secure a bigger chance of pregnancy amongst women after the menopause (Beaujouan and Sobotka, 2017).
2. Majority of women seek fertility treatment in their declined fertility age. After some unsuccessful attempts to get pregnant with their own oocytes (IVF), they agree on using the eggs from another woman (donor). This way both the quality and quantity of the eggs for fertilization is guaranteed, as donors are usually healthy and are a young person in the peak of their fertility.

The fact that the live birth will not be genetically related to the mother does not seem to stop the increasing use of this treatment. It can be caused by the remarkably stable success rate statistic that this method has with the age of women treated, with the percentage of ART cycles resulting in live births remaining over 50% even for women in their 40s according to 2017 US data (CDC, 2019).

3. Other reproductive health issues are connected with the advanced age of the mother, such as uterine receptiveness. The endometrial lining, important for embryo implantation in the uterus, should often be prepared much longer with estrogen therapy

in the case of older mothers which could result in reduced successful pregnancies. There is also the fact that the miscarriage rate significantly increases from the age of 45 years onwards together with obstetric complications such as hypertension, second and third semester hemorrhage, higher preterm delivery and lower weight of newborns (Soares et al., 2005). Due to these risks, some women decide to use a treatment option that is called *surrogacy*, or having another person carry the baby. This method is very controversial and this is reflected in the fact that majority of countries do not find it a legal fertility treatment, such as the Czech Republic. This method mainly deprives women of the experience of being pregnant even though that in combination with gamete donation could deprive of a genetic share.

One may pose the question, what is the difference between adoption and this concrete mix of unconventional methods? Some of the perspective can be that in the case of treatment, prenatal conditions can be controlled and the donors can be chosen in the majority of institutions assuring some resemblance between the couple and donors as well as limiting genetic diseases and addictions of both the donor and carrier.

The research of Slepičková (2007) shows that the Czech population considers the use of assisted reproduction with the preservation of genetic information of parents and children to be the most common way of solving biological infertility. However, it was also found that Czechs would choose adoption as a solution to biological infertility more often than reproduction using donor sperm, eggs or embryos.

In conclusion, the above-mentioned unconventional treatments do allow pregnancies and births at post-reproductive ages, challenging the “traditional biological clock”. While pregnancies and births remain rare at ages 50 and above, their numbers have been rising. EU countries recorded 1,554 births to women aged 50 and over in 2018 (computed from Eurostat, 2020).

1.2.1 Challenges connected to ART

Modern assisted reproduction techniques help the desire for parenthood but they impose a number of challenges also.

Websites such as www.extendfertility.com propagate egg freezing treatment as "*Fertility, Freedom, Finally*" through which women can slow down their biological clocks and take better advantage of opportunities in terms of obtaining higher degrees, pursuing successful careers,

and leading diversified lives (Billari et al., 2007). Similar messages and often over exaggeration of success rates of IVF cycles in marketing purposes apparent on the individual websites of infertility clinics may "lull" women into waiting for a suitable partner, concentrating on their careers, and achieving security and a comfortable living standard, not recognizing that IVF is expensive and prone to high failure rates, as primarily described in Bewley et al. (2005).

Medical insurance often does not cover the high expenses associated with numerous infertilities attempts of IVF cycles among women aged 40 and over. According to a survey of IVF regulations in 13 European countries from 2009, countries such as Austria, Germany, and Italy provide restricted access to IVF and even nowadays the majority of ART methods are not legal in those countries. On the other hand, Belgium, Finland, United Kingdom and United States allows wide access to assisted reproductive technologies and have liberal legislation on ART use (Beaujouan and Sobotka, 2017). Nonetheless, treatments and medications in those countries are considered amongst the most expensive, which makes destinations such as the Czech Republic attractive for so called “medical tourism” (Shenfield et al., 2010).

Regarding the direct biological risks of ART, ovarian hyperstimulation syndrome (HSS) was recorded in 0.4% of all stimulated cycles (Calhaz-Jorge et al., 2017). Other complications are rarely reported. There are side effects related to the use of hormonal therapy (HRT) that makes treatment a physiologically uncomfortable experience.

Women who conceive with IVF face more mental distress during the prenatal period, exhibiting depressive and anxious symptoms more often during the pregnancy. They could have negative moods and adverse effect in relation to self, baby, and partner especially if conceiving after 2 to 3 IVF cycles in comparison with those successfully getting pregnant after one attempt (Cebert et al., 2018).

The research efforts for exploring ART influences on marital-role quality has resulted in mixed findings. In some the prevailing impact is of a negative character and in the others it is a positive influence strengthening the union between partners. One of the latest paper, the study of Cebert et al. (2018) summarizes those researches but suggests that even though couples have undergone an invasive and stressful process to achieve conception, their marital-role quality was similar to that of women conceiving naturally. Possible explanations for the lack of difference between the two groups is that these couples possess important defensive components and assets for promoting resilience and reinforcing this resistance on the negative

impacts of significant life changes. Among these skills are clear awareness of values and its sharing, connectedness and flexibility. Besides that, this research sample had additional resources such as a higher income which could provoke a faster reaction of a couple in seeking infertility treatments thus increasing the chance that it is not too late, but also financial resources could protect a relationship during pregnancy.

According to some researchers (Hartmann et al., 1996), ART is one means of further regulating women's bodies that strengthen women's moral need and responsibility to become a mother. Bewley et al. (2005) review concludes that women like to have it all, but that biology is unchanged; playing with the fire of the biology of women risks encountering huge disappointment. Any "manoeuvre" with respect to fertility is advised to occur before a women's thirties. Leridon (2004) states that ART reduces the number of women who remain involuntarily childless from 43 to 36 out of 100 whose attempt to become pregnant started at the age of 40. Based on this, he provides a two-fold recommendation: for those women that have less than 35 years and are trying to conceive he advises to be patient. But on the contrary, for women aged more than 35 years to be impatient. Author concludes that "*The chances of a rapid spontaneous conception are still significant, but in case of failure, ART will not fully compensate for the years (and the chances of conceiving) lost.*"

In conclusion assisted reproduction can be very financially and time-consuming but also very demanding mentally, physically and socially. This overview of factors is proving the necessity of further exploration of the ART context.

1.2.1 Trends in ART

Regardless of many countries not sponsoring ART for women after a certain age limit, the amount of ART cycles is increasing around the age of 40 and higher. The 17th and the last report by the European IVF Monitoring Consortium (EIM) under the organization ESHRE (Calhaz-Jorge et al., 2017), provide statistical data on ART in Europe from 1997, and it shows that in the year 2013, the total number of cycles was over 680,000 which is a 7% increase from the year before. Overall, data has been collected from nearly 80% of all European countries for several years with 85.4% of clinics providing ART on average. The authors do admit, that the moderate increase could be attributed to a higher number of countries reporting data than previous years. Despite the fact that some outcomes should be taken with reserve, the findings presented in this paper are applicable in light of uncovering significant patterns in infertility

practices across Europe and over time. The availability of ART across countries was always hard to grasp as each country has different legal and cultural conditions, funding systems and ways of tracking infertility treatment cycles and their success rates.

The most problematic has been reporting of *the efficacy of ART*. The most adequate way to report has been reporting the life births per initiated treatment cycle. However, some countries are not tracking the results after the pregnancy has been confirmed. Also, cases when the treatment cycle is finished with freezing of the embryos for later transfers, are representing the statistical struggle resolved on a country level. The information that is available in all countries is pregnancy per aspiration data. In the last few years there were no massive changes in success rates supported by these data, although the trend is of a positive character - 29.1% in 2011, 29.4% in 2012, 29.6% in 2013. Overall, IVF as a conventional fertility method could be considered efficient in less than 1/3 of cycles today. (Calhaz-Jorge et al., 2017)

The number of embryos transferred at once has taken as an *indicator of quality* of ART. More embryos mean the possibility of having a multiple pregnancy that is associated with obstetrical and neonatal complications. Despite huge differences in policies across countries, the overall trend towards transferring less embryos have been apparent for the last 10 years and seems to continue. Countries that are most often transferring only one embryo are Scandinavian countries and Belgium. Nevertheless, there are still countries where transferring 3 embryos in one attempt is represented in more than 40% of transfers undertaken in Greece, Montenegro and Serbia, with the highest number of 57.5%. This indicator certainly reflects broader cultural, social and financial differences that could be seen in between the two country groups. (Calhaz-Jorge et al., 2017)

What makes the following more complicated is the *cross-border reproductive care* that has become a very relevant social phenomenon. People ae undergoing treatments in foreign countries, and often there is incomplete information about patient country of origin provided in the registry system. Geographic movement is not only about people but of biological material as well, especially embryo shipping. Until the one unified registry system is implemented, the information available can be considered as very weak. (Calhaz-Jorge et al., 2017)

2 Social aspects of delayed motherhood

2.1 History of the phenomenon

Parenthood at advanced reproductive ages is not a new phenomenon as witnessed in the historical data. Late births were even more common in the past than today. What has changed?

Motherhood amongst women older than 40 was omnipresent in the era of large families until the early 20th century. In the mid-1970s, the first two births typically accounted for about one fifth of births to mothers aged 40 and over (Beaujouan and Sobotka, 2019). But there came the radical changes to the structure of late births. The pattern of having the fourth fifth or sixth birth later in life had been broken by a shift to smaller family size. To the shift contributed the invention of effective birth control which spread in the 1960s–1970s as the method of controlling reproductive behavior (Leridon, 2006) and significantly lowered the number of unplanned children to older mothers. Disappearance of large families with more than four children has been replaced by having a first or a second child later in life. This pattern change had been most apparent in societies characterized by low fertility rates such as Italy or Spain (Beaujouan and Sobotka, 2017) Postponed age of transition to parenthood was spread across richer, low-fertility countries and both genders. Motherhood, previously often happening in teenage age but mostly in the age category 20-25 has been shifting towards the age of 30 and higher.

The effective contraceptive methods are considered as a stepping stone in female emancipation. Education, employment and career opportunities opened up to them, and they stopped occupying the role of a mother exclusively. New engagement of women in paid labor, drove the change to the dual-earner family model and deeply impacted men's family roles. The power of having the final word in competition between education, employment and parenthood aspirations were the women themselves, as the personal freedom for choosing and having their own preferences was the emerging value shared within society. This was allowing the options of remaining voluntarily childless or postpone motherhood until it will be in accordance with their career path and other life goals. (Mills et al., 2011)

The phenomenon of childlessness has started to be more tolerated in societies thus women stopped worrying that not realizing themselves in the role of mothers would ostracize them. Together with having the control over reproductive power and being partially released of

societal pressures, more women were deciding to become mothers in later reproductive ages (Sobotka, 2017). Some of them could stay involuntarily childness, as back in the day it wasn't always possible to realize parenthood tendencies in a later reproductive age without medical assistance, as ART hadn't been developed.

2.1.1 Second demographic transition

As mentioned above, reproductive patterns of advanced Western countries were subject to significant change since the 1960s introduced the trend of postponed childbearing, smaller families and an increase in childlessness. This is connected to the broader structural and cultural changes that were occurring as a result of modernization. An ideational approach that Van de Kaa and Lesthaeghe named the ***Second Demographic Transition*** explains this chain of individualization processes characterized by decline in tradition, diminishing constraints, increase in behavioral options etc. (Sobotka, 2008).

The family and household structure had been seriously impacted by the changes. Family models were moving towards participation of mothers in the labor market. As a consequence, the labor market was ceasing to be exclusively male dominated (McDonald 2000), and the role of a man-as-breadwinner was starting to lose its power. Even though the primary family burden remained on women, men needed to start coping with the new double roles consisting of both securing the resources for the existence of the family and participating in the day to day family care. This shifting can be illustrated by the example of the German family and welfare model changes from the year 2000, where all of the expected family restructuring has been encouraged and is a reality nowadays. (Balbo and Mills, 2011)

Declining fertility was the biggest consequence of those inter-related changes in family and household structure in the social behavioral sphere. The salient concern of the demographic literature that was resulting out of those changes, was previously considered the phenomenon of *lowest-low fertility* which affected about a half of European populations (Kohler et al. 2002). This phenomenon was meaningful as demographers were aware that some countries had such low fertility levels, that it was far below the requirement for population replacement. Luckily this phenomenon lasted only briefly in the late 1990s and the early 2000s and a lot of countries were having total fertility rates (mean number of children per women, if she would conform to the fertility rates) more than 1.3 that was arbitrarily set as the borderline. This phenomenon has

been replaced with the postponement of first births, which is now portrayed as the most radical demographic transformation and crucial feature of declined fertility (Sobotka, 2004).

2.1.2 Demographic trends

As could be expected from previous chapters, the trend towards postponement of the first birth drives the increases in the mean age of women at childbirth. The mean age of mothers at first delivery has been reported by multiple institutions depending on the country presence such as *Eurostat Demographic Statistics* for European countries, *Centres for Disease Control and Prevention* [CDC] for the United States, *KOSIS* for Korea etc. The organization that includes all of the sources together in the database and further reports on is the The Organization for Economic Co-operation and Development [OECD] (2019). Thanks to these we have a relevant comparison between country mean age across the period that I will try to summarize in the following sentences in order to explain the demographic trends.

Mean ages at first birth, according to last obtained data from 2017 or 2018, vary considerably across countries – in the United States, for example, the average age at which women give birth to a first child is 26.8 which is comparable with European countries that have the smallest mean age (Azerbaijan:25.6 and Armenia: 27.1). Whereas in Korea on the other hand it is as high as 31.6 and it is similar to the mean first child birth age levels of Greece, Cyprus and the Netherlands at 31.5. Nevertheless, these are not the highest values as Ireland, Spain and Luxemburg have a mean age higher than 32. These countries are substantially increasing the average value for the EU countries, which is currently 29.1 (data from 2017, Eurostat 2019). The mean first birth age of the EU has been gradually increasing from 28.7 in 2013 to 29.1 in 2017. (Eurostat, 2019).

Statistics of the wider spectrum of countries first birth mean age has been tracked by OECD from the year 1970. Taking into account data from that year, the increase of the mean first birth age was by 1 year each decade. All countries from the available OECD data have seen the mean age at first birth increase since 1995, with most recording an increase of at least 2 years. In Korea and the Czech Republic, it has risen by around 5 years (OECD, 2019).

The shift towards postponement of the first birth is reflected in trends in adolescent fertility rates too. Current fertility rates for women aged 15-19 is only 11.8 births per 1000 women. Over the several decades, this phenomenon decreased sometimes by as much as 50 or more

births per 1000 (e.g. Austria and the United States). Overall, approximately 5% of first births in the EU in 2017 were to women younger than 20 (OECD, 2019).

The postponement of childbearing can be illustrated also in the shift in fertility across age groups. Much of the decline in fertility among women aged 20-29 occurred between 1970 and 1995, but in many countries fertility rates for these age groups have continued to fall since 2017 and the Czech Republic is one of them. Fertility rates for a lot of countries such as Denmark, Germany and United Kingdom for the age group 30-34 years are the highest in comparison with any other age group. (OECD, 2019)

Regional differences are well portrayed in the working paper of the Vienna Institute of Demography (Beaujouan and Sobotka, 2019). The authors computed the contribution of women aged 35+ and 40+ to total fertility rates per region. Postponed fertility has become very common in Southern Europe, where around 20% of fertility rates are of the mothers having their first child in the 35+ category, and slightly less than 5% of fertility is contributed to first time mothers over 40. Both late (including 2 births) and delayed (1st births) motherhood stays rare in countries of Central and Eastern Europe. A slow trend towards delayed motherhood has been recorded for multiple middle-income countries including China, Iran, several countries of North Africa and Latin America. First births at late reproductive ages (40+) are still not so frequent with Spain reporting 4.5% and Italy 4.7%.

The same influential authors (Beaujouan and Sobotka, 2019) predict that late parenthood is likely to continue its upward trend thanks to socioeconomic and cultural change. More women participating in the labor market and the increasing length of the time they spend in higher education will reinforce having children later in life. The result is the demographic-economic paradox, a term explaining the inverse relationship between income and fertility. The authors also recognize the value of ART method of egg freezing (cryopreservation) for potential use in the future and predict that an increase in its usage could partially drive future trends.

This summary of trends indicates that current age deadlines for fertility are being challenged and that biological limits are being pushed once again showing the importance for scientifically examining the phenomenon of late motherhood.

2.2 Social norms

The sociology of fertility considers social norms and its effect in controlling fertility as a starting premise and truth (Fried and Udry, 1980). Therefore, we will be including it in our investigation of motherhood postponement.

The life-course literature particularly recognizes the importance of norms for demographic behavior pointing out that timing and sequencing norms exist in every society so that the behavior of people could be channeled through the main institutions (Liefbroer and Billari, 2009). Settersten (2003) as a classical representative of this approach concludes that unlike the public domain of education and work that is being restricted by formal age criteria, timing and sequencing norms in structuring households and the family domain results in parallel informal age structuring of the life course and their importance is not questionable.

Several researchers were putting the right efforts in exploring the different aspects of norms in the reproductive domain. Hanson et al. (1990) investigated the role of norms in shaping the transition to first birth and its timing in the United States. It was proven to be considerable as the participants of the study that had multiple friends with children were significantly more likely to have a child too compared to participants that had childless friends. Other researchers have focused on family size norms by analyzing the reactions of relevant others if the participants were about to have a (another) child (Griffith, 1973). Griffith together with Fried and Udry (1980) explain that couples could also be having normative expectations about what costs and benefits reproductive behavior or its alternatives could bring. Among these consequences are reactions of other people who are important to them. If these estimations about changes in others' behavior towards them are of a consistent character and can be considered as a source of change regarding the matrix of cost and benefit of anticipated reproductive behavior, they represent perceived norms.

According to Udry (1982) across the literature of sociology of fertility the terms “norm” hasn’t been used in the right definition that the sociological concept of norms implies. It often seemed to the author, that it has been randomly used to explain patterns of fertility for which there is no obvious demographic explanation.

The distinction that we would like to highlight is that social norms are to be distinguished from structural pressures – those conditions that society did not intentionally exhibit in order to control the behavior. They can be the reflection of the wider values of society, but they do not

operate directly as norms do (Fried and Udry, 1980). How exactly normative pressures can control the behavior, social interaction literature and social influences mechanisms will be explained in the next subsection. First, let's specify what determines a social norm as a norm.

2.2.1 Characteristics of social norms

A social norm is an expectation about what behavior is acceptable and normal within a group or groups (Liefbroer and Billari 2009). This definition can be divided into three components:

(a) expectation that is related to the necessity (prescription), possibility (permission), or impossibility (proscription) of undertaking certain behavior. It can be interpreted as guidelines of what people should, could or mustn't do (Liefbroer and Billari 2009).

(b) it is the characteristic of a certain group of actors. Within the group, the normative consensus is implied which simply means that norms are shared among concrete social networks or social categories. It does not need to be spread in society as a whole.

According to the theory of social comparison of Festinger, individuals adjust their behavior to those they consider to be similar to them on both the level of social position or individual characteristics (Balbo and Barban, 2014). People's behavior is particularly influenced by norms existing in social networks or categories they are part of or aspire to be – so-called reference groups (Montgomery and Casterline, 1996). Members of the group need to acknowledge the existence and strength of the certain norm so that it could have an effect on their behavior. Those criteria are not always met. People can perceive norms that in fact do not exist (pseudo-norms) or can collectively overlook its existence – so called pluralistic ignorance (Fried et Udry, 1980).

(c) norms are accompanied by sanctions. Sanctions could be seen as one of many mechanisms of social control (Settersten and Mayer, 1997). In contrary to the first two components that could be found in most of the definitions of norms this was included in the overview from Gibbs (1981, in Liefbroer and Billari 2009), the third is often questioned.

Some authors believe that in order to even speak about norms, norms should contain a sanctioning aspect. Many scholars on the other hand feel that sanctions need not necessarily be attached to norms, because people could have it internalized. If norms get internalized the result is that the desired behavior of the individual does not differ from preferences or the interest of the group. It is in accordance to what several authors suggested that external control has become

more important in Western societies than external control. Heckhausen (1999) add to this that life-course patterns will keep becoming increasingly controlled by internalized norms as societal regulations become more tolerant. Even without external sanctions, norms are still central in shaping the life course of people even in their transformed versions of internal calendars or scripts that orient behavior. Sanctioning can be selective, which means that not all of the violations of reproductive scripts about suitable timing and sequence of life events may result in punishment but only specific ones. It is good that external sanctions are not falling fully into the shadows because of the results of experimental research proposing that the influence of norms may decrease in the long run as a result of not having the sanction attached to it (Fehr and Fischbacher, 2004 in Liefbroer and Billari 2009). Intimate members of a person's life-course such as family members or close friends are social actors that are still expected to perform to a certain extent the sanctioning on the individuals (Liefbroer and Billari 2009).

There are different categorizations of sanctions of norm transgressions, some of which will be briefly introduced now. The simplest is the one distinguishing between positive and negative sanctions. Positive are those rewarding the non-deviant behavior and negative sanctions are limiting people from acting against the norm. So positive are keeping people "on track" and negative bring deviant individuals "back into line" (Settersten and Mayer, 1997). In order for them to be efficient in influencing the behavior, the member's perception of effect should be of the same character as of what the group intended - positive sanctions should be rewarding and negative should be perceived as punishment by a negatively behaving individual. For example, if you perceive that friends will judge you for having children later in your life, but their opinion is not relevant to you as they didn't need to spend that many years in education as you, then you won't be encouraged for the earlier pregnancy as wanted by them, but their sanctions may even strengthen your individual attitude towards later childbearing.

Posner and Rasmussen (2000) have seen differences between the six categories of sanctions. *Automatic sanctions* mean that the penalty comes about on its own from not having a coordinated action to the actions of others'. *Guilt and shame* are categories where both the subject of violation and perpetuator of the sanction are the same person. Those are felt inside of the individual only and they occur in internalized norms. *Informational sanctions* mean that after violation of a norm, the group perception of an individual as a whole might change, usually attributing other negative traits to the violating member. Bilateral and multilateral costly sanctions, are unique as they mainly deal with who is involved in the violation and sanctioning.

Another categorization may be helpful in understanding the different nature of norm sanctions. *Social sanctions* are usually relatively mild actions or absence of actions, like remarks or mocking at social events, or being left out from an event. Strong social sanctions may from time to time occur, where members are ostracized by their own social group or are being investigated about one's deviant behavior. *Material sanctions* are the available means of social actors holding the power over an individual, such as parents who can always step away from providing financial support. Both material and social sanctions are clearly relevant for violating family life norms. *Legal sanctions* are however formal and binding thus more suitable for institutional control of certain life norms. Examples can be age limits for being eligible for infertility treatment cover by insurance. (Liefbroer and Billari, 2009).

2.2.2 Categories of norms

Three categories of norms coming from sociological theory are used in explaining demographic behavior such as fertility i.e. age, quantum, and sequencing norms.

Age norms

Researchers often use the term social age deadlines and its equivalents such as "cultural age deadlines" (Settersten and Hagestad, 1996), "goal deadlines" (Heckhausen, 1999) or "social clock" (Neugartden et al., 1965). Deadlines are a form of norms that can be understood as expectations about what is the most appropriate age or age range within which certain behaviors should occur. Thanks to these age norms, we are able to talk about lower and upper age limits for specific behaviors and eventually sanction its transgressions.

The strength of the norm is dependent on the extent of which the expectation is shared within the whole population. That leads to a conclusion that childbearing deadlines are being influential as majority of the respondents in various quantitative studies are able to define it similarly. In a survey from Settersten and Hagestad (1996), 78.5 % of Chicago population and 90% of Northern Italy population (Billari and Micheli, 1999 in Liefbroer and Billari, 2009) acknowledge the existence of norms. Nevertheless, social age deadlines for childbearing have been more clearly perceived for women. In a large quantitative study from Liefbroer and Billari (2009), 96.4% of respondents were able to identify the upper limit of becoming a mother and 57.3% of them expressed that the expected age limit is in the category of 40 years of age or less in comparison with 90.2% of respondents that were able to define the maximum age of becoming a father with less agreement in distribution among age groups (the most prominent

was for the ≤ 45 years of age group chosen in 46.2% cases). The same study included a regional analysis of the social deadline. The authors came to the conclusion that the existence of the motherhood age deadline is adversely related with birth rates at a later age and the prevalence of ART in the country. This means that the more there are institutions providing ART and more women that are mothers at an advanced age, the less is the strength of the age norm.

Social age deadlines for motherhood can be put into context with physiological deadlines so that it's influence could be comparable. In general, reproductive social norms are more present and effective if they are lower than biological norms (Liefbroer and Billari, 2009).

But if we would need to summarize the age deadline for motherhood on a more global level, we would use the European social survey collected in 2006 in 23 countries in which the European population considered a woman too old to have children only after the age of 40 in 20 out of the 23 countries (Mills et al., 2011). The question asked was *"after what age would you say a woman is generally too old to consider having any more children?"* in the survey. This formulation is somewhat misleading as it could be interpreted in relation to both the normative acceptability of older parents as well as biological limits. Although the age deadlines of reproductive behavior are of informal character, sometimes they could become de facto legal as in the age limit for adoption or provision of infertility treatments.

Quantum norms

The next type of norms deal with how many times certain behavior should or should not be exhibited. There are also shared expectations that some behavior should not occur even once such as voluntary childlessness, and these can be considered as a subtype of the quantum norm. Demographics often study one particular quantum norm from the sphere of reproductive behavior and that is the one prescribing the number of children individuals should have during a lifetime. What could be interesting to explore and is included practically in our research is the change of intensity of social pressure as a form of sanctioning the norm violation over the time, while individuals are trying (or not) to adjust their behavior to the quantum norms. (Liefbroer and Billari, 2009).

Sequencing norms

Norms telling the order of two or more events are called sequencing norms. They tend to organize people's behavior in the long run initiating the chain of changes in their decision-

making process. The often advised trajectory that only after finishing school, getting married and parenthood could come into consideration (Blossfeld and Huinink, 1991) is an example of the norms from this category that prove that sequencing norms do not necessary organize events in the same life domain and that they can restrict the combining of certain life roles. Although some of the simultaneous occurrence of status positions can be formally restricted like it is to the student or full-time employee status in Czech Republic the roles in the family domain tend to be of an informal character but nevertheless very influential.

According to developmental psychologist Heckhausen (1999), sequencing norms haven't received enough research attention within the life course framework in the past and it requires a change as importance to all of the above mentioned norms increases in the modern era of internalized norms without external sanctions. Some of the researchers tried to act upon these suggestions. As explained above, Liefbroer and Billari (2009) documented the presence of norms related to the timing, sequencing and quantum of fertility for the Netherlands, one of the most individualized and secularized societies in the world.

Age appropriate behavior, age-graded events and transitions, and age-sequential rules become a more inseparable part of the personality and system of values of individual planning behavior, which is different from past forms where external control of behavior could be largely ignored or perceived as irrelevant by the person exhibiting the behavior. This once again proves the underlying need to deal with norms even though on the surface they might appear to disappear in postmodern society. They are only transforming and merging with other factors, which makes analysis of its influence even harder particularly in separating the effect of each factor.

2.3 Social interaction mechanisms

The demographic literature on fertility has been focusing on ways in which family attitudes, values, and norms spread within a population. Normative pressures imposed on couples and individuals started to be detected within an individual's network of relevant others and the effect of social interaction mechanisms has become central among researchers. Social networks were therefore viewed as channels through which social norms are spread (Keim et al., 2009).

Montgomery and Casterline (1996) consider that social norms are being realized throughout the processes of social influence and social learning and name four cases where norms as a source of social influence could explain contemporary US fertility phenomena. Women of the region of Northern Italy with one of the lowest-low fertility environments back in 2003, were

the subject of the qualitative study by Bernardi (2003). The author managed to distinguish the channel through which social pressures had been imposed on women planning a family.

Moreover, mechanisms of social influence explain why reproductive beliefs and practices of individuals are not always changing instantly with macro-level changes. Kohler (2001) in studies of modern contraception use in rural Africa discovered that social interaction work as a multiplier of policy incentives and innovations that either enhance the effect of change or inhibit the change. Macro socioeconomic factors cannot alone explain fertility phenomenon, but the meso level of social interactions can work as a force magnifying the effect of the factors in one direction or another.

This is not the only evidence confirming the potential power of social interaction mechanisms on reproductive decisions. The whole section introducing the literature relevant to our research will be devoted to similar evidence.

2.3.1 Social influence

Social influence can be defined as the process in which a set of beliefs, attitudes, values and behaviors of an individual are being regulated by the worldview or actions of others whom the individual is interacting with. It is not the social influence itself but *perception of social influence* that has an impact on reproductive behavior according to Bernardi (2003), who examined the reproductive choices of Italian couples by directly asking women whether they perceived any form of social pressure to become mothers or not.

However, studies from social psychology point out that individual actors are not generally consciously aware what is impacting their behavior or attitudes (Nisbett and Wilson, 2004). It has been proven in the research of Bernardi et al. (2010) that the decision about becoming a parent is partially brought about on an unconscious level. The authors witnessed numerous individuals suddenly shifting from explicitly not thinking about becoming parents to the opposite of wanting children without giving arguments for the somewhat drastic change of attitude.

Social influence mechanisms can be understood as pressure that significant others apply on individuals to perform or not perform certain behaviors. But why are people obedient to these pressures and allow interference in their life choices? One potential reason is deriving from our primary human need to belong to a group, which was the evolutionary recipe for survival. We

as human beings desire to avoid conflict within social groups (Moscovici, 1985 in Montgomery and Casterline, 1996) which could potentially end up with us being considered not belonging to or part of a group.

The ***''reference group effect''*** is the mechanism describing human tendency to conform to shared belief systems and practices of groups one belongs to in a fear that their sense of identity will be damaged as a result of not being part of the group anymore. If one's membership in the group is questioned because of individual differences expressed, the individual could start questioning who they really are (if not a member of the group). This mechanism whose explanation comes from social psychology has been demonstrated to shape fertility intentions in the Western German sample (Keim et al. 2009; Bernardi et al. 2007) with women wanting to have a child more often in the case where all of their friends had a child in comparison with women that had at least one close friend who was still childless. Conforming to the norm wasn't acknowledged by the respondents and women were standing behind the opinion that they were bringing their own decision of wanting to become mothers without being influenced by others.

Very similar in effect but somewhat different in the cause and timing is the mechanism Bernardi (2003) calls ***"contagion".*** The defining feature here is that certain behaviors of others are perceived as emotional triggers for conforming. Women can be emotionally touched by the birth of a baby within their social networks which can lead to them having a child just after the occurrence of the trigger. According to several researchers, contagion can appear amongst neighbors, co-workers, as well as amongst siblings and close people (Pink et al., 2014).

Communicating information amongst the network that encourages reproduction can be referred to as ***priming***. Priming can range from subtle choosing of pronatal conversational topics to direct persuasion attempts. Over time, these pronatal messages can make social networks develop to accept norms. In an experimental manipulation of role-playing scenarios, Newson et al. (2007) demonstrates that individuals gave more advice favorable to reproduction to a hypothetical relative than to non-kin, proving that this mechanism is more present amongst family networks.

The next mechanism is ***social pressure***, in its narrow sense. That is the form of social influence that is based on hierarchical advantage of certain network members or on emotional dependency between members. It is a stronger form of social influence as it controls behavior through sanctions and rewards (Bernardi, 2003). An inseparable part of many social relationships is a

hierarchy within which certain individuals can be holders of recognized roles that allow them to be more influential. Even very informal social networks based on altruistic ties such as family or friends have certain unwritten rules about who is influential, based on possessing the relevant resources such as social status, ability of providing material or emotional support etc.

2.3.2 Social support

Mentioned resources are called social capital and they are exchanged amongst the network through the mechanism of ***social support***. The goods and services that would save the cost of certain behaviors are exchanged and members get access to it through interpersonal relationships. Possessing resources gives power as it can have a sanctioning effect, can limit the exchange of resources with deviant individuals and thus exerting social pressure, and rewarding, providing support when needed and deserved (Kotte and Ludwig, 2011).

The exchange of resources relies on trust and reciprocity. Family relationships are a good environment for exchange as they are usually permanent and stable with close ties. Often an investigated topic amongst family networks is the access to informal care provision and its impact on the motivation for having a child. This was investigated first in the region of Eastern Europe which is characterized by lower income (compared to Western societies) and not enough formal child care provisions (Bühler and Philipov, 2005). Empirical analysis has proven positive effects of substantial support on fertility intentions. Next were efforts to test this theory in France, a country with a formal and well developed child care provision system. As expected, having grandparents that are able to look after the children wasn't impacting on fertility as they are not seen as the primary source of care. The last was research done in East and West Germany where access to informal child care was significantly increasing the probability of childbirth unlike the availability of formal public care provisions, which haven't played any role in the decision making process (Rossier and Bernardi, 2009).

2.3.3 Social learning

The last social interaction mechanism to highlight is social learning. It describes how new information is spread amongst members of a group. Through verbal exchange or observation, members receive a new pattern of behavior ready to use in their decision-making process. Social learning is not always connected to novelty but it can be a transgenerational information exchange for example, contraceptive use knowledge from adults to adolescents (Montgomery and Casterline, 1996). Also, in situations that evoke uncertainty and there is not only one

solution, social learning can make individual decision making easier (Kohler, 2001). The rule for this mechanism is opposite from what is valid for social influence. The more heterogenous a network is, the more social learning comes into play (Rossier and Bernardi, 2009).

2.4 Social actors

Childbearing as all human behavior is an act performed by socialized actors that are genuinely entrenched in a web of relationships, tightened with kinship, love, power, friendship, competition, and interest. Members are exchanging goods, services and beliefs, and are enforcing norms through social interaction (Mitchell, 1974 in Bernardi, 2003). Within their social circle, individuals may exchange ideas about possibilities and consequences of childbearing decisions and learn about others' preferences. Individuals can find themselves being part of various social scale networks. Nevertheless, some are more influential in the private sphere of fertility choices than the other. We will summarize what the literature already knows about the transfer of family norms amongst kin and impactful non-kin groups.

2.4.1 Kin network

Demographic research suggests that fertility patterns are to a certain extent transmitted from parents to their children. Parents tend to surpass the age norms of first birth but also for the quantum norms of desired or actual number of children. To explain the relationship between individual fertility and those of the parents, researchers are using both genetic, socioeconomic and cultural factors (Kotte and Ludwig, 2011).

Inherited genetic predispositions have a great impact on the similarities of fertility patterns amongst generations. On the other hand, the biological argument is simply not enough for explaining the variety of different fertility preferences of adults across countries and over time (Kohler et al., 2005).

Developmental psychology explains when family attitudes are formed. Although children tend to process family topics early in childhood thanks to playing, the first attitudes about family size preferences are formed in adolescence and later throughout adulthood they are adjusted. Adolescence is the time when most parents educate their children mainly in sexual matters and contraception. Advice can continue also when an adult, but they shift towards childbearing and parenting, even though its influencing power decreases due to the arising independency of adults. The pressure of parents can be still sufficient to influence the children's childbearing

timing and number of kids throughout adulthood. When they have already become grandparents, the social capital that they are commonly offering is financial support, decreased accommodation costs and assistance with child care (Kotte and Ludwig, 2011). In resource-scarce conditions, provision of material resources and practical assistance may be necessary not only from parents but other relatives as well, to be able to realize the pregnancy and transition to parenthood (Turke, 1989).

The study by Kotte and Ludwig (2011) compared intergenerational transmission of fertility patterns within families of young Germans born in the early 1970s, 1980s and 1990s. They found a positive correlation between respondents' preferred number of children and probability of childbirth with the number of siblings they have. This means that the more siblings respondents had, the more children they wanted but also that they were then more likely to become parents in the one-year interval between interviews. In addition, the authors explored whether recent childbirth by a sibling increased a respondent's own desired number of children and the probability of conception but no significant connection was found.

Other studies however managed to prove the sibling contagion effect on fertility choices. Axinn et al. (1994) studied this mechanism next to generational transmission using the data of 250 families residing in Michigan, USA. Same patterns of parents' fertility and family size preference were found in their adolescent children's preferences too. The authors claim the existence on cross-sibling effect and justify it with the following factors: sharing the same socioeconomic and environmental factors (same school, neighborhood etc.), genetic predisposition and having salient behavior examples. They also debate when is the cross-sibling effect the strongest in the comparing different parities. They assume that it can be that during the first child and parenthood transition both social learning and influence are coming into play. Siblings could witness how it is possible to deal with the new role of parenthood and experience the company of young children, triggering the desire to become a parent too.

It is theorized that sequencing norms can be part of the cross-sibling effect as well, as family and society usually expect the same life course events amongst siblings to have the same order as the order of their birth – older siblings should marry and have children first. If the natural order is "overturned" and a woman has a child earlier than her older sister, the older sister could experience stronger pressure to hurry having her own children both from her own kin and the community (Lyngstad and Prskawetz, 2010).

The same authors found that when a sibling had a child, the probability of women having their first child within three years after the sibling was significant higher. This contagion wasn't proven for second children. What was affecting the strength of social influence was the age difference between siblings. The older the sibling, the larger influence was on the younger sibling to move into parenthood. The same correlation hasn't been found for a vice versa relation (Lyngstad and Prskawetz, 2010).

In a similar study, Kuziemko (2006) estimated a 15 – 17% increase for having a child up to two years after the birth of niece or nephew. This study, however illustrated the opposite correlation between influence intensity and age difference amongst siblings. The closer siblings were in age as well as location, the higher the mentioned cross-sibling effect. Also, poor families had witnessed a stronger contagion which the authors were attributing to the cost-saving factor (exchange of goods, care services and advices).

2.4.2 Non-kin network

Studies in the past observed that individuals reporting influence of the non-kin network as well, especially from their peer group on fertility plans (Bernardi 2003; Bernardi et al., 2007; Keim et al., 2009). Kotte and Ludwig (2011) however feel that this topic has not been explored enough by researchers.

Bernardi (2003) first stated that the high closeness of relationships within peer groups is enforcing the synchronization of fertility events. Ciliberto et al., (2013) found that even more formal relations such as amongst co-workers could influence individual fertility. In this study, the chance that a woman would have a child was significantly much higher after a colleague gave birth.

A friend's family related events were also a source of social influence in the Kotte and Ludwig (2011) study where women were having stronger desires for their own childbearing 3 years after their friends had a child and majority of those desires were realized within that timeframe. According to Keim et al., (2012), friends that have children are an especially influential source of social pressure.

3 Overview of literature

3.1 Interdisciplinarity of the phenomenon

Previous chapters of this paper gave an insight into the phenomenon of late motherhood phenomenon, clearly pointing out that it is of an interdisciplinary character. Let us briefly summarize what aspects of this phenomenon can be found in different scientific fields.

Childbearing postponement has been connected to demographic concerns such as fertility decline, total population decline and demographic ageing. They were implying certain socio-economic consequences in the form of the lack of labor supply, economic growth concerns (Sobotka, 2004). The object of demographic research were determinants that further drive the postponement of childbearing such as limited housing availability and increasing economic uncertainty (Mills et al., 2011).

Sociological literature deals with postponement of parenthood looking at multiple perspectives, from the standpoint of broad theories of individualization' (Beck and Beck-Gernsheim, 2002) to micro perspectives focusing only on limited aspects of fertility such as voluntary childlessness or postponement of motherhood in concrete historic contexts or regions. Gender issues and changes in partnership behavior are just some of the numerous sociological aspects that are recognized as relevant to childbearing postponement (Mills et al., 2011).

The medical sphere is actively fighting against biological clocks involving ART that are already advanced enough to overcome this limit to a certain extent. Nevertheless, pushing those limits is part of the scientific and popular debates that are including religious, ethical or psychological perspectives. Those dialogues are mirrored in the related legislation adjusting family-related and fertility policies, which is why each country has a somewhat different way of approaching the phenomenon.

Considering the *reasoning* behind postponement of motherhood, the literature is divided into two groups – economic theories or ideational theories.

The main emphasis of the economic approach to fertility is on indirect or direct costs and benefits of childbearing (Becker, 1991). Under this category belong all the theories according to which changes in reproductive behavior are caused externally by institutional changes - economy, housing situation, labor market, welfare state, political transformation. Fear of

uncertainty and losing a favorable position in the labor market initiate the pursuit of material security thus postponing the transition to motherhood. These conditions require careful planning of the obligations associated with the birth of a child and they are considered as barriers.

Cultural changes in postmodern societies are another pervading factor in delayed fertility studies. Within the ideational approach of the Second Demographic Transition, parenthood decisions are embedded in a context characterized by increased gender equality, dominating personal autonomy over institutional and normative regulation, over present need for self-expression and self-realization (Sobotka, 2008). The central argument intertwining theories is the departure from traditional values, norms and beliefs that bring more individual autonomy in decision-making about one's own life course. The emphasis is attached accordingly to own preferences, rather than economic costs and benefits.

Lesthaeghe (1998) noticed that there is a tendency of the micro-level research to put variables related to each of the two perspectives against each other, making it ***interdisciplinary soccer.***

The time when the distinction was prominent seem to be overcome, at least in the field of the normative pressures connected to childbearing, that is of a particular interest in our research. Even though the ideational changes brought about the autonomy in deciding on childbearing for the couples themselves, the pressures are not considered in the literature to be inexistent. The external normative pressures are being internalized by individuals, making them as influential as scripts telling the order, deadline and occurrence of life events.

3.2 Positive and Negative aspects of phenomenon

Scientific and media debates are leaning towards getting the conclusion whether delayed motherhood has more drawbacks connected to it or whether the advantages of being a mother in advanced age are prevailing. In general, delayed parenthood is depicted as a risky choice that could endanger the health of both mother and a child or cause population decline or involuntary childlessness (Bewley et al., 2005). Often these discussions describe women as irresponsible and selfish for waiting for too long, or being deviant as they are "chasing a career" or "breaking the natural order" (Beaujouan and Sobotka, 2017).

Women themselves are experiencing delayed motherhood differently. In a study of Bartošova (2009) female respondents were problematizing the delay of motherhood only when they were

approaching their biological limit but were still without a partner. Other factors that led women to have a child in their thirties were not found to be perceived as problematic by those respondents. Czech authors had been researching reasons behind delaying motherhood, and focusing on the psychological aspects of it (Bímová, 2007; Kačurová, 2011) or sociocultural aspects (e.g. Psutková, 2013). Retrospective evaluation of the mother's age as positive or negative by women was one of the focuses of Kozáková et al. (2015). Slightly more respondents in this study considered their age as negative and those women were more often explaining that their delayed motherhood was attributed to problems with conception. Those that were positively looking at their age of first pregnancy, were statistically more often explaining it as a preference for an independent way of life. Czech attitudes on the ideal age for motherhood have been compared with the attitudes of several other European countries in the study of Chaloupková (2008). The ideal timing of childbearing for Czech women had been assessed somewhere between the trends of East European countries, where a younger age was preferred for first childbirth, and West European countries, where motherhood at an advanced age was a more prevalent pattern. Although adults perceive age for the transition to parenthood differently, the point of view of children had been somewhat unified in the research efforts of Kocourková et al. (2015). Almost 90% of the children wished for their mother to be under the age of 30 years at the time of their birth and if they could, they would decrease their mothers age at the time of their birth by an average of 6.6 years. This was proven most in the subsample of children aged 11-15 years. Children's desires for younger parents stemmed mainly from the fear of the early loss of parents both in the meaning of death but also in terms of physical and mental fitness.

Lack of appropriate partner is one of the main reason women mention as crucial in influencing their childbearing plans. Various aspects could lead to this state of being without a partner at the appropriate age. Some of the women might be having a too long period of so-called *alternative relationships*, which are characterized by the fact that they are from the beginning not including the perspective of starting a family in the future (Tomášek, 2004). Alternative relationships are associated with the period of so-called *postadolescence*, defined as early as the 1980s, when the adult takes over only some features traditionally associated with adulthood but others could be left away, such as starting their own family. The period from 20 to 30 years in a woman's life can be seen as a legitimate time to saturate activities other than those associated with motherhood. The possibility of fulfilling various activities is often described as the greatest advantage of later motherhood by women themselves (Schlesinger and Schlesinger,

1989). Both men and women can be going through this period and the problem may arise if one of the partners decide that it is time to make the transition to parenthood. When not having the similar desire to build a family, the frustration may arise. It is not only the desire coming into play, but also the inability to combine it with personal development and self-fulfillment, as well as lack of resources for securing family (Bartošová, 2009).

Without a partner, with increasing age and single lifestyle, independence and self-confidence are developed thus lowering the ability to fall in love easily to commit to a serious relationship (Tomášek, 2004). Experiences from the postadolescent period together with primary family experiences can lead to the development of an *individualized habitus*, that further blocks the transition to the parenthood.

The transition to parenthood is an emotional experience that can have unwanted consequences impacting relationship quality and negatively affecting all family members. Kluwer (2010) reviewed both positive and negative aspects of childbirth, listing joy and the rewards of parenthood amongst the most enriching and the potential of getting prior relationship problems intensified by this event among unpleasant factors. These are the impacts on emotional function of the family.

Family also provides a sense of *interconnectedness* by giving us a place in society and amongst other generations in the family. Being in contact with children was proven to be a predictor of the quality of life of older generations (Wenger et al., 2007). It can be only hypothesized that it is one of the reasons why involuntary lack of children can cause higher levels of clinical depression and relationship dissolution, lower levels of self-esteem, guilt and isolation (Mills et al., 2011).

Majority of negative consequences connected to this phenomenon are of a biological character and they were partially addressed in the first section of the paper. Nevertheless, there is positive evidence from a psychological perspective, pointing out maturity and stability of older mothers that makes these women more resilient to medical challenges. Huffman et al., (2015) reported that young couples tended to feel very devastated and liable after miscarriage than older couples whose union wasn't affected by this unfortunate event. Despite other medical losses and issues, older women are careful in nurturing their relationships in maintaining harmony and satisfaction of both partners (Iveniuk et al., 2014).

This might be connected to the *feeling of readiness* that is often reported as an important factor in entering parenthood (Bartošova, 2009). Soloway and Smith (1987) explain this feeling as a result of clarifying both questions "*who am I"*, connected to the primary identity of an individual, her past and autonomy from her own family, and the second "*where am I"* associated with status or what an individual would like to achieve in their financial, educational or marital spheres.

Other positive aspects related to motherhood at an advanced age that are worth mentioning are better family functioning, more stability in family arrangement and a more permanent economic position of the parents that are often able to provide higher living standards for their children (McLanahan, 2004). Parents that are older than 25, are significantly more often offering a supportive home environment which results in self-sufficiency of a child in adulthood (Hardy et al., 1998). Childbearing mothers over 30 have been compared with parenthood of teenage mothers (Fergusson and Woodward, 1999) and the differences were seen in the psychosocial and educational spheres, with children of an older mother having significantly more positive outcomes in both. This supports the hypothesis that delayed parenthood can give children better childhood condition thus increasing the chance of their success in the later developmental stages of their life.

The relation between motherhood and a career is also an occasional topic of discussion. Lundborg et al., (2017) have proven in their study that having a child hurts a woman's career and that it is a large and long-lasting effect. Lower annual earning of the mother after giving birth is connected to the fact that women decide to work less or not work at all to devote time to children. The reason of lower annual earnings of mothers of older children is because women decide to undertake less-paid jobs so they can be closer to home. This study however has its limitations in generalizing the finding to all mothers, as it was done in the context of IVF treated women in Denmark, that had access to generous maternity leave, job protection, and child care benefits. Nevertheless, there are other studies that gathered evidence of a negative labor market consequences of having children in developed countries with less family-friendly policies where this effect was even stronger (Lundborg et al., 2017).

Research on the delay of motherhood having an impact on career has brought mixed results. From those that found a positive impact on women's wages and career paths, especially in more educated women (Miller, 2010) to others like Hewlett (2002) that in *Creating a Life: Professional Women and the Quest for Children* presented a description about what struggles

educated women at an advanced age may encounter in their pursuit of having children in the job market area, next to the decreased ability to find a partner and infertility.

3.3 Research on social pressure

In the last two subchapters of the theoretical component, we will try to gather together the most relevant research related to the research goals of examining social pressures among women at advanced age and women experiencing IVF treatment. Some of the formulation of their research questions served as an inspiration in our own research thus are worthwhile mentioning.

Reports in the literature before the Second Demographic Transition indicates that women not only expect social pressure connected to their reproductive behavior but also that they experience it (Griffith, 1973; Fried and Udry 1980). These studies tended to formulate the question to respondents in a hypothetical manner, how respondents would expect others in their social circle to respond to them under particular circumstances, for example, if they were to have another child or hypothetical rating of other individuals whose family size varies.

Davidson and Jaccard (1979) measured the ability to predict fertility intentions from perceived social pressures. Study reported that the experience of normative pressures is a significant predictor of having a child, exacting the time frame of this effect to be within two years after the pressure has been exhibited.

Fried and Udry (1980) as one of the first identified that the source of pressure are mostly mothers and mothers-in-law who often force their family size preferences or childbearing timeframe to women. This research introduced interesting statements such as, that the male partner may experience pressure even it has been reported less frequently, it had a more predictive power of realizing pregnancy within a one-year time frame. Also, intra-union pressure has been shown to suggest that spousal changes in behavior are often expected and taken into account in the decision-making process. A big number of respondents had experienced direct social pressure connected to childbearing but over the half of the respondents said that they wouldn't be influenced at all by it. Pressure direction has been the subject of investigation in this study too, and it has been shown that pronatal pressures decrease and antinatal pressures increase with the increasing number of children, but for two children and above there is no strong evidence of existence of norms that would be forced on individuals.

One of the most often cited research studies is Bernardi's (2003) who first tried to distinguish the channels of social influence, separating it into 4 mechanisms: social learning, social pressure, subjective obligation and contagion. This study was qualitative, using data from 54 in-depth conversations with women from Northern Italy. Informal social interaction was of particular interest to the author namely in how it can support the change of reproductive values and add to the construction of what constitutes an appropriate reproductive choice. Within these interactions, women may either accept or refuse advice, encouragement or pressures that the environment imposes. Moreover, conversations can serve as an opportunity to reflect on their own intentions, being more aware of them and understanding that past choices lead to their own preferences. The author nevertheless excluded partners out of informal interactions from the belief that their influence is a more crucial part of the decision-making process meaning that the couple should come to a decision together. The author found that social influence plays a big part due to the *parental imperative* but that it does not enforce family size preferences, as proven in research from the previous paragraph. These results lead the author to believe in the selectiveness of kin social pressure, next to the results showing that parents' pressure towards childbearing gets weaker once the first grandchild is born. Women themselves explain this decrease by assuming that childcare starts to be a burden when having more grandchildren, as Italian women very often, around 50% of working mothers according to Del Boca (in Bernardi. 2003), use their mothers as a primary childcare source. However, the peer group influence was more relevant than family ones thus the author delved into further analysis of non-kin relationship influences. Her conclusion related to these relationships was that in close groups of friends the first birth event can synchronize and snowball like an avalanche, proving the contagion effect. Nevertheless, the author admits that the research has several limitations such as that it only examines the subject's perception, thus not giving us information on what people neglect or are not willing to mention in the interviews, depleting us of the important aspect of the social influence process itself. Also, data collected only from wives might not be enough, which is in accordance with frequent statements in the literature that having information from both spouses is preferable even though the evidence on the benefits for studying both are mixed (Fried and Udry, 1980). It sounds legitimate to assume that the birth of a child will affect the man and the woman in different degrees and ways, thus their different expectations prior to it could be part of scientific efforts as well.

Another often stated literature limitation is that research is focused only on one particular context and does not explore the impact of social influence on reproductive behavior in cross-

national studies. One research study that overcame both this limitation and previously mentioned lack of male partners as respondents is the research of Balbo and Mills (2011) where personal networks as a source of social pressure and social capital were examined in countries of different institutional settings – France, Germany and Bulgaria. The impact of these mechanisms was measured mainly on the intention to have a second child. Social pressure was measured through the respondent's perception of the opinions of parents, relatives, and friends about how he or she should behave. The conclusion was a strong positive effect on fertility intention of all actors. Nevertheless, the main hypothesis was that social pressure and capital are weaker in France as the state provides very generous formal childcare thus the individual is not dependent on a personal network for providing informal support in the same extent as in Germany and Bulgaria. The findings supported the hypothesis suggesting that the more family caring responsibilities are located in the personal network, the individual is more exposed to the social pressure of the same network. The country-specific effects have been found in German men, who intended to have another child if they had one person providing informal care and interestingly this wasn't valid when there were more people helping out with childcare, which the authors guess to be due to the more complicated coordination of care. The authors concluded that in all countries most of the childcare support was provided by close family (particularly from grandparents and siblings). What also matters is that it is friends that usually provide emotional support and apply social pressure (especially in Germany). These results are interpreted as the outcome of individualized societies– it is way harder to find support outside the family circle. Relationships with friends are crucial for imposing social norms and these authors call for researchers to analyze this area of non-kin network composition, such as what are exchanged resources, different impact of strong or weak ties or subgroups etc.

In the previous paragraph, we were talking about fertility intentions, but is it related and how to actual reproductive behavior? Why is it studied at all? Theoretical study of Rossier and Bernardi (2009) was amongst the first that answered those questions by exploring the connection between Theory of Planned Behavior (TPB), developed by social psychologist Ajzen (1991), and social network theories explaining the social mechanisms of influence, learning and support. To give a little bit of a background, according to TPB, intentions are considered as the proximate antecedent of behavior thus the factors which are influencing the intentions will also be impacting on the behaviors. The authors main focus was nevertheless on the gap that often occurs between fertility intentions and actual realization. They did a very

detailed literature analysis of the studies that can provide data for finding the answers on their hypothesis:

- If significant others have very positive attitudes meaning when a person has a favorable evaluation or appraisal of childbearing, the *social pressure* on the individual will cause them to have strong intentions even if there are no economic or other factors for realizing it.
- The gap between fertility intentions and behaviors can be decreased if individuals have the chance to learn about new fertility ideals in their larger social networks thanks to which fertility intentions can be lowered and more realistic. Low levels of *social learning* that is common in networks whose members have similar characteristics and a lack of fertility experience, will reinforce high levels of discrepancy between intentions and outcomes.
- *Social support* by significant others increases the means that couples can use for shifting from intentions to actual behavioral control and realization.

As our focus is on the infertility context, the gap between the intentions of having a child and its realization is bigger and pressure that may arise during that gap of a longer character then in the women not having any fertility problems. Therefore, we found this research approach a relevant inspiration for our study. We will introduce some research efforts that followed the above-mentioned study of Rossier and Bernardi (2009).

The Study from Billari et al., (2009) proves some of the above hypothesized statements as well as brings a systemic multi-factorial approach to studying fertility intentions. The authors were using quantitative data from more than 10,000 individuals aged 18-34, a representative sample of Bulgaria, the lowest-low country in transition back in 2002.

Fertility intentions are understood in this study to have three components: ***attitude*** about perceived costs and benefits of having a child, ***subjective norms*** which are equivalent to the social influence of friends and relatives and the extent to which an individual thinks that she ***controls the behavior***. The authors were very carefully collecting data about norms through the name-generating network approach, previously frequently used in the literature. Respondents afterwards named whose opinion they value the most, how many children those people have and at the end rated if these people would approve or disapprove of them having a child in the next 3 years.

The authors assumed that first children decisions in a society where childlessness is still not a common phenomenon are influenced by normative pressures while second births are more influenced by attitudes and economic reasons or autonomy explanations. It was proven that both mechanisms, social influence and learning, are good predictors of the intention of women regarding their first child meaning that subjective norms were dominant in comparison with other variables for first births. Nonetheless all determinants – attitudes, norms and perceived behavioral control – are simultaneously impacting fertility intentions, even when background factors such as values, general attitudes, age, sex, income, education, religion, etc. are controlled.

The results were suggesting further characteristics of the subjective norm:

- positive norms are maintained when there is an exchange of informal help (social capital)
- the sequencing norm telling couples not to enter into parenthood whilst studying
- background factors such as being religious and being part of societies where disorientation rules is aversively connected to subjective norms meaning that secularized and organized societies tend to impose bigger social influence on both partners deciding to have their first child

Normative pressures were slightly more relevant for women's intentions, rather than those of men, but of particular strength was its connection to intentions to become a parent for the first time in comparison with intentions to progress to second births. For the second parity, attitudes were proven to play the bigger role. Normative pressures were not linked to family policies, which was the case with attitudes or perceived cost and benefits of having children. But if the intentions are not fulfilled in a short amount of time, the social environment of individuals may change thus the behavior should not even occur. So, in order to have a predictable power, the shortest time interval between intentions and its realization should be maintained (Billari et al., 2009).

The last in the overview of research is suggesting that family network exerts influence not only on attitudes, perceived control and subjective norms, but also during the later phases of decision-making. In "*The Influence of the Family Network on the Realization of Fertility Intentions"* by Balbo and Mills (2012), it is anticipated that the effect of influence of social network increases as the time gap between intention and realization is extending simply because

individuals are under the influence longer. Reproductive behavior is considered a crucial life decision that involves certain requirements and long-term planning. The main hypothesis of the authors was that next to institutional settings and individual socioeconomic and demographic factors, family context further affects a person's ability to control and realize fertility behavior. The family network is identified as social capital, and a source of stability, well-being and informal resources. They confirmed that in contexts where economic situation is certain and public child care developed, having greater family social capital and strong ties is not working as a stimulus to realize an individual's plan to have a child. Conversely, in more certain economic circumstances and environments where support from the state is relevant, strong family ties might be unnecessary or even discourage fertility.

3.4 Social Pressure in the Infertility Context

Different aspects of reproductive inability have been explored in the literature in the past decades. Researchers were addressing it as a failure to undertake an important life role and as a violation of social norms, studying connected social stigma until the moment when medicalization of phenomenon took the lead. Rejection, lack of psychological well-adjustment and distress were the consequences of infertility that researchers have ultimately been trying to prevent in future experiences of women from very different sociocultural backgrounds (Miles et al., 2009).

A woman's experience of social pressure is dependent on her surroundings. The more pressure she has to become a mother, the bigger distress of being infertile she can have. Distress has been connected to the lack of social support from a partner in resolving fertility issues without which the adjustment on the infertility was harder (Martins et al., 2013; Patel et al., 2018). The same as in the fertile population, the major findings for quality of marital-role quality (MRQ) in infertile couples meaning satisfaction, distress, and adjustment within an intimate partnership were ambivalent. Some were indicating that ART positively affected marital roles (e.g. Sydsjo et al., 2011), while others found a rather negative impact such as Gameiro et al., (2011).

What is interesting is that some studies are seeing social pressure connected to social encouragement exhibited on the infertile couples. Patel et al., (2018) while researching distress levels of infertile couples, found that family involvement in the infertility treatment process is an important factor in maintaining stress levels. The families that accompanied the women during treatment caused up to three times more stress in comparison to a family where

overinvolvement wasn't present. The authors hypothesize that it could be due to unrealistic expectations from the side of the family for a successful treatment outcome. In the same study peer-support didn't have any impact on distress which could be explained by the possible reluctance of women to reveal that they are undergoing treatment. The research that focused on the disclosure of this fact to employers (Finamore et al., 2007) found out that most of the infertility patients were hiding the fact that they are undergoing infertility treatment from friends, colleagues and even family members in the worry that it would cause invasive questions and invade their privacy. If they disclosed it to employers, they did it because of a permission to leave the work. More educated women found it easier to share their treatment involvement than less educated women. However, disclosure haven't been connected to the decrease in distress that women felt. Greil et al., (2013) the social encouragement for infertility treatment from within their own social network induced that more couples utilized health services. It was not only social support that caused it, but the content of messages that are transmitted through the social network. Two other social indicators have been connected with utilization of treatments in this research, having friends and family with children and perceiving infertility stigma. According to Wolters et al., (2002) who studied social influence on different health-related problems other than infertility, social pressures were more important than the actual symptoms in pushing people to seek medical assistance. In the case of infertility, this is a condition characterized by lack of physical symptoms, thus social pressure can be even more influential factor.

How women understand infertility can be determined by social pressure next to career role salience and gender role identity (Miles et al., 2009). Social pressures had been understood in this research as an environmental factor causing a stress reaction to infertility. Pressures for having a child after marriage were also seen as a cause of worry for participants of the study in the developing environment of India (Patel et al. 2018). Pronatalist pressure dynamic was examined in childless women and the results indicated that pressures usually begin in the second year of marriage while peaking in the third or fourth years of marriage (Veevers, 1980).

Being a part of pronatalist societies is an important factor of stress of not only infertile women (Ulrich and Weatherall, 2000). It causes social stigma in childless couples (Miall, 1986). The concept of stigma can be interpreted as an expectation of couples to be negatively evaluated if others would find out about their health condition (Greil et al., 2013). However, infertile women show no outward features of infertility so only their own knowledge of their condition

distinguishes them from others. Due to the lack of signs they sometimes might be perceived as a couple that has chosen not to have children (Greil et al., 1991). The authors continue by stating that the stigma that couples feel is caused by internalizing the social norms that all married couples should and should want to reproduce. Two reactions to this stigma were identified by Whiteford and Gonzalez (1995). On the one side are women that do not seek treatment and on the other those that are obsessively seeking it. When there is a strong stigma, a tendency to delay the action of seeking help and more quitting infertility treatment has been found in research of Greil et al. (2013). There is also evidence that patients are less likely to discuss stigmatized conditions with their healthcare providers than non-stigmatized conditions (Shaw et al., 2008). Infertility social stigma could be found in many cultures around the world where having a child is highly valued and viewed as an event in life that makes a woman complete (McQuillan et al., 2011). The cultural norms see childlessness in a marriage, whether it is voluntary or involuntary, as deviant. Once this is internalized, then it can affect a couple's relationship and their own identities (Miall, 1986).

The distress of infertile women has been attributed to various other factors such as loss of control over the fact that they are not conceiving (Greil, 1997). Studying psychological factors can lead to more health workers providing needed psychological support to women undergoing infertility (Miles et al., 2009). Psychological concerns about emotional responses to the childlessness experience however fell into the shadows once the phenomenon started to be medicalized (Cousineau, 2007). This shift can be understood as moving childlessness from being a social problem to a medical (Whiteford and Gonzalez, 1995). The change was reflected semantically, where the terms involuntary childlessness had been replaced with the term infertility. Advances in ART on the one hand offer hope to solving infertility problems (Woollett and Boyle, 2000) and on the other, represent a hidden burden of being ill (Becker and Nachtigall, 1992). According to later research, cultural norms had been replicated in biomedical ideologies thus not truly liberating women of the moral expectations of having a child but only transforming it from being a social and cultural conflict in relation to society to an individual's own conflict within themselves (Becker and Nachtigall, 1992). Before ART, when couples had limited options to either accept childlessness, adopt a child or compensate it with the role of aunts and uncles there was embarrassment and stigma (Whiteford and Gonzalez, 1995) but now when there are so many treatment options available, the stress that infertile couples endure after undergoing unsuccessful treatment can be overwhelming (Dykstra and Hagestad, 2007). Of

course, the medical coverage and affordability of treatments still represent a massive barrier for women from developing countries or lower social status (Patel et al., 2018).

Due to patients being seen as having a medicalncondition, women started accepting the biomedical belief surrounding infertility and adjusting themselves to the role of a sick person. Together with growth of the medical fertility industry it induced unrealistic expectations in infertile couples by communicating that they have an obligation to undergo medical intervention, despite financial, emotional and physical costs. The impact of this is a flawed social identity that had been described by Greil et. al (2011) as a shift in self-perception of infertile couples from being childless to being "*not yet pregnant*". Once women start the medical intervention process, there are present pressures to continue with treatments until pregnancy is reached or resources used. The feminists' arguments are also divided into understanding ART and medicalization as empowering and increasing women's choices and on the other hand representing yet another regulation that further impacts and poses constraints on women's lives and bodies (Woollett and Boyle, 2000).

The societal beliefs that women are not complete without having biological children force couples to seek infertility treatments. Women more than men experience infertility distress (Forsythe, 2009) which might be also connected to the fact that women desire a child more than a man. That distress and mood causes lower pregnancy rates amongst women has been proven in multiple studies (Sanders and Bruce, 1999; Thiering et al., 1993). Infertile women can feel social blame or blame themselves in relation to their inability to become a mother (Drosdzol and Skrzypulec, 2009; Monga et al., 2004; Patel et. al., 2018). Women are seeking fertility medical services more frequently than their male partners, even though their costs are higher as well as the impact on them – insecurities, decrease in self-esteem and emotional, economic, marital stability (Vayena et al., 2002). Feelings of guilt are more present in women in the case of the need for stopping infertility treatment (Takefman et al., 1990). Multiple studies show that women feel that the diagnosis and treatment course is their fault (Drosdzol and Skrzypulec, 2009). When infertility is diagnosed due to the male factor, women are trying to convince their partners to seek infertility treatment even though the male partners have the tendency to reject treatment procedures when the cause is on their side. Women are also more engaging in coping activities to overcome psychological distress (Woods et al., 1991).

These gender differences are attributed to the fact that infertility is central for a woman's identity that is perceived as ruined by their health condition (Whiteford and Gonzalez, 1995)

and as being a women and mother is intensively linked in a lot of societies (Malin et al., 2001). Women who are trying to have a child perceive motherhood with a higher importance than women not trying to have a child and women without reproductive preferences, was confirmed in the wide quantitative study of McQuillan et al. (2011). Unfortunately, not only the identity of women and their emotional well-being suffers, but social functioning of infertile women is often disturbed and has a potential of breaking social ties. Women can be targets of mockery and pity (Menning, 1988) and a lot of women tend to avoid family and friends that have children due to unpleasant conversational topics or lack of common activities (Collins et al., 1992). In some societies, such as those in South Africa, social ostracism is regularly exhibited toward infertile couples (Dyer et al., 2009).

According to Ross and Hess (2018), undesirable mental health status is not due to infertility itself. Social pressure for pregnancy (SPP), is defined as obligations that women perceive from the environment to have a child and thus plays a more significant role than infertility. SPP is considered a product of social questioning and cultural stigma (Ross and Hess 2018). McQuillain et al. (2011) were examining a U.S. sample where the differences in terms of social pressure among women that were trying to, not trying to or were okay either way about getting pregnant. Those who were trying to fall pregnant were more likely to report that having another child is very important to their partner. They concluded that those that were trying to get pregnant reported more frequently that their parents want grandchildren and that they have friends and family with children. In the context of Iranian women, Amanati and Fardiazar (2012) infertile women experienced the highest levels of pressure from their husbands and female friends while fertile women were feeling relatively low pressure from their own parents and parents' in-law.

II. Practical part

4 Introduction to the problem

The trends of delaying motherhood prove that an increasing number of women are trying to have a child at advanced ages. These women confront time related challenges, such as uncertainty if they will be biologically able to achieve pregnancy or if some unexpected event could further backfire in allowing them to reach pregnancy, mainly separation from a partner, miscarriage or longer than expected period of realization of child intentions dependent on IVF treatment success.

The distress that women feel could be accompanied and reinforced by the pressure to become a mother coming from their environment and social network. Deciding to become a parent is considered a social act, which means that the decision to have a child involves more than just the woman or couple. Reproductive intentions are to a certain extent effected by social interactions that are acting through the social mechanisms that we were describing in the theoretical part of the study. Individuals are witnessing parenthood of those around them, and adjust their own intentions in relation to important people from within the network, and share their ideas about childbearing with different people such as friends, relatives etc. This interaction is particularly important as societies are undergoing changes in the family sphere and social norms about what is considered normal or ideal reproductive behaviors are being pushed.

How are other people influencing reproductive decisions and its realization has been extensively studied for the past decades. What could not be found to the same extent in the literature was the focus on social pressures among particularly vulnerable groups of women that are delaying motherhood – those that are facing medical problems in reaching pregnancy. Some notable examples had been provided in the overview of the literature. It can still only be hypothesized that women trying to become mothers perceive pressures differently than those women that are lucky enough to realize the pregnancy right after they plan it. Our study has as a goal of stepping into this unexplored area and potentially inspiring other researchers to focus in a similar direction.

4.1 Research goals and methods

The goal of our study is to shed light on the social pressures connected to the motherhood decision exhibited on older mothers. There are several previous research findings that led the author into this direction mainly witnessing that infertile women feel distress connected to a condition that could be attributed to social pressure towards motherhood. As a health worker in charge of organizational and the emotional support of patients, the author resonated with the recommendation made by Miles et al., (2009) that the more variables that are examined that could predict distress, the better will be the ability of health care workers to identify women in need of psychological support.

The purpose of this study is to identify the social pressures experienced by mothers in advanced age and compare it across the two groups of women undergoing infertility treatment and those women that aren't involved in ART. The quantitative research methods are considered to be better suited to address our research questions as they allow us to statistically compare influences across the two subgroups of women.

Although the author recognizes that as the area is unexplored and the topic may concern the deeper meanings that women have about motherhood, the qualitative research methods haven't been used as the author acknowledged that privacy is very valuable in the life of infertile women as proven in the research of Finamore et al., (2007). The main concern was that the request for openly admitting the impact of others on their own decisions could be intimidating or cause a defensive attitude of respondents and further increase the distress of women. Mood and stress can have a potential negative impact on infertility treatment outcomes (Thiering et al., 1993), therefore this research methodology couldn't be used in our clinical setting.

From the above-mentioned reasons, the author decided to choose the quantitative data collection technique. The detached data collection method through the questionnaire assured the privacy of women but also allowed more time for reflection on this topic. It has been proven that women are to a large extent unaware of the factors impacting their reproductive decisions (Bernardi et al., 2010). Assuring the necessary time for self-reflection and posing the right triggering questions had been expected to result in women revealing the influencing factors first to themselves and subsequently to the researcher anonymously.

4.2 Research hypotheses

To grasp the social influences on motherhood decisions is a complex challenge that the author would like to approach with several research questions:

1. Does the age of efforts to conceive the first child differ between women facing infertility and women that don't? Do women in advanced age feel more social pressure connected to childbearing timing?

The fertility trends are pointing out that the median age of women falling pregnant with their first child is getting higher. As the factors for delayed childbearing accumulate, the age of couples seeking help in assisted reproduction increases too. Despite this infertility is not only caused by the increasing age of women, there is a clear relationship between those two phenomena. Married women in the U.S. aged 15-29 years are affected by infertility in 11% of cases in comparison with 17% of women in the 30-34 age category or 27% in the age above 40 (Cousineau, 2007). Taking this into consideration, we would like to examine if infertile women have been starting later with their efforts to have their first child in comparison to our control group.

H1 There is a difference in age of first efforts for a child between the subsamples of different reproductive ability.

The multinational character of this study further allows us to look into different sociocultural contexts. Having our infertile sample divided into 5 groups depending on the origins of women, we will try to conclude if the sociocultural context is a differing factor in the age of starting the reproductive behaviors for a first child. Also, the control group of fertile women consists only of women of Balkan origins, therefore this result will be important to make sure that the previous comparison between the whole infertile and control groups was a valid step.

H3 The age of efforts of infertile women to conceive their first child differs between different sociocultural contexts.

The final hypothesis that is age related is trying to understand if women who start efforts for their first child in advanced age experience more social pressure than women in lower age categories.

H4 Women that start trying for their first child in an advanced age feels more social pressure than women starting efforts in lower age categories.

2. What are the reasons for postponing pregnancy after the age of 30? To what extent do normative pressures influence motherhood decisions across the two subsample groups?

Based on Heckhausens' (1999) assumptions, life-course events are expected to be increasingly regulated by internalized norms about age appropriate behavior and transitions because societal regulation becomes more tolerant. We predict that norms in their internalized form will be found in a big portion of women's arguments explaining the decision. Social pressure is understood here in its broader sense as a normative pressure. Under normative pressures are considered age, sequencing and quantum norms. These norms are expected to be found in the infertile subsample as well, as "... the heart of the experience of infertility appears to lie in the inability to proceed with one's life according to life course norms that are both reinforced by others and accepted as valid by the affected individual" (Greil, 2011, p. 133). We will identify how often both groups of women were mentioned as reasons for having first child arguments that could be interpreted as one of the mentioned forms of internalized norms.

The author is not keen to simplify the women's decisions solely due to social pressure. According to Currie (1988) decision-making is an active process influenced by women's age, financial position and relationship stability that are often understood as prerequisites for parenthood and we expect that they will occur in some extent in our sample as well.

The comparison will be done between age categories, meaning when women started their efforts for a first child. According to Sobotková (2007) differences are that younger mothers experience the desire to have a child as an instinct or destiny and older mothers describe the readiness for a child as something they have acquired over time as emotional maturity or stability, which appeared only after the achievement of other goals. In the lines of this argument, we expect that women that started efforts for a child earlier in their life will mention it was a more unplanned wish for a child. In contrary, we expect that women starting later will value their stability. Also, we believe that women starting earlier with efforts will more often follow the sequencing norms or beaten paths of life transitions: school-job-marriage-child.

The statistical hypothesis behind the reasons for the first child decision was formulated as the following:

H4 The reasons for deciding to have a first child differ among women starting efforts early in their life and women starting it after the age of 35.

3. What is the intensity of social pressure that women perceive or anticipate from the different social actors?

Two broader hypotheses were made to compare the intensities of pressure from four groups of social actors namely the close circle of people, wider circle of people, doctors and institutions (policies, media). It will be compared both independently on reproductive ability and taking this factor into account.

H5 The intensity of social pressure is the same across different groups of social actors.

H6 The distribution of pressure from different social actors is the same in the infertile and control group of women.

The reviewed literature repeatedly proves the influence of social pressure from a close circle of people on motherhood transition, both kin and non kin. According to Bernardi (2003) in the close ties of groups of friends the contagion effect is present, meaning that first birth events can synchronise and come on as an avalanche effect. Infertile women, unable to be part of that sychnonisation could experience increased pressure coming from close friends. Bernardi amongst the first examined parental pressures on women to provide grandchildren. Infertile women often avoid family and friends that have children themselves (Collins et al., 1992) or avoid disclosure of their medical issues (Finamore et al., 2007) being afraid that it will cause an intrusion of their privacy or unpleasant questions. In the infertility context, overinvolvement of family had proven to cause distress in women and it was connected to the unrealistic hopes of family members in the success of treatment (Patel et al., 2018).

H7 The reported intensity of pressure from a close circle of people is statistically different in the case of infertile women than the control group.

Doctors and especially gynecologists are the potential source of social pressure as they possess the most accurate information regarding the reproductive ability of women but also represent the authority whose influence must be grounded in medical facts. With increasing age of the women, the risks connected to pregnancies increase, as summarized in our first chapter. Doctors that are having patients approaching biological limits are ethically obligated to warn about medical consequences that may imply from women reproductive decisions. Do women starting

the efforts for a child later in their life perceive doctors' warnings as a higher intensity of pressure than women starting earlier?

H8 Women that started their efforts for a first child after the age of 35 perceive intensity of pressure from doctors as higher than women starting before 35.

4. How are women dealing with social pressure?

We were interested in checking the strategies that women use to cope with social influences on their childbearing decision. The respondents were invited to freely answer how they coped with pressure or how can women cope with pressure in general. We will try to find patterns in those strategies and to reveal if there are differences between women that started efforts for a first child after the age of 35 and those women that started before that age. It could be expected that older women would pick strategies that are the product of their stability and maturity such as adjusting communication or promoting mental strength, while younger wannabe mothers would prefer avoiding or other passive forms of dealing with external pressures.

H9 There is association between social pressure coping strategies and the age of starting the efforts for a first child.

5. How big is the impact of these pressures on the childbearing decision?

As the final point, we were interested if women can assess how large is the impact of social influence on the timing of first childbearing. Even though some of the initial research questions did cover the reasons for realizing the intentions for a first child, focusing on social pressure as a separate factor that could influence the decision could give us even more insight into the social pressure effect in women's transition to motherhood. The control sample was expressing the impact more often quantitatively, therefore that subsample will be used to test the hypothesis. It will be enriched with textual comments that were given by the infertile sample mainly in the discussion section of the paper. An assumption is that women who experience social pressure surrounding their decision to be mothers themselves will tend to perceive it as more important than women who have not experienced the same social pressure.

H10 The perception of importance of social pressure on the decision to become a mother differs in women that have a personal experience with it and those that don't experience it.

4.3 Characteristics and description of research sample

The research sample consists of women who were trying to become mothers. Two subsamples could be differentiated. The infertile group of women consisted of 37 women who were patients treated in private fertility clinics in Czech Republic. They were coming from different countries for treatment purposes. Analysis of their origin and residence is provided in data interpretation subsection.

Important differentiation of the women in our sample is based on their age of starting active efforts for a first child. For the purpose of answering some of our research questions, we define older mothers as those that were at least 35 years when their first efforts for a child occurred. This age has been chosen as biologically determined chance of pregnancy decreases and the decline of women's fertility accelerates in their mid - thirties. This is considered by the author as the time when both the biological and social clocks start ticking louder, opening the door to social pressure and its interference in the decision-making process.

For the purpose of this research the only additional demographic information that had been explicitly requested from our subsample was about their sociocultural background - their residence and origins. Nevertheless, with IVF treatments being costly in financial but also social and psychological terms, it could be assumed that the experience of infertility treatments in a foreign country is selective by itself and that women who decide to undergo it are most likely possessing more resources. Also, majority of women pick private treatment options in foreign countries only after unsuccessful attempt(s) in their own countries. Deciding to forgo medical procedures in foreign countries can be considered as a big step out of their comfort zone and into the unknown. This persistence in attempts despite the struggles that procedures bring, can lead us to the assumption that women from our infertile sample have very big desire for a child.

The other subsample consisted of women of Balkan origin that were not having any experience with infertility. In total, 43 women joined the study. The subsample was recruited mainly through the snowball sampling technique, as our infertile respondents were willing to provide a contact or further resend the questionnaire to friends and acquaintances. We cannot estimate how many women in the control sample knew about the infertility problems of women that recommended the research, but we allow the possibility that some of them did and knew at least one person in their environment with infertility concerns thus this could change the perception of their transition to motherhood. Our control sample can be therefore considered more

informed about reproductive strategies than it would be in a random sample from the population.

4.4 Research questionnaire

The questionnaire has been identified as the most appropriate technique for gathering data due to its impersonal character allowing respondents both privacy, anonymity and time for self-reflection.

The literature hasn't offered the author a written tool that would cover all the research focus therefore a new questionnaire needed to be made. The questionnaire focusing on social pressure was found in Miles et al. (2009), with ratings of 30 situations and social network members that could be the source of pressure on a Likert scale, and in Ross and Hess (2018) Social Pressure for Pregnancy Scale (SPPS), the tool whose psychometric properties were proven in the research of Malian women partially in an infertility context.

In our questionnaire, 10 questions had been included with almost equal proportion of open, semi-open and closed types of questions. The paper form of the questionnaire was distributed to patients of a fertility clinic. The online form was sent through the platform SurveyMonkey to women outside of the infertility context. Open questions had been chosen for discovering the reasons for having their first child at a particular age, the strategies women used for dealing with social pressure and perceived impact of pressures on the childbearing timing decision. This could allow respondents the freedom to freely express themselves and allow the author to spot eventual unique reproductive strategies that international fertility patients could have. The experience with social pressure of this population hasn't been widely examined before and there are plenty of factors to consider as it might be different from the women not experiencing reproductive medical problems. They could be blamed that it is their fault as they “waited too long”, or judged for investing resources on often unsuccessful treatments instead of choosing more altruistic options such as adoption. The author trusted that open-questions could reveal insights of a similar depth from our research sample.

However, the author was also aware of the limitation that anonymous questionnaires accompanied with an unpleasant topic and unique international sample could result in a small amount of gathered data. This limitation was prevented by the concise length of the questionnaire, with estimated time for completion approximately 10 minutes, the fact that there were five language versions of the questionnaire (English, German, Italian, Serbian and French)

for patients to fill it in their native language or the language that they are absolving treatment and by a personalized request for participation in the research in combination with the right timing, which will be described in the next subsection.

Research progress

Initially, the pilot study had been done to get an idea as to how ready women are to talk about their reproductive decisions. The advantage that the author has over the hypothetical external researcher is that she was working in the fertility clinic as a patient coordinator, where she was guiding patients through the preparational phases as well as during the procedures. Women therefore knew the author and the relation of trust was maintained even prior to data gathering. Nevertheless, the pilot study in the form of two in-depth interviews longer than half an hour revealed that the willingness of participants was there to discover some aspects of their reproductive decisions but whenever it would come to the questions focusing on the social pressure, participants tended to neglect it which was attributed to the lack of self-reflection of women. Both of them admitted that they haven't thought about that topic before. Also, as the interviews were done in a clinical setting, the worry increased from the authors side that these conversations could upset the participants and potentially interfere with treatment purpose as it was proven that stress and mood state as a predictor of outcome in ART.

Taking this into account, the form of gathering the data for the main study had been changed into written and questions were adapted to the form of the questionnaire. According to Kohoutek (2010) the questionnaire can be considered as a guided interview where the main difference is that the answers are received in writing, thus the mentioned two methods can be interpreted to some extent as interchangeable. The questions had been further streamlined to be able to determine the purpose of the study, to be logically and stylistically correct and easy to answer but on the other hand still thought-provoking to reinforce self-reflection of respondents.

A paper form of the questionnaire was provided to the infertility sample in the clinical setting accompanied with an oral explanation from the author, making sure that respondents were aware of the research purpose and that in case they would feel uncomfortable with any of the given questions, they could skip it. The author made clear that she is there for all potential questions and further clarification both verbally and in the written consent that the respondents were signing. The questionnaire was given to patients to fill out in the waiting room while awaiting consultation or medical results, excluding the time prior to the medical procedure of

the crucial importance for treatment success or after the procedure during which patients had been under the anesthesia.

After completing the questionnaire, women were asked if they are willing to send the link with an online questionnaire to their acquaintances that haven't had any experience with infertility. The biggest interest in forwarding the questionnaire was shown from patients from the Balkan's. The several women that were patients of other international fertility clinics showed an interest to participate in the research, therefore the questionnaire had been sent to them in electronic format, the same as to all contacts that were in the control sample without any infertility experience.

The overall gathering of data took over 6 months in the period from February to August 2019.

4.5 Methods of analysis of the data

In the research of quantitative focus, the analysis goal is primarily to search for relationships between two variables. In most of the given hypotheses, we will be comparing both reproductive ability and timing of childbearing efforts with some aspects of social pressure: social actors exhibiting it, the impact on decisions to be a mother and ways of dealing with it.

In the research, reality should be interpreted based on how specific individuals are experiencing it. The quantitative analysis methods emphasize obtaining knowledge about the reality of the social phenomenon that could be displayed independently of the personality of the researcher. Statistical methodology allows objectiveness and promises results that could be potentially generalized to the broader population.

Prior to jumping into the choice of appropriate statistical methodology, gathered data were organized. Open answers were coded and quantified. Respondents that did not fulfil the criteria had been extracted from the sample, such as the respondents referring to the second child experience or those that stopped completing the questionnaire after filling out only the initial questions. The tested sample size differs from hypothesis to hypothesis as respondents were periodically skipping questions or its parts, especially in the case of complicated questions regarding the intensity from different social actors. The drop-out in this question was more apparent in the women that haven't personally experienced social pressure. The instruction was that they needed to assess what other women from their environment could experience in terms of intensity of the pressure from different social actors in case they didn't have their own

experience to draw upon. The author believes that this question required a certain level of social metacognition or thinking about what other people may experience and feel, which are the higher-order thinking skills that require more focus and mental effort (Jost et al., 1998).

Research data has been entered and analyzed through the SPSS (IBM SPSS Statistics version 26). Chi-squared statistic and non-parametric tests for between and within group comparison were used for testing the hypotheses. The results were summarized using medians, mean ranks, and percentages. As statistically significant was considered $p < 0.05$.

5 Data and its interpretation, answers of research questions

The final number of respondents in our study was 80, with 37 women from clinical settings and 43 in the control group. The control sample consisted of women from the countries of Ex-Yugoslavia that had never had experience with infertility. Women that were patients of assisted reproductive clinics were coming to the Czech Republic for treatment from 17 countries. The most represented countries were Germany (19%), Serbia (14%), Italy (8%) and Bosnia (8%). Overall, 40% of women did not have the same country of origin and residence, and none were living nor coming from the Czech Republic where they were undergoing treatment. Cross-border reproductive care sometimes also called *medical tourism* has been popular due to its promissory character - that somewhere else are better medical and legal options. Sarah Franklin explains that ART attractiveness comes from combining the "*two of the most powerful Euro-American symbols of future possibility: children and scientific progress*" (Franklin, 1997, p.166). Countries that are popular medical destinations are those that either have relatively liberal legislation (such as Spain or Czech Republic) or those that have no legal regulation yet, usually outside of the EU, such as Ukraine (Bergmann, 2011). In mentioned destinations, the cost of treatment could be considered lower than average, which certainly plays a role in deciding which destination to pick. Czech Republic is popular as it was amongst the first countries to perform IVF treatment in 1982 and reproductive medicine has been improving for over 3 decades. It also counts the largest number of clinics per capita according to *Medical Travel Czech Republic* website (Panfilova, 2017) practically meaning that the waiting lists are minimal and couples can get their treatment whenever they plan it.

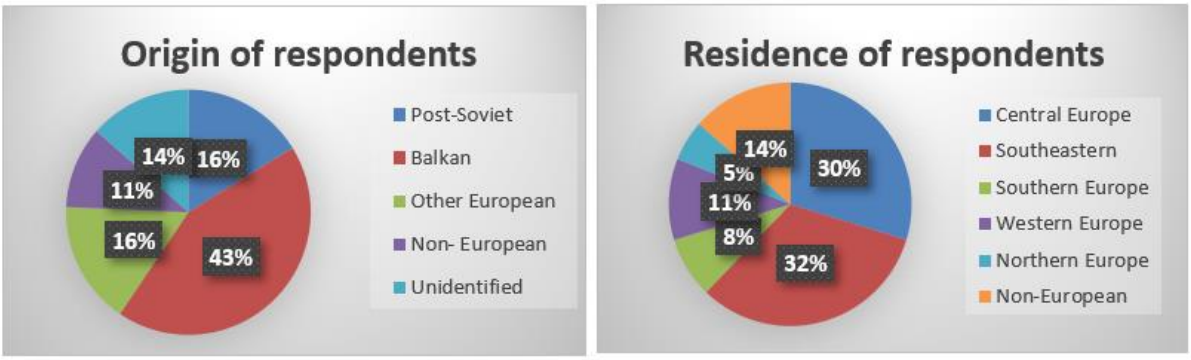

Figure 1 Origin and Residence of respondents

The average age of women for starting their efforts to become a mother was 34.3 years in the infertile sample, while in the control sample 52% of women started their efforts before the age of 30. Only 10% of women in the control group were reporting their first efforts above the age

of 35, while almost 50% of our infertile respondents started later than 35 years and 11% of women mentioned the first active efforts for a child were at the age of 40 and above with the oldest participant being 47 years.

In accordance with our first hypothesis, we conducted the Fisher exact test to statistically measure the association between the age of first efforts of those belonging to the infertile or control sample. The Fisher test is used instead of the chi-square independence test as our samples are small and the assumptions of minimum frequency in each cell is violated. **Our Fisher exact test revealed there is a difference in woman's age when efforts for a first child occurred between the subsamples of different reproductive ability ($\chi^2(3, N = 77) = 17.1$, $p < .01$, $\phi_c = 0.47$ suggesting the middle size effect.** H0 is rejected.

International statistics for the mean age of giving birth to a first child helped us into testing out next hypothesis. Namely, we divided our infertile sample according to respondent's origin into sociocultural groups that have in common a similar average age of birth of a first child. According to the last available statistics (Eurostat, 2020; Human Fertility Database, 2020), women from post-soviet states are having their first child around the age of 27 years (countries presented in the study: Russia, Azerbaijan and Ukraine), women from the Balkan's slightly higher, with an average 28 (Bosnia and Herzegovina, Serbia, Romania, Croatia, Slovenia), other European countries women usually have children after the age of 30 (Germany, Sweden ,Switzerland, Italy) and Non-European countries (USA 26.8, Canada 29.25). We do expect that those statistics will be reflected in our sample. Women that haven't specified where they came from (16%) were not included into any of the categories or used for testing the hypothesis.

The Fisher exact test had been chosen due to the Non-European country group that weren't frequent enough. **The Fisher exact test found that there is no difference in age of first effort between different sociocultural backgrounds ($\chi 2(9, N = 31) = 9.53$, $p = .32$, $\phi_c = 0.31$** and H0 could not be rejected. We could attribute this to the fact that a large portion of our respondents haven't lived in their country of origin, therefore they are aligning themselves both with the age social norms of the country of residence and the country of origin. This assumption can be confirmed by the bigger proportion of women in the infertile group that could not define if their age of first efforts is according to the social norm (19%), in comparison with only 2% in the control sample where 93% of respondents lived in the same country they were born.

In total, 91% of respondents of our study identified the social age norm connected to first childbirth. This was measured by asking participants if they think that their age when they started efforts for a child is appropriate for becoming a mother in their society. Women are to a large extent able to acknowledge the social age norm based on the previous research findings of Settersten and Hagestad (1996) with 78.5 % of respondents and Billari and Micheli (1999, in Liefbroer and Billari, 2009) stating 90% of respondents being capable of doing so. Concerning the experience of social pressure, overall, 58% of our respondents felt social pressure connected to their decision to become a mother. It is lower than in the study of Monga et al., (2004) where 83% of couples reported that they felt social pressures to conceive.

Our next hypothesis goes a step further by distinguishing the experience of social pressure between the age categories, more than 35 years or less than 35 years, connected to starting efforts to have a child. Nevertheless, the Chi test for independent samples could not allow us to reject the H0 hypothesis – **There isn't an association between age and the experience of social pressure ($\chi 2(1, N = 76) = 5.62$, $p = .45$, $\phi = 0.08$.** This means that older mothers do not experience more pressure than younger mothers surrounding their decision to become mothers.

Separating women according to same age categories will form the basis of our assumptions of differences in reasons for having the child. The tables of arguments behind motherhood decisions reflect that division of the sample. Arguments were initially in textual form, gathered through open-response questions. For testing purposes, they were separated into the following categories through coding.

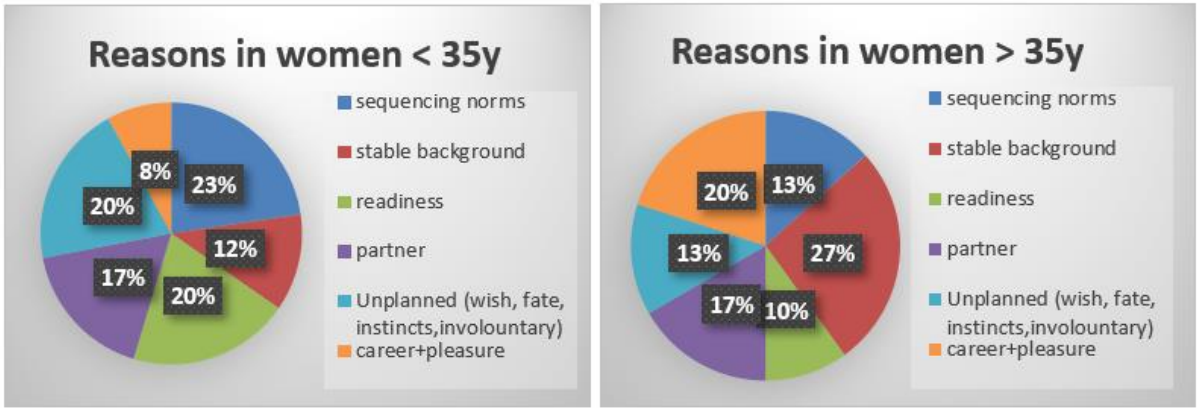

Figure 2 Reasons for emerging efforts for a first child in women above and below the age of 35

Older mothers had 20% of arguments pointing out their prioritization of other life domains such as career or pleasure over childbearing. They were the most focused on having a stable background prior to having a child (27%) and their decision wasn't often of the unplanned

character (13%). Younger mothers were mostly driven by sequencing norms toward childbearing, mentioning sequence marriage – child in 33% of arguments and sequence education – child in 26% of arguments. Unplanned reasons for having children were forming a quarter of the arguments. The least popular reasons were for prioritization of other life spheres (8%) and a stable background (12%). The lack of appropriate partner was presented in the same frequency in the arguments for each group of women.

Despite observable tendencies of preferring certain arguments over the others in age groups, the Fisher test had been applied to test statistical differences between age and reasons for becoming mothers. In the analysis were included only answers of those women that haven't reported combined reasons. Combined reasons were present in 25 women, which is 35% of all women that answered the question. One dominant reason was present in 34 women whose child efforts started before the age of 35 and 13 women whose efforts were after 35 years. However, **the Fisher exact test showed no difference in reasons for the desire to become a mother in women of different age of starting efforts for the child ($\chi 2(5, N = 47) = 5.98$, $p = .28$, $\phi_c = 0.37$**

Next in line is our question of difference in intensities of pressure on deciding to have a child coming from different social actors. The women found it particularly complicated to assess the intensity of pressure if they haven't experienced it personally, therefore the data that was included in testing the hypothesis was lower than the total amount of women in the sample. We had 45 women that filled in intensity of at least one group of social actor. The descriptive statistics below provides an insight into which social actors are exhibiting what intensity of pressure with their closer circle of people dominating over doctors and institutional pressures.

Descriptive Statistics

	N	Percentiles 25th	50th (Median)	75th	Mean Rank
close	45	3,0000	5,0000	7,5000	2,99
wide	45	1,5000	5,0000	7,0000	2,81
doctors	45	1,0000	2,0000	5,0000	2,31
institution	45	1,0000	2,0000	4,0000	1,89

Table 1 Intensity of pressure from different social factors – descriptive statistics

The separate group of intensities of pressure will be treated as repeated measures due to the fact that the pressure of 4 categories of social actors is assessed by the same women. The Paired test should be chosen for purposes of testing our hypothesis. Dependent sample t-test could not be

performed as our data violated the assumption of normality of distribution, which was subjectively assessed based on histograms and tested by the Shapiro-Wilk test. **A non-parametric Friedman test of differences between measures of intensity of pressures was conducted and rendered a Chi-square value 22.97 which was significant (p<. 01), w= .17.** H0 hypothesis of equality of medians between measures of intensity of pressures from different social actors was rejected. A post-hoc test was performed and after the Bonferroni correction a statistically significant difference was proven between the intensity of pressures from close people (Md=5) and institutional pressures (Md=2, p<.01), the same as for their wider circle of people (Md=5) and institutional pressure (p<.01). The less conservative Dunn correction, found as statistically different (p<.05) a difference also between close people pressure and doctors' pressure (Md=2).

We wanted to test how estimation of the intensity of social pressure from separate social actors differed between women from the infertile subsample and women in the control group. It goes of two independent samples therefore we were deciding whether to use the one-way Anova or non-parametric version of the Kruskal-Wallis test. The normality of distribution hasn't been found in our data therefore we picked the Kruskal-Wallis test. Even though the shape of distribution of our data wasn't the same based on histograms and Levene's distribution of variances test, we decided to continue with the Kruskal - Wallis test with precautions in interpreting the data through the mean ranks and not medians. **A Kruskal- Wallis test showed that mean ranks of intensity of pressure from different social actors were significantly different in the infertile sample and control sample, namely in the intensities of pressure from their close circle of people (H= 5.81, df 1, p=.015).** The post-hoc test had been performed to test the pair of significantly different mean ranks of intensity from the previous conclusion. **A Mann-Whitney test indicated that the perceived intensity of pressure from close people was significantly greater for infertile women (Mrank = 33.2) than for women from the control group (Mrank = 22.9), U = 235.5, p = .015, r = .33.** Both H0 had been rejected.

The remaining hypothesis connected to the pressure from different social actors has to do with pressure from doctors. To statistically test if older mothers perceive the intensity of the doctors' pressure as higher than younger mothers, we again used the Mann-Whitney test as normality of distribution was violated and the Levene's test proved the homogeneity of variances. **A Mann-Whitney test indicated that perceived intensity of pressure from doctors was the same for**

women starting their childbirth efforts prior to the age of 35 years (Mrank = 25. 3) and women starting the effort after the age of 35 years (Mrank = 31. 7), U = 207, p = .17, r =.19. H0 could not be rejected.

Concerning the strategies that women apply in order to cope with social pressure connected to their childbearing decisions, we were comparing the differences with the same age distinction, meaning between younger and older potential mothers. Based on the open-ended question, we obtained the textual responses from respondents that we afterwards coded into categories based on its meaning. The categories and its distribution across the age groups can be seen on the graphs below. It is worthwhile to note that the charts illustrate the distribution of all strategies, including answers of those respondents that mentioned multiple categories of strategies (mixed) and those that included strategies that do not belong in any of the categories (others).

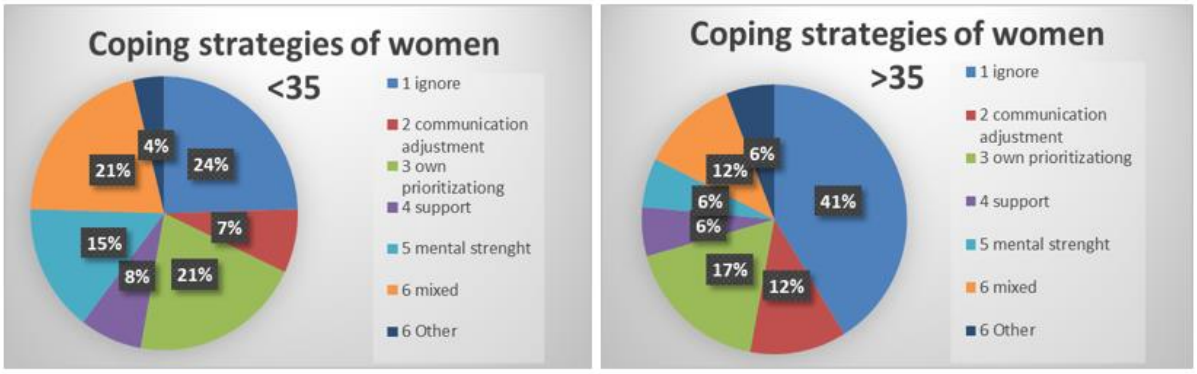

Figure 3 Coping strategies of women in two age categories

From the charts it is obvious that women starting with childbirth efforts later in their life prefer to ignore outside social pressures and to recommend strategies that have in its core sticking to their own priorities such as these answers: "*You decide for yourself what you want and how you feel, not what others want. They don't live your life*" or "*Everyone needs to know their own. And build their own value as a person, not just as an established parent.*". They do however to a big extent mix several strategies and adjust their communication with the social actors. Adjusting communication could take different forms from active efforts such as "*I explained to people close to me that everyone chooses the way they will live their life as well as the time when they will realize themselves as a parent*" or a more passive form of adjusting communication such as "*I simply did not communicate my decision to anyone, in fact it was the decision of my husband and I. We agreed that no one needs to know, because relatives and real friends will be glad when we tell them the good news and we know that they will not ask the question, and for the rest of our surrounding environment we don't even care*". The categories *other* and *support*

were the least popular among those women. In the category *other* appeared the comment "*by travelling abroad*", which could be interpreted that the woman thought that it is the best to escape to countries with a lesser amount of normative pressures while deciding for a child. Even though the category *support* hasn't been very frequent in both groups, it gives us a glimpse to where women draw strength and wisdom and this can be illustrated by the following comments: "*Talk to someone who understands me, friend, mom, husband. always the best support*" or "*Having friends in social media with similar issues*".

Women starting with efforts for a child earlier than the age of 35 years ignore less the social pressure (24%) than the previous group, but value own prioritizing slightly more (21%), the same as they value applying different strategies (mixed, 21%). The big portion of women in this subsample placed the focus on building mental strength (15%), where there were different types of practices: "*Only and only through spiritual work on ourselves, because by doing so we become more self-aware, stronger and more stable (in the psychic sense) and pay less attention to the environment, and more to inner voices and feeling*" or "*social pressure will affect you as much as you allow it to*" or "*by strengthening self-confidence and self-awareness*". The adjusting of communication was one of the least popular strategies in this subsample, but it almost always took an active form such as "*I forbid the conversations on the subject*", "*by lying (so that the younger husband does not want children)",*"*interrupting communication and avoiding the topic*" or "*I just tell them "what do you care"* or *"it will be when it is*". Among the *other* arguments appeared two opposite strategies: "*in my opinion, it is much easier for a man to cope with challenges while he is young*" pointing out the resilience of young people and "*Only when a certain life experience is gained. With time we gain a certain sense of spotting social pressures and only then we can learn to ignore it*" shifting the attention to the ability of more mature women for recognizing the pressures as a first step towards combatting it. All of the mentioned strategies certainly deserve a further qualitative exploration.

Further analysis served us to statistically test the differences between these two samples in terms of coping strategies. As our data were again proven to be of an uneven distribution and violating the minimal cell frequency assumption for the chi-square test of independent samples, we picked the Fisher's exact test. **Fisher's exact test showed that there is no association between the social pressure coping strategies and age of starting the efforts for a first child ($\chi 2(6, N = 66) = 5.03$, $p = .56$, $\phi c = 0.29$.** Our H0 could not be rejected.

The final hypothesis was meant to reveal us how women that have personal experience with social pressure differ from women lacking it in assessing the impact that social pressure has on the final decision to become a mother. In the statistical analysis were included only women from the control group as they were expressing their assessment on the scale 1-100 online, which resulted in exact continuous data. The infertile sample was rather including the textual estimation of the impact. For the purposes of statistical testing, more valuable were the continuous data. Data from women that felt the social pressure were non-normally distributed but it was symmetrically distributed according to Levene's test ($F(1) = 1.24$, $p = .27$). **A Mann-Whitney test indicated that the perceived impact of social pressure on the motherhood decision differed among women who personally experienced it (Md=56) and those who haven' t (Md = 20), U=97, p<.01, r= -0,43.** H0 has been rejected. Mean for the subsample with experience was 54.73 and for the subsample without experience of social pressure 27.55.

5.1 Discussion

In this subchapter we will try to step back from the statistical testing and open a discussion over the results that we came to.

Starting with the question of the timing of childbearing, our results showed that women that are now facing fertility problems tended to postpone their first efforts for a child later in their life. The average age of starting the efforts in our international infertile sample was over 34 years, which is the time when biological ability of women to get pregnant gets lowered by approximately 5% (Leridon, 2008). The decrease becomes more rapid after that age and in combination with other medical factors, the gap between the intention for having a child and ability to realize the desire is only becoming larger. This pressure is sometime referred to as the *biological clock*. On the other hand, *social clock* means that in each society there are different norms, what is considered to be the normal age for becoming a mother for the first time and what is the deadline for undertaking this life role. Society expectations have certain roots in biology but science is pushing the biological limits faster than societies are able to react to it. Unfortunately, people tend to get informed both about biological limits and medical advances and the realistic opportunities that it gives only after they or someone close to them have already experienced this problem. Until the real picture is made about the possibility of ART to reinforce fertility, there might be only the vague assumption that reproductive science can compensate for almost all reproductive problems. This misleading belief may lull a lot of people prioritizing other life domains knowing that there are methods that will after all allow

them to reach pregnancy when they will feel ready for it. That it is a risky attitude proves the increasing number of patients seeking reproductive medical assistance. Overall, increasing the programs that would inform the population about realistic chances of getting pregnant in certain ages, ART possibilities and successes may result into people bringing their life decision from the informed, conscious standpoint without mixing hope into the statistics and medicine.

That the educative efforts coming from medical experts are not often obvious could be reflected in our results. The pressure from doctors had been perceived as of a relatively small intensity. Of course, the word social pressure could have a negative connotation in the eyes of the women perceiving it, therefore they could not perceive advice from the doctors' side as any type of social pressure. On the other hand, maybe not all gynecologists are warning women at advanced ages about fertility risks and may think that women are already aware of it. Comments surrounding doctors' involvement that came from women from our sample were various from "*I never got a doctor's recommendation that I should have a baby as soon as possible. I think they absolutely don't care"* to "*Just a well-intentioned recommendation and advice to hurry if I plan to ever become a mother. It was always been somewhere in my mind and as a pressure and a question, what if it doesn't happen this or next year, will I be able to give birth later?"*. Doctors also mention the possibility of ART to women as stated in these arguments: "*I was recommended to undergo social freezing*" or "*IVF needs to be done as frequently and as soon as possible to provide chances for a pregnancy*". That doctors are included into media initiatives of raising awareness is mentioned in one of our respondent's comments "*Doctors are brought onto TV and they speak with a dose of arrogance and without empathy on the topic of fulfilling the role of a mother after the age of 40".* In statements from the respondents, we see that it is important to also pick the right way to provide the most relevant and evidence-based information from doctors that can be otherwise interpreted as arrogancy if advice is not in accordance with woman's life plans and priorities.

Women's life plans were reflected in their reasoning behind the wish to become a mother. A lot of plans of potential mothers younger than 35 years (23%) were in accordance to the sequencing of life roles that traditional societies enforce. By this is meant that a lot of women followed the recommended life trajectory of education – employment – marriage – child. The belief that those life roles are mutually exclusive is being shaken by the spreading of alternative forms of fulfilling these roles such as lifetime or distance education, various short-term professional experiences in rapid changing job markets, permanent informal cohabitation of

couples, childlessness as a voluntary decision etc. Women are slowly noticing this and other shifts in the dynamic of normative pressures on a global level which proves comments such as "*Age limits are shifting, so the pressure of the environment is lower because more and more couples are postponing marriage / children*" or "*Pressure is decreasing because everything has almost become normal*" as well as "*We read more and more about falling birth rates and divorce, so it seems that there is less expectation from the environment*" and "*pressure decreases as many people are childless these days*". What remains stable is that the majority of women are able to detect the shifting age norms surrounding the transition into motherhood. In 91% of cases from our sample, women could define if their age when efforts for a child occurred was appropriate according to their society or not.

However, the women's statements about the changes in dynamic of social pressure with the increasing age of women are diversified among our sample. Some of the women were feeling that social pressure decreases with age *"…as people think you can't have children anymore*" or as "*Family and close friends slowly give up after a while, while others still feel they have a right to interfere in your life*". Some are attributing the increase in the tolerance over pressures to maturity and resilience that comes with age and life experience – "*women should be more educated and self-aware and therefore feel less pressured*". Women that perceived the increasing intensity of pressures with their age were unsatisfied with conditions that they have been put in such as: "*Because everyone around you has a family. At every holiday you are reminded that you are an isolated case in a big family. You no longer feel that you belong there. The conversation topics of friends and relatives are about their children, you can't say anything*" or "*Because too much is expected of a woman. It is expected we are to be excellent in all fields. And at the same time to look like a model*". These perceptions have a lot to do with the coping strategies that the women suggested. The results prove that there were no statistically significant differences in preferences of certain strategies in older mothers but there was slightly more frequent ignoring. It might suggest that women's tolerance to pressures is indeed increasing with time. To conclude the discussion over the ways of dealing with pressures I will quote one of the respondents saying that "*each woman (deals with pressure) in her own wa*y" and in order to understand how the dynamic of changes in intensity of pressure and related coping strategies are interrelated, a thorough qualitative research of a longitudinal character is required.

In terms of social actors that are the source of the pressure on motherhood decisions, close circle of people was perceived as causing the biggest intensity of pressure, followed by a wider circle of people. The media and institutions were the least frequent, with infertile women from time to time mentioning the policies surrounding the provision of IVF treatments as impacting their decisions. Infertile women perceived intensity of pressure from close people as higher when compared to the control group. It can be interpreted in a way that these women were undergoing intensive treatment throughout which social support can be very useful in alleviating stress. As proven in other research, disclosing the fact that couples are undergoing treatment may evoke an avalanche of questions and false hopes from others that the treatment will be always successful. Social support is double edged sword, from the one side taking over the emotional burden of uncertainties accompanying infertility treatments and on the other side having close people involved would require aligning their expectations and modifying communication surrounding the topic so that it does not present additional stress. The suggested interpretation is one of the possible reasons of difference specific to the infertility context, but we should of course not undermine the more expected *parental imperative*, as Bernardi (2003) calls it, meaning the wish of parents to become grandparents, or the pressure coming from the fact that people in social networks are having a smooth transition to parenthood and are already having their own children which causes a certain type of jealousy in women that are not able to fulfill their wish to have a child. This can be illustrated by the statement of one respondent saying that… "*Everyone else is having children except me. I would like to experience that too*".

Sociocultural differences in perceiving social pressures on the childbearing decision and experience of women in an advanced age are the key factor in interpreting any results of research with a similar focus. It is not expected to get the same type and intensity of pressure in developing and developed countries nor in societies that are pronatalist or patriarchal in comparison with more liberal. This research focus has the huge potential in revealing reproductive strategies that are unique to certain societies and social groups as well as finding out what all women and social pressure surrounding parenthood transitions have in common. Nevertheless, medical tourism is a relatively new phenomenon that makes the research efforts more complicated as we are possibly having normative pressures from the country of origin, country of residency and country where treatment is done. Combining it with the struggle to get a larger amount of data, our study faced the same difficulties and sociocultural differences haven't been statistically confirmed in the age of first efforts for a child even though demographic reports repeatedly demonstrate numerous differences in the mean age of women

giving birth for the first time between regions and countries. The mixed method research design would be highly recommended for the future to be able to distinguish the influences that cross-border patients might be objects of.

That it is worthwhile scientifically exploring the topic of social pressure in the area of the transition to motherhood proved our last research question result, that the perceived impact of pressure on the final decision to become a mother at some particular age is significantly higher among women that have personal experience with social pressure than those that have not endured it. This shows a human tendency to underestimate the importance of the problems that are not concerning them personally. The impact was averagely assessed in the group personally affected with social pressure with a score 55 out of the scale of 100, suggesting a profound importance. If women are voicing that it is an essential factor that they take into consideration when planning their life trajectories, then it should deserve more attention. Especially in the context of delayed motherhood where pressures could have worse consequences in terms of further increasing distress and uncertainty.

5.2 Limitations

In our attempt to shed light on the social pressures influencing reproductive decisions we faced several constraints. First, the findings we came to are based on a relatively small sample. For checking robustness of these findings, further replications would be needed.

Second, this study selectively examined the pressures that women are experiencing despite the fact that fertility decision-making is mainly the concern of the couple as a whole. Therefore, including extended gender perspective on social influences would be preferable.

Certain limitations of this study could be found in the research design as well. Collecting appropriate empirical evidence was solely based on subjective reporting by women, thus prone to biases, and using minimally standardized, semi-structured questionnaires. We acknowledge that the measures relying on self-reporting are prone to influences of immediate factors on the respondents mainly of a psychological and environmental character. Quantitative data analysis deprived us of a deeper understanding of the phenomenon of delayed motherhood and related infertility. The wider view on these social phenomena could be gained through the ethnographic studies of experiences of women postponing the childbearing, both in the general context and in the infertility context. The same recommendation is applicable for digging deeper into the

emerging phenomenon of medical tourism that has the potential to reveal sociocultural aspects of infertility and postponed childbearing.

Given the nature of social pressure as a continuous process rather than an individual social act, it is good to explore how perception of social influences is changing with the change of partners, social networks, countries, jobs, aging. The longitudinal research could serve to track this dynamic over time. After all, finding out how social pressures are changing women's reproductive strategies could help in estimating women's need for fertility education and psychological support when childbearing realization is not going according to plan.

6 Conclusion

The study that we conducted had a goal to identify the social pressures surrounding transition to motherhood perceived by women of advanced reproductive ages. We wanted to contribute to the research efforts that aim to understand the phenomenon of late motherhood. We did it by comparing several variables in between the subsamples of the women facing infertility and women who haven't come across problems to realize their wishes for a child. Comparisons have been also done in several research questions between women starting the efforts for a first child after the age of 35 years and before the age of 35 years, not necessarily taking into account their reproductive ability. Variables that we were curious about were reasoning behind the timing of the efforts for a child, the intensity of pressure from multiple social actors, strategies used to deal with social pressures and the assessment of impact that social pressure could have on the final decision to become a mother.

The chi-square statistics and non-parametric tests of differences between independent samples and within the sample were used for quantitative analysis of our data. It revealed several statistically significant differences namely in the age of starting the efforts for a first child between women facing infertility and those that don't, between intensity of pressures from both close and the wider circle of people compared to institutional pressures, in the intensity of pressure from their close circle of people between infertile women and women from the control group and in the perceived impact of social pressure between women personally experiencing social pressure and those that hadn't come across it while deciding to become mothers. On the other hand, several null hypotheses could not be rejected such as that there is the difference in reasons behind deciding to be a mother, personal experience with social pressure, strategies of dealing with social pressures, intensity of pressures from doctor's and sociocultural differences in women starting the efforts for a child prior to the age of 35 years and after the age of 35 years. However, the importance of social norms has been reflected in the fact that 91% of our sample was able to identify if their age when efforts for a first child occurred was appropriate or not in their society as well as that 22% of the reasons behind the decision to become a mother at a certain age were referring to internalized sequencing and age norms. The extent to which social pressure can actually influence the decision to be a mother has been assessed by women that experienced it in their own skin as relatively large (M=55, MD=56, SD=31) in comparison with women that haven't experienced it personally(M=27.5, MD=20, SD= 24). The assumption drawn from this statistically significant difference can be generalized to a certain extent to the

broader problem that people tend to underestimate the impact of something that they don't personally experience. People could seem less understanding or arrogant in the eyes of women if they would automatically assume that childbearing is only a matter of prioritization of certain reproductive strategies over others done by women. In the case of mothers in an advanced age there is often the belief women chose this path themselves to pursue a career or other life roles. This is especially risky in the case of health workers and educators who are not aware of the impact of social pressures on the motherhood decision as it could reflect in their approach and further increase the distress that women feel while undertaking this life role. Bearing in mind that social pressures is largely involved into the decision-making process to become a mother could cause the shift in attitudes towards older mothers and their decision. Awareness that social pressure surrounding the motherhood decision has the real power in shaping women's life trajectories can be a good first step towards more tolerant societies.

Despite limitations, our study offers several contributions. It is one of the very rare studies that is comparing the difference between perception of social influences on motherhood transition between a clinic-based, infertile population of women starting to realize motherhood wishes later in their life and women that postponed their childbearing without facing fertility problems. Social pressures that women may feel when they want to realize their child intentions but they can't do so are of a different character than when women delaying their first child are able to realize their desire without medical assistance. Furthermore, we congregated various aspects of childbearing postponement into one place. The research therefore could serve as a good starting point for deciding which of the social aspects of delayed motherhood deserve to be prioritized by health workers but also which ones require further research.

7 References

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8 Apendices

Appendix A *Social Pressure and Late motherhood paper questionnaire*

INFORMED CONSENT

You are invited to participate in a research study conducted by Katarina Grujičić from the University of Pardubice.

The research is part of the diploma thesis *Social pressure and late motherhood* and its goal is to underpin how social environment and interactions are influencing people's reproductive choices.

Your participation in voluntary, anonymous and will take about 10 minutes of your time.

There are no anticipated risks to your participation. If you would feel some discomfort during the interview, please feel free to ask to skip the questions.

You may withdraw your consent at any time and discontinue participation.

If you have any questions or concerns about the research, please feel free to contact the researcher itself.

Thank you for your help!

Your signature

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1. **In which country do you live?**

2. **Were you born in the same country?** Yes No (in which?) _____

3. **What age were you when you actively started to have a first child?**
4. **What were your reasons for trying for a first child at that particular time and not sooner or later?**

5. **Does your social environment or society think that it is an appropriate time to have a first child?** Yes No
6. **Have you ever experienced social pressures connected with your wish to be a mother at a later age?** Yes No
   If yes, in what way (*to have it faster or later*)?

   If not, answer following questions by trying to assess on what other woman from your society could come across in their life connected with the social pressure and motherhood role
7. **From who have you experienced social pressure the most?** I would kindly ask you to define the social actors and to assess the intensity of pressure from each on an imaginary scale from 1-10. *(1 means the influence was minimal and 10 that the influence was the highest)*

   - someone from your close circle of people like family and friends

   - wider circle of acquaintances

   - doctors and their recommendations

   - Other institutions or social norms portrayed by the media, politics etc.

8. **Do you think that the intensity of social pressure is increasing or decreasing over the time, or is it stable across this time frame?**

9. **How can woman cope with these pressures? How did you cope with social pressures?**

10. **To what extent social pressure can actually influence final decision to become a mother?** Please rate it on a scale from 1- 100 (*1 means the impact is minimal and 100 that the it is the highest*)

Appendix B *SPSS Output for Statistical Analysis*

- **H1 results**

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
age * origin	31	37,3%	52	62,7%	83	100,0%

age * origin Crosstabulation

Count

		origin				
		SSSR	Balkan	Eu	Non-EU	Total
age	less than 30	2	4	0	0	6
	30-35	0	5	3	2	10
	35-40	3	6	2	2	13
	40-45	1	0	1	0	2
Total		6	15	6	4	31

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	9,313[a]	9	,409	,426		
Likelihood Ratio	13,519	9	,141	,239		
Fisher's Exact Test	9,535			,325		
Linear-by-Linear Association	,234[b]	1	,629	,662	,359	,079
N of Valid Cases	31					

a. 15 cells (93,8%) have expected count less than 5. The minimum expected count is ,26.

b. The standardized statistic is ,484.

Symmetric Measures

		Value	Approximate Significance	Exact Significance
Nominal by Nominal	Phi	,548	,409	,426
	Cramer's V	,316	,409	,426
N of Valid Cases		31		

- **H2 results**

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
agecategory * ability	77	83,7%	15	16,3%	92	100,0%

agecategory * ability Crosstabulation

Count

		ability		
		infertile	control	Total
agecategory	less than 30	6	20	26
	30-35	13	16	29
	35-40	14	4	18
	40-45	4	0	4
Total		37	40	77

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	17,314[a]	3	,001	,000		
Likelihood Ratio	19,576	3	,000	,000		
Fisher's Exact Test	17,107			,000		
Linear-by-Linear Association	16,871[b]	1	,000	,000	,000	,000
N of Valid Cases	77					

a. 2 cells (25,0%) have expected count less than 5. The minimum expected count is 1,92.

b. The standardized statistic is -4,107.

Symmetric Measures

		Value	Approximate Significance	Exact Significance
Nominal by Nominal	Phi	,474	,001	,000
	Cramer's V	,474	,001	,000
N of Valid Cases		77		

- **H3 results**

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
age4 * pressure	76	91,6%	7	8,4%	83	100,0%

age4 * pressure Crosstabulation

Count

		pressure		
		yes	no	Total
age4	<35	25	31	56
	>35	7	13	20
Total		32	44	76

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	,562[a]	1	,453		
Continuity Correction[b]	,236	1	,627		
Likelihood Ratio	,569	1	,450		
Fisher's Exact Test				,599	,316
Linear-by-Linear Association	,555	1	,456		
N of Valid Cases	76				

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 8,42.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	,086	,453
	Cramer's V	,086	,453
N of Valid Cases		76	

- **H4 results**

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
reason * agegroup3	47	51,1%	45	48,9%	92	100,0%

reason * agegroup3 Crosstabulation

Count

		agegroup3		
		<35	>35	Total
reason	sequence norm	12	2	14
	stable background	1	3	4
	readiness	8	2	10
	partner	5	3	8
	unplanned	5	2	7
	career,pleasure	3	1	4
Total		34	13	47

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	6,429[a]	5	,267	,279		
Likelihood Ratio	5,983	5	,308	,439		
Fisher's Exact Test	5,986			,287		
Linear-by-Linear Association	,222[b]	1	,638	,703	,354	,068
N of Valid Cases	47					

a. 8 cells (66,7%) have expected count less than 5. The minimum expected count is 1,11.

b. The standardized statistic is ,471.

Symmetric Measures

		Value	Approximate Significance	Exact Significance
Nominal by Nominal	Phi	,370	,267	,279
	Cramer's V	,370	,267	,279
N of Valid Cases		47		

- **H5 results**

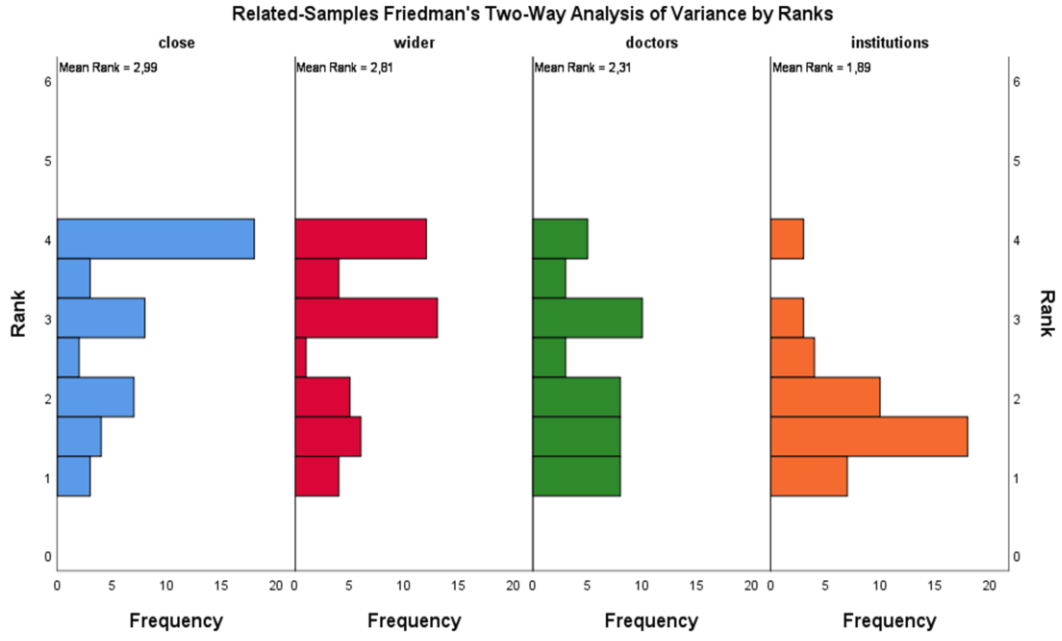
Ranks

	Mean Rank
close	2,99
wider	2,81
doctors	2,31
institutions	1,89

Test Statistics

N	45
Kendall's W[a]	,170
Chi-Square	22,972
df	3
Asymp. Sig.	,000

a. Kendall's Coefficient of Concordance



Pairwise Comparisons

Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]
institutions-doctors	,422	,272	1,551	,121	,725
institutions-wider	,922	,272	3,388	,001	,004
institutions-close	1,100	,272	4,042	,000	,000
doctors-wider	,500	,272	1,837	,066	,397
doctors-close	,678	,272	2,490	,013	,077
wider-close	,178	,272	,653	,514	1,000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is ,05.
a. Significance values have been adjusted by the Bonferroni correction for multiple

- **H6 results**

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of close is the same across categories of ability1.	Independent-Samples Kruskal-Wallis Test	,015	Reject the null hypothesis.
2	The distribution of wider is the same across categories of ability1.	Independent-Samples Kruskal-Wallis Test	,850	Retain the null hypothesis.
3	The distribution of doctors is the same across categories of ability1.	Independent-Samples Kruskal-Wallis Test	,376	Retain the null hypothesis.
4	The distribution of institutions is the same across categories of ability1.	Independent-Samples Kruskal-Wallis Test	,236	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is ,050.

Independent-Samples Kruskal-Wallis Test

close across ability1

Independent-Samples Kruskal-Wallis Test Summary

Total N	55
Test Statistic	5,871[a,b]
Degree Of Freedom	1
Asymptotic Sig.(2-sided test)	,015

a. The test statistic is adjusted for ties.

b. Multiple comparisons are not performed because there are less than three test fields.

- **H7 results**

Mann-Whitney Test

Ranks

	Group	N	Mean Rank	Sum of Ranks
intensity	infertile group	27	33,28	898,50
	control group	28	22,91	641,50
	Total	55		

Test Statistics[a]

	intensity
Mann-Whitney U	235,500
Wilcoxon W	641,500
Z	-2,423
Asymp. Sig. (2-tailed)	,015

a. Grouping Variable: Group

-H8 results

Mann-Whitney Test

Ranks

	age5	N	Mean Rank	Sum of Ranks
doctor2	<35	39	25,31	987,00
	>35	14	31,71	444,00
	Total	53		

Test Statistics[a]

	doctor2
Mann-Whitney U	207,000
Wilcoxon W	987,000
Z	-1,360
Asymp. Sig. (2-tailed)	,174

a. Grouping Variable: age5

- **H9 results**

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
strategy * agegroup	66	71,7%	26	28,3%	92	100,0%

strategy * agegroup Crosstabulation

Count

		agegroup		
		1,00	2,00	Total
strategy	ignore	13	7	20
	adjusted communication	4	1	5
	own prioritization	11	3	14
	support	4	1	5
	mental strenght	8	1	9
	mixed	0	1	1
	7,00	10	2	12
Total		50	16	66

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	5,764[a]	6	,450	,479		
Likelihood Ratio	5,563	6	,474	,597		
Fisher's Exact Test	5,038			,563		
Linear-by-Linear Association	1,100[b]	1	,294	,301	,164	,031
N of Valid Cases	66					

a. 10 cells (71,4%) have expected count less than 5. The minimum expected count is ,24.

b. The standardized statistic is -1,049.

Symmetric Measures

		Value	Approximate Significance	Exact Significance
Nominal by Nominal	Phi	,296	,450	,479
	Cramer's V	,296	,450	,479
N of Valid Cases		66		

- **H10 results**

Mann-Whitney Test

Ranks

	experienced	N	Mean Rank	Sum of Ranks
impact	no	27	17,59	475,00
	yes	15	28,53	428,00
	Total	42		

Test Statistics[a]

	impact
Mann-Whitney U	97,000
Wilcoxon W	475,000
Z	-2,771
Asymp. Sig. (2-tailed)	,006

a. Grouping Variable: experienced

Case Processing Summary

		Cases					
		Valid		Missing		Total	
	experienced	N	Percent	N	Percent	N	Percent
impact	no	27	96,4%	1	3,6%	28	100,0%
	yes	15	100,0%	0	0,0%	15	100,0%

Descriptives

	experienced			Statistic	Std. Error
impact	no	Mean		27,5556	4,59417
		95% Confidence Interval for Mean	Lower Bound	18,1121	
			Upper Bound	36,9990	
		5% Trimmed Mean		26,1420	
		Median		20,0000	
		Variance		569,872	
		Std. Deviation		23,87199	
		Minimum		,00	
		Maximum		86,00	
		Range		86,00	
		Interquartile Range		42,00	
		Skewness		,677	,448
		Kurtosis		-,433	,872
	yes	Mean		54,7333	8,00444
		95% Confidence Interval for Mean	Lower Bound	37,5655	
			Upper Bound	71,9012	
		5% Trimmed Mean		55,0370	
		Median		56,0000	
		Variance		961,067	
		Std. Deviation		31,00108	
		Minimum		5,00	
		Maximum		99,00	
		Range		94,00	
		Interquartile Range		55,00	
		Skewness		-,181	,580
		Kurtosis		-1,098	1,121