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What to Expect When You are Not Expecting: the Biological, Psychological, and Cultural Setbacks Following Infertility

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What to Expect When You’re Not Expecting: The Biological, Psychological, and Cultural Setbacks Following Infertility

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DePauw University Honor Scholar Program

Class of 2019

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I would like to thank my mother, for providing me with a front row seat to the world of reproductive health. I would also like to thank Professor Ted Bitner, as our regular meetings and brainstorming sessions helped put everything together. I would like to thank Professor Angela Castañeda, as her experience as a doula and anthropologist provided great perspectives on the topic. Furthermore, Professor Emily Guinn provided excellent scientific perspectives as a reader and editor of the thesis. I would also like to thank Professor Kevin Moore, Amy Welch, and the rest of the Honor Scholar Department; I would not have made it this far without any of them. I would like to acknowledge my roommates, as their patience and assistance as my friends helped me remain calm. Lastly, and most importantly, I would like to thank the women who completed my survey and the individuals who spoke on behalf of their experiences for my thesis - this one's for you.
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Statement of Thesis

This thesis should be utilized as a guidebook and platform for those personally struggling with infertility or supporters of those struggling. Through scientific explanations, psychological research, and observed cultural pressures, I hope to grasp the mind of those struggling and allow their voices to be heard. With the lack of awareness towards the prevalence of infertility, I would like to draw focus and understanding to the degree of pain many women in our society face. Through real life responses and real-life stories, I would like this thesis to provide a feeling of sympathy and motivation to encourage those who want a baby to keep fighting.
“The English language lacks the words to mourn an absence. For the loss of a parent, grandparent, spouse, child or friend, we have all manner of words and phrases, some helpful some not. Still we are conditioned to say something, even if it is only “I’m sorry for your loss.” But for an absence, for someone who was never there at all, we are wordless to capture that particular emptiness. For those who deeply want children and are denied them, those missing babies hover like silent ephemeral shadows over their lives. Who can describe the feeling of a tiny hand that is never held? ”-Laura Bush.

~

Her name will be Ava Catherine; ‘Catherine’ after my mother and ‘Ava’ because I like the name. I hope she has brown hair and brown eyes like my own, and I wish she’ll always be smiling. I hope she enjoys running and eating and I can’t wait for her first day of school. I have a great life planned for us both, but until then, I will wait.

Like many young adults, my brain works futuristically. Every decision and ideology that pops into my brain always ties back to my plans for the future. I attend college, then I work, then I learn, then I marry, then I have kids, and then my life will revolve around all of those accomplishments. I believe that this timeline of events was implemented into my head as a socially acceptable “successful life” from the start, but I am ok with it, as being a wife, a doctor, and a mother always sounded pleasing and fulfilling. This life will not happen overnight, but I hope it is coming. And if it doesn’t, there is no “Plan B.”

When it comes to marriage, children, and other known causes of “lifetime happiness”, there is never a quality back-up plan. When we all have the expectation that a baby comes after meeting the man/woman of our dreams, and when this expectation
intersects the reality that infertility may also write itself into our life track, we receive nothing but unwelcome panic. How can you live a happy, fulfilled life when the one you had planned was taken away from you? How can you feel content knowing that you are unable to complete the one task your body should be guaranteed to give you?

Thinking realistically, as I’m sure you are aware, reproduction is mandatory for this world to survive. Millions of essential genes must continue to be passed on, stories and traditions must be carried, and our world must continue with the production of bright and fresh young minds. Therefore, as a human being carrying a uterus, I feel it is my job to reproduce. And if I chose not to or lack the ability to, I might be viewed as a failure in many people’s eyes, including my own. Yet, we must acknowledge a drastic difference when it comes to voluntary versus involuntary infertility. If a woman chooses not to have children, she is confidently saying she can live a life without a child and is voluntarily choosing to avoid utilizing her fertility. When a woman decides on her own to have children, she is confidently saying that she can not live without a child. Thus, what happens when she is involuntarily infertile? A constant cycle of crazy struggle and pain. Therefore, I would like to use this thesis as a platform for involuntarily infertility, where women don’t have a say in the final outcome.

“My husband and I sat as patients in the office, with a notepad of questions, trying to make sense of the storm we had just found ourselves smack-dab in the middle of. Am I normal? What next? Why is this so painful? How can the absence of something you never had hurt so bad? What is it about an expectation not coming to fruition that causes such traumatic, life-paralyzing grief? The expectation of this dream coming true-simply and romantically- is what cut the deepest when it did not happen”–Cathie Quillet.
I want kids. I want the happiness and joy and unconditional love they can provide. I want the mess and the struggles and I want it all. Most women do too, in fact. Thus, how can we not compare ourselves to others? If you are unable to have children, how will you look at an expecting mother and feel anything other than envy and sadness? How will you tell your sister-in-law “congrats” on her 3rd child when you can’t even have 1? How will you appreciate the world around you if you are unable to create a world of your own?

In high school health class, no one warns you that a baby may not come easily. No one teaches you how to deal with unexpected waves of grief and the fact that our beautifully planned “life track” may hurt us in unexpected ways. No one talks about infertility until you are standing face-to-face with it, unable to breathe or move. And there are too many women hurting for a discussion not to be continued.

Around 7.3 million people in the United States aged 15-44 have difficulty getting pregnant and/or carrying a baby to term (Wechsler, 2015). That averages out to be around 12% of the entire female population. The prevalence of this unfortunate circumstance is far worse than many of us think, and even with possibilities of treatment, there is still an uncomfortable amount of unanswered questions. Despite nonstop research towards infertility, many infertile couples continue to be labeled with the diagnosis of “idiopathic infertility” or given descriptive diagnoses that do not provide an exact cause for their struggle (CDC, 2016). According to the Center for Disease Control, even though several tests exist to evaluate a woman’s ovarian function,
no single test is a perfect predictor of fertility, making the diagnosis process even more
cumbersome (CDC, 2016). For other individuals with a known diagnosis, effective cures are lacking, and although a woman’s infertility may be bypassed with assisted reproductive technologies (ART), some of these are accompanied by certain safety or ethical setbacks. Undoubtedly, progress in the field of reproduction has been continued in today’s century with advances in the regulation of fertility and many in vitro and hormone advances. Still, we are nowhere near done. That is where I come in.

If you are currently struggling with infertility and/or know someone struggling, I assume you are lost. I am assuming you have no idea where to start or what emotion to feel. I will also acknowledge that I have no right to pigeonhole your experience or assume what is going on in your mind, but I hope to utilize this writing platform to let real voices be heard and productive research be seen. Throughout this thesis, I will touch on the biological reasoning and advances in fertility treatments, the psychological setbacks throughout the struggle, and finally, the cultural expectations we as “potential mothers” experience regularly. The word infertility has many branches: How does it happen? Why does it happen? What does it affect? Who does it affect? What can be done? When can it be done? Why does it matter? These questions have branches themselves, but the key takeaway with infertility is loss: loss of the experience of pregnancy/ birth, loss of opportunity to pass on family genetics, loss of the chance to contribute to the next generation, loss of the chance to be a parent or grandparent, loss of self-worth and self-esteem, loss of your family stability, loss of your sense of control over your life plan, loss of sense of hope for the future, loss of your work productivity,
and loss of a child. With this guidebook, I hope to provide those struggling to conceive with a well-deserved gain in the right direction. I hope this thesis lets you feel as though there is an army of supporters around you, cheering you on as you experience every emotional test thrown at you. With real stories and current research, I want you as the reader to know that it is OK to grieve. You have permission to be angry and upset. You are validated if you want to quit or you can try as long as you want.

Finally, I want this guidebook to serve as a medical companion as well as an emotional companion, hopefully answering many questions about treatment, percentages, relationships, and pain that many of you may have. There is no “right answer” when it comes to infertility, but I truly believe there to be such thing as the “right support” to help gain hope and happiness. To the women wondering when it will be your turn, to the women who doubt their femininity, to the women who cry alone in a soon-to-be nursery, to the women who are still crossing their fingers, and to the women who are silently screaming, know that you are heard and know that there is hope. I write this thesis for you, in an effort to validate your emotions, ease your pain, and provide you with some answers to your notebook of questions. You are not alone.

**Biological Explanation**

“It is undignified to inject yourself with hormones designed to slow or enhance ovarian production. It is undignified to have your ovaries monitored by transvaginal ultrasound; to be sedated so that your eggs can be aspirated into a needle; to have your husband emerge sheepishly from a locked room with the “sample” that will be combined
with your eggs under supervision of an embryologist. The grainy photo they hand you on transfer day, of your eight-celled embryo (which does not look remotely like a baby), is undignified, and so is all the waiting and despairing that follows.” - Belle Boggs.

~

**Figure 1**: Female Reproductive Tract image from Center for Disease Control and Prevention, 2019.

It starts with the egg. Using Figure 1 as a display, each month inside your ovaries, a group of eggs starts to grow in small fluid-filled sacs called follicles. Eventually, ovulation occurs when one of the eggs erupts from the follicle. After the egg leaves the follicle, the follicle develops into something called the corpus luteum. The corpus luteum releases a hormone that helps thicken the lining of your uterus, getting it ready for the egg, and after the egg is released, it moves into the fallopian tube (Makrigiannakis, 2007) It stays there for about 24 hours, waiting for a single sperm to fertilize it. If one sperm does make its way into the fallopian tube and burrows into the egg, it fertilizes
the egg. The fertilized egg then stays in the fallopian tube for about 3 to 4 days, but within 24 hours of being fertilized, it starts dividing fast into many other cells (Makrigiannakis, 2007). It keeps dividing as it moves slowly through the fallopian tube to the uterus. Its next job is to attach to the lining of the uterus. This is called implantation. Then, within 3 weeks, the cells begin to grow as clumps, and the baby’s first nerve cells have already formed (Makrigiannakis, 2007). After 9 months of growth, the newborn baby should arrive. The biggest takeaway from this brief health lesson: there is a lot of time for something to go wrong.

We are all raised to think that women are born with millions of eggs that they will have for eternity. We are also convinced that we have endless amounts of time to “use” them. More importantly, many of us are almost brainwashed by those around us to think that it is the woman’s responsibility to “get pregnant.” Thus, we often forget that it takes 2 to reproduce. The truth is, while roughly 30 percent of the time the infertility issue has to do with the woman, men bear the responsibility another 30 percent of the time (Fett, 2014). The remaining time there is no known cause for infertility, or there is “a combination of factors affecting both partners” (Fett, 2014). Therefore, please note that fertility struggles are no one’s fault. Nor is anyone to blame. And while there is no single entity to be held accountable, most researchers still conclude that infertility is a more stressful experience for women than it is for men (Griel, 1997). Most studies have found that the relationship between gender and infertility distress “is not affected by which partner has the reproductive impairment, as the women tend to feel at fault” (Griel, 1997). This feeling of guilt will be touched on in later chapters. For now, we must remember that sometimes the female body does not work in our favor, no matter how
hard we try. “Do not be discouraged. It is often the last key in the bunch that opens the lock” - Israa Ali.

As stated above, due to the skewed percentage of suffering women, this guidebook will capture more of the female path in infertility, rather than a male’s experience. I will be narrowing in on the woman’s body more so than a man’s, as I have a female body of my own and am attempting to get into the minds of the struggling women around me. Not to say men are without struggle, as the pain of infertility is undoubtedly experienced by both parties. However, I have witnessed the pain of a woman first-hand. With this witnessed pain, I would like to acknowledge that I will be unable to grasp every thought and experience that the infertility community experiences, but please know that I have some sense of knowledge and perspective on the issue. If you are someone with a long history of fertility struggles, I am sure you have heard it all: “Have you tried_____?” “Do you know the Spencer’s, because _____ worked for them!” “Would you consider_____?” “You just need to____.” “Don’t worry, it’ll happen eventually.” Uninformed opinions will always make their way into your journey, but please remember that no one knows as much about your pain and your body as you do. Thus, I would like to take the role of an educator throughout this thesis, rather than another uninformed opinion.

As you read above, there are many precise steps leading up to a growing baby. Infertility can make its way into any of these steps without our consent, and therefore there are usually many questions, many treatment paths, and not always an answer. Gearing towards the science of egg quality and natural pregnancies, there are many ways in which women experience setbacks within their bodies. Some of the main causes
of female infertility could be structural damage to the ovaries or fallopian tubes, damage to the uterus, and many ovulation disorders (Weschler, 2015). For example, a condition known as endometriosis relates to uterine damage, as this causes the lining of the uterus (endometrium) to grow in other places in the body. From here, parts of the endometrium could then block the fallopian tubes, which carry the eggs from the ovaries to the uterus (Saito, 2012). Another cause of female infertility could be hormonal issues that prevent you from ovulating, as hormonal issues can also affect the lining of the uterus and prevent a fertilized egg from implanting properly (Saito, 2012). One of the most common of these disorders is Polycystic ovary syndrome (PCOS) which is a hormonal disorder that causes the ovaries to “develop numerous small collections of fluid (follicles) and fail to regularly release eggs” (Saito, 2012). Additionally, although women are born with all the eggs they will ever have, these eggs still need to finish “cooking” before they can be released for fertilization. By cooking, the egg needs to mature by reaching proper hormone levels. A hormonal imbalance could thus cause you to release an egg that is not ready for fertilization, and similarly, some health conditions (like thyroid conditions or diabetes) could interfere with hormonal function and contribute to infertility (Saito, 2012). Lastly, and more prominently, a woman’s age could result in a declining egg count (Nikolaou, 2008). In sum, as there are many possible wrong turns our bodies could take, let’s not forget that occasionally there are times when there is NO KNOWN CAUSE FOR A WOMAN’S DECLINE IN FERTILITY. Sometimes we are left with an empty uterus and no explanation as to why. Dr. Said Daneshmand, Practice Director at the Fertility Center of Las Vegas, says the diagnosis of unexplained infertility is given to about 20-30 per cent of those who are undergoing
fertility tests (Guzick, 2008). “Unexplained infertility is a diagnosis of exclusion, meaning that if an infertility patient has undergone all four major diagnostic tests – ovarian reserve, sperm analysis, x-ray to assess Fallopian tubes and uterine evaluation – and all test results are normal, unexplained infertility is used as the diagnosis” (Guzick, 2008). Unexplained infertility is a complex beast, and this unanswered question can be difficult to accept. However, the declaration of “explained infertility” can also be quite open-ended.

Taking a few steps back, ‘infertility’ is professionally defined by the World Health Organization as “a disease of the reproductive system defined by the failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse (and there is no other reason, such as breastfeeding or postpartum amenorrhoea)” (World Health Organization, 2012). Taking this definition, it should be noted that there are 2 types of infertility to consider: primary and secondary. Primary infertility is “infertility in a couple who have never had a child” (Weschler, 2015). Secondary infertility is “failure to conceive following a previous pregnancy” (Weschler, 2015). Looking at the WHO’s definition above, there are many disappointing red flags within this description: “There is no obvious underlying cause” and “failure to achieve…. after 12 months.” In sum, before you have fully experienced a year’s worth of pain, your doctor is unable to diagnose you as someone experiencing “fertility difficulties.” In order to begin these early stages of diagnoses, many suggest for you to schedule a check-up with your local fertility specialist.

When scheduling your first doctor’s appointment to seek answers, the first step is usually a thorough medical history of both you and your husband, as well as an in-depth
review of your reproductive history (Nikolaou, 2008). Next, if you have been trying for at least a year, you are likely to hear the statement, "We need to do some tests." Once the reproductive history and medical information has been obtained, the next part of the workup is the physical examination, which focuses on a pelvic examination and a vaginal ultrasound (Fett, 2014). As the physical examination begins, the doctor will be looking for signs of infection in the cervix that might give some sort of clue to a particular infection/ blocking in the tubes, evidence of endometriosis, or any other problems that could affect fertility (Fett, 2014). In terms of what tests will be used, the overarching elements of an infertility evaluation all look at ovarian function, tubal and uterine anatomy, ability of the sperm to reach the fallopian tube, and possible male factors (Fett, 2014). As a final definition, the initial tests used to assess the major causes of infertility are: Day 2 or 3 FSH (Follicle Stimulating Hormone) and estradiol (estrogen), antral follicle count and AMH (Anti-Mullerian Hormone), hysterosalpingogram (tubal dye test) and/or sonohysterogram (an ultrasound to document the time of ovulation), postcoital test to see if sperm can penetrate the cervical mucus, mid-luteal phase progesterone level, and a semen analysis (Nikolaou, 2008). Because the most common causes of female infertility include problems with ovulation, damage to fallopian tubes or uterus, or problems with the cervix, a follicle count and hormonal testing are usually the most common beginning stages of diagnostics (Nikolaou, 2008).

As stated above, one of the main suspects for infertility lies in ovulation disorders. In many prominent cases, a woman’s fertility may be related to the number of oocytes (immature eggs) remaining in her ovaries, which is referred to as ‘ovarian
reserve’ (Nikolaou, 2008). Unfortunately, ovarian reserve declines consistently even from before birth until a woman reaches menopause, thereby showcasing a woman’s dilemma with her age. From here, a 1996 study by Faddy et al. confirmed the decline of follicle numbers in correlation with age in women (Gleicher, 2006). This evidence can be seen in Figure 2.

![Figure 2: Points illustrated from the Faddy et al. article in 1996 proving the negative correlation between Age and Fertility Rates.](image)

Regardless of age, there are a number of tests that can estimate, directly or indirectly, the ovarian reserve in women. Every year there are new tests that are becoming more available and studied, including many different laboratory tests and ultrasound scan techniques (Fett, 2014). Specifically, as briefly mentioned above, looking at the measurement of Anti-Mullerian Hormone (AMH) levels in the blood and transvaginal ultrasound measurement of the total antral follicle count (AFC) can help determine the overall ovarian reserve (Fett, 2014). However, it is still unclear how useful
these forms of ovarian reserve testing are in predicting the chance of naturally conceiving a child. If these prove themselves to be inadequate, doctors will then look at other hormone levels in the body. Since AMH and AFC levels may not always be useful, doctors tend to also look at follicle-stimulating hormone (FSH) levels in the blood (Fett, 2014). Similarly, there may come a time when invasive surgery is needed to grasp a visual look at the current state of your ovarian reserve.

In general, the overall likelihood of pregnancy following fertility treatment and the final outcome of these pregnancies is hard to predict with a simple ovarian reserve test (Fett, 2014). Thus, other steps of diagnoses tend to follow such as ultrasounds, blood samples, and possibly surgery. Yet, the clear analysis of a woman’s ovarian reserve should help in a few struggles following infertility, such as “reducing the amount of unnecessary testing, providing criteria to determine access to IVF, and giving reliable information upon which to base final treatment decisions” (Weschler, 2015). In sum, make an effort for your doctor to check on your ovarian reserve to make sure it adequately matches with your age and lifestyle.

Now that we know the possibilities of why women struggle conceiving, let us now analyze ways to combat this struggle with different treatments and medications aimed to help. To begin, it should be acknowledged that infertility treatments will vary depending on the case, your age, how long you’ve been infertile, and as always, personal preference. Similarly, because of the varying options, there will be varying financial, physical, timely, and psychological effects within each option. Furthermore, it is an unfortunate possibility that some women may need multiple types of treatment as time goes on, so it is important to acknowledge that there is not always a perfect answer.
If your diagnosis involves ovulation or hormone impairment, fertility drugs will first be utilized to stimulate and/or regulate ovulation (Smith, 2003). These fertility drugs are the main treatment for ovulation disorders, as they are used to work like your body's natural hormones. Looking at the hormones in a woman’s body, the follicle-stimulating hormone (FSH) and the luteinizing hormone (LH) are prone to triggering ovulation, which is why many fertility drugs attempt to induce their effects (Smith, 2003). Of these drugs, the 5 most popular are “Clomiphene citrate”, “Gonadotropins”, “Metformin”, “Letrozole”, and “Bromocriptine” (Smith, 2003).

Beginning with Clomiphene citrate, this drug is simply an oral tablet that stimulates ovulation by making the pituitary gland release more FSH and LH, ultimately stimulating the growth of an ovarian follicle with an egg (Smith 2003). Next, Gonadotropins are injected and stimulate the ovary directly to produce multiple eggs or simply mature the eggs while triggering their release at the time of ovulation (Smith, 2003). Metformin is usually used in women suffering from PCOS, as it is used when insulin resistance is the possible cause of infertility (Smith, 2003). Letrozole is an aromatase inhibitor (inhibits estrogen synthesis) that induces ovulation in a similar function to clomiphene (Smith, 2003). Lastly, Bromocriptine is a dopamine agonist that may be used when ovulation issues are caused from extra production of prolactin by the pituitary gland (Smith, 2003). Overall, the success rate for each hormone treatment cycle is dependent on the age of women and the degree of the disorder. Yet, regardless of these categories, the success rate is 10-20% (Fett, 2014). That’s it. Furthermore, injectable hormones average about $1,500-2000 per month, showing that individuals are willing to pay large amount of cash for something that has a 10-20% chance of being
successful (Laurel Fertility Care, 2018). This leads many women to ask “Is there a better option?”

When society thinks of ways to combat infertility, many of us think of “In-Vitro Fertilization” (IVF) as this is seen in the media, seen in our close peers, and seen in society as a very effective area of treatment. And society is right, as IVF has generated the highest success rates of pregnancy (Cohen, 2018). For those unaware, the fertilization in this process takes place by combining the egg and sperm in a laboratory dish, which leads to the maturity of the eggs and formation of an embryo, and then injecting the embryo into the woman’s uterus (Cohen, 2018). However, the Human Fertilisation and Embryology Authority in the United Kingdom would like us all to know that IVF is relatively safe and sometimes successful, but it is not cheap and may not be worth all of your money. Looking at Figure 3, the HFEA reported that in 2011, the success rates of IVF were not as optimistic as everyone would have hoped (Yu, 2018).
Figure 3: The HFEA reports on the IVF success rates globally in 2011. The plain yellow represents all IVF cycles performed, while the striped lines demonstrate the success rates. From a glance, the success rates decline with age and almost never reach even a 40% success rate.

And yes, the statistics have not changed much in 5 years. From HFEA’s 2016 study, the success rates of IVF are 29% for those under 35, 23% for those between 35-37, 15% for those aged 38-39, 9% for those aged 40-42, 3% for those aged 43-44, and 2% for those older than 44 (Yu, 2018). And, aside from lack of a promised child, IVF is growing in price. As of 2018, the average cost of 1 cycle of IVF ranges between 12,000 and 17,000 dollars, and this does not even include the additional costs such as the storing of your embryos or going for an initial appointment (Yu, 2018). On top of this, many women require more than 1 cycle of IVF, putting their bank accounts at more risk. And no, insurance is not much help, as treatment for infertility is covered by insurance much less commonly than testing is. Only about 15 states have some type of mandate for infertility insurance coverage and “outside of a state mandated situation, when there is coverage for infertility treatment, it is fairly common to exclude IVF or to have a lifetime maximum benefit” (Boulet, 2019). Therefore, how can many families in this country afford multiple cycles of a treatment method that might have less than a 20% rate of success? Because they want a child THAT bad.

Focusing on Figure 4, the rates at which individuals are undergoing IVF has increased drastically over the last couple of years (Yu, 2018).
Figure 4: The graph from the HFEA shows the continuous upward trend in IVF since 1991.

This increase in IVF has many factors. According to a new study published in JAMA, “increasing the number of cycles of in vitro fertilization to more than three or four may boost success rates for infertile women up to the age of 42, with six IVF cycles producing the highest live birth rates” (Smith, 2015). Thus, patients have a right to believe that “IVF takes time”, as more cycles will increase their chances of success. This increase in clarity gives couples a strong desire to keep going with IVF cycles. However, the price of IVF still holds many couples back. As a result, many non-for-profits are gearing together to donate money towards couples to receive more IVF cycles. If you are someone interested in finding funding, be sure to research the BabyQuest Foundation and other local foundations to seek out proper funding. Regardless of funding or success rate setbacks, it should be noted that there are other methods of treatment when dealing with infertility besides just IVF and hormonal medication.
Other prominent treatment methods besides IVF and hormonal medication are noted as surgery, intrauterine insemination, intracytoplasmic sperm injection, gamete intrafallopian transfer, zygote intrafallopian transfer, donor eggs, and gestational surgery. Each method varies on price, ethic, and success, but all aim to give women a chance at a biological child of their own.

Beginning with surgery, there are many surgical procedures that can help fix some genetic defects, open blocked fallopian tubes, remove fibroids, remove the tissue of endometriosis, and treat PCOS (polycystic ovarian syndrome) (UCSF, 2019). Currently, two surgical procedures commonly used to treat gynecological problems are laparoscopy and laparotomy. Laparoscopy uses thin instruments and a lighted camera inserted through several small incisions in the abdomen, while laparotomy is done through a larger abdominal incision (UCSF, 2019). One setback of surgery is that there may be some discomfort in your back or shoulders after a laparoscopy, and you will also have an incision on your abdomen. Looking at success results, however, it all depends on the condition and the patient. Women with minimal or mild endometriosis have about a 40 percent chance of getting pregnant by eight to nine months after some sort of laparoscopic treatment (UCSF, 2019). Between 21 and 59 percent of women whose fallopian tubes are opened do end up conceiving, and women with PCOS who have ovarian drilling surgery have a 50 percent chance of getting pregnant within one year (UCSF, 2019). In discussing cost, these surgeries may cost $2,000 to $10,000, depending on the type of surgery, the anesthesia used, whether the procedure is inpatient or outpatient, and the insurance coverage (UCSF, 2019).
Looking at intrauterine insemination (IUI), this involves depositing a “concentrated amount of sperm from your partner or a donor directly into your uterus, using a catheter that passes through the cervix” (Gulam, 2019). Some side effects may involve cramping, and if you combine this with fertility drugs, you have a chance of having twins (Gulam, 2019). The success rate of IUI has a pregnancy rate of 7 to 16 percent per stimulated IUI cycle, and the cost per cycle is around $865 (Gulam, 2019).

Intracytoplasmic sperm injection (ICSI) is often utilized with an IVF treatment to overcome certain male fertility issues or to help the fertilization process along when it might be a strong difficulty (Boulet, 2015). During ICSI, “a single sperm is injected into a single egg and the resulting embryo is transferred to the uterus” (Boulet, 2015). In terms of side effects, this does not affect the woman, but their partner’s sperm may need to be drawn from his testicle with a microscopic needle or surgical biopsy (Boulet, 2015). With the rate of success, ICSI successfully fertilizes 50 to 80 percent of eggs (Boulet, 2015), and after fertilization, your chance of having a baby is actually the same as that of couples who used IVF without ICSI: 40 percent for women age 34 and under, 31 percent for women age 35 to 37, 21 percent for women age 38 to 40, 11 percent for women age 41 to 42, and 5 percent for women age 43 and over (Boulet, 2015). With cost, add around $1,500 to every round of IVF, therefore making the cost roughly about $12,400 per cycle (Boulet, 2015).

Aside from the prior options, there is also gamete intrafallopian transfer (GIFT), where eggs are mixed with sperm in a lab and laparoscopic surgery is then used to inject the mixture into the fallopian tubes so fertilization can occur naturally inside your body (Eniola, 2017). However, this method has been used less with the growth of IVF. Still,
about 26.5 percent of GIFT cycles result in a baby, which shows a similar success rate to that of IVF (Eniola, 2017). The cost of GIFT is around $15,000-$20,000 per treatment as well (Eniola, 2017).

Like GIFT, zygote intrafallopian transfer (ZIFT) involves your eggs and sperm being mixed together in a lab, but during ZIFT, “your doctor makes sure the eggs are fertilized and become one-celled embryos called zygotes before using laparoscopic surgery to place them in your fallopian tubes” (Eniola, 2017). Similar to GIFT and IVF, the percentage of ZIFT cycles resulting in a baby is about 22 percent (Eniola, 2017).

In looking at procedures using other people’s healthy cells, women can also use IVF techniques with an egg donated by another woman. This egg is then mixed with their partner's sperm and transferred to their uterus (Zadeh, 2018). However, if you use a donor embryo, you must take medications to prepare your uterine lining for pregnancy before the embryo or embryos are transferred to your uterus (Zadeh, 2018). Success rate changes depending on the circumstance. With fresh donor eggs, the rate is about 50 percent, but with a frozen embryo from a previous donor egg cycle, the success rate is about 38 percent (Zadeh, 2018). With embryos created from frozen donor eggs, the success rate about 43 percent, and with frozen donor embryos, the rate is about 37 percent (Zadeh, 2018). The cost of this procedure can be relatively high, as a fresh donor egg IVF cycle can be from $20,000 to $30,000, including compensation for the donor (Zadeh, 2018). Similarly, a frozen donor egg cycle is around $16,000 and a frozen donor embryo cycle is $5,000 to $9,000 (Zadeh, 2018). As another resort, couples might consider surrogacy. With gestational surrogacy, “a gestational carrier carries your embryo, or a donor's embryo, to term and then signs away all her parental rights”
One difficult aspect of surrogacy is that it is legally complex and relatively difficult emotionally, according to many women (Zadeh, 2018). It requires a “considerable amount of money, time, and patience to succeed”, and you may also feel like you do not have control over the pregnancy (Zadeh, 2018). Thus, carefully choose someone you can communicate with. In terms of success, women who used their own eggs and a gestational carrier had these percentages of IVF cycles that lead to a live birth: 49 percent for women age 34 and under, 33 percent for women age 35 to 37, 29 percent for women age 38 to 40, 19 percent for women age 41 to 42, and 11 percent for women age 43 and over (Zadeh, 2018). The cost of surrogacy can be challenging, as most couples work through an agency, which can cost about $150,000 for the entire process (Zadeh, 2018). Of this, about $25,000 to $35,000 goes to the gestational carrier and the rest goes to your carrier's expenses and insurance costs as well as the cost of IVF treatment and legal fees (Zadeh, 2018). With all these treatments, before you rush into one, be sure to consult your physician, spouse, and family to discuss what is best for you biologically, financially, and socially.

On a brighter note, if none of these treatment methods prove to be successful, scientific research geared towards female fertility is not stopping anytime soon. Looking at a handful of ongoing, scientific advancements, the globe is looking to halt infertility utilizing treatment and prevention tactics. As one example, a new artificial intelligence approach by Weill Cornell Medicine investigators claims to “identify with a great degree of accuracy whether a 5-day-old, in vitro fertilized human embryo has a high potential to progress to a successful pregnancy” (Weill Cornell Medicine, 2019). The technique, which analyzes time-lapse images of the early-stage embryos, “could improve the
success rate of in vitro fertilization (IVF) and minimize the risk of multiple pregnancies” (Weill Cornell Medicine, 2019).

In terms of diagnoses, many new and current studies are also looking at ways to combat “unexplained infertility.” According to one 2008 article, “the principal treatments for unexplained infertility should include expectant observation with timed intercourse and lifestyle changes, clomiphene citrate and intrauterine insemination (IUI), controlled ovarian hyperstimulation with IUI, and in vitro fertilization (IVF)” (Quass, 2008). Thus, sometimes a combination of proven treatments will serve to be more powerful in terms of successful fertility.

Similarly, there is growing hope in the world of transplants, particularly with uterine transplants. Currently, uterus donation is only available for women with family members who are willing to donate. However, the first baby was officially born following a uterus transplantation from a deceased donor in December (The Lancet, 2018). The uterus was removed from the donor and then transplanted into the recipient in surgery lasting around 10.5 hours, as the surgery involved “connecting the donor uterus' and recipient's veins and arteries, ligaments, and vaginal canals” (The Lancet, 2018). 7 months after the transplant, the doctors implanted fertilized eggs into the uterus and a successful baby was delivered 9 months later. This procedure is risky and very time consuming, yet it provides immense hope to the growing research in combating infertility.

In summary, while I covered much of what goes on in our bodies, let us not forget that what goes on in our minds is just as detrimental. Many infertile couples may
experience both physical and emotional difficulties. In fact, recent research has shown that infertility is often accompanied by increased psychological distress, and that the stress experienced by many infertile couples may be more a consequence than a cause of infertility (American Society for Reproductive Medicine, 2012).

**Psychological Aftermath**

“‘I don’t even know who I am anymore. I feel like I am going crazy,’ she lamented. ‘I know I want a baby, but what kind of mom am I going to be if I don’t even know who I am right now?’ Her husband had learned the art of silence as she broadcast her current emotional whereabouts. He was never quite sure of who she was going to be any time she walked in the door. He hoped for the woman he had once met, but he was always uncertain of how the artificial hormones were impacting her at the moment. During the dreaded days, he saw a woman he did not recognize. Aware of the sacrifices her body was making, he longed to have his wife back” (Quillet, 2016).

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I like to believe that infertility is a synonym for ‘personal struggle.’ It is like being stuck in an ugly place for a long time and for most, it may never feel like there is a light at the end of the tunnel. According to my interpretation, parenthood is supposed to be the turning point and an uplifting transitioning period for a majority of adults in this world. Nonetheless, the stress of the non-fulfilment of a child has been associated with many horrible emotional adjustments such as “anger, depression, anxiety, marital problems and feelings of worthlessness” (Pressman, 2009).
And while the causes of infertility tend to be strictly physiological, “the resulting heartache often exacerbated by the physical and emotional rigors of infertility treatment may exact a huge psychological toll” (Burns, 2007). For example, one study of 200 couples seen consecutively at a fertility clinic, found that 50% of the women and 15% of the men said that infertility was the most upsetting experience of their lives (Burns, 2007). Another study of 488 American women who filled out a standard psychological questionnaire before undergoing a stress reduction program concluded that “women with infertility felt as anxious or depressed as those diagnosed with cancer, hypertension, or recovering from a heart attack” (Burns, 2007). Therefore, much of the scientific community is connecting infertility to psychological pain.

Furthermore, less research has been done on men's reactions to infertility, but they tend to report experiencing less distress than many of their female counterparts. However, one study found that men’s reactions may depend on whether they or their partners are diagnosed with infertility (Cousineau, 2007). When the problem is diagnosed in their wives or partners, men do not report being as distressed as the women do. Yet, when men learn that they are the ones who are infertile, “they experience the same levels of low self esteem, stigma, and depression as infertile women do” (Cousineau, 2007). Generally, for majority of infertile couples, women show higher levels of distress than their male partners (Pressman, 2009). However, it should be noted that both men and women experience a greater sense of identity loss and have never-ending feelings of “defectiveness” and “incompetence” (Pressman, 2009). As mentioned above, women trying to conceive often have “clinical depression rates similar to women who have heart disease or cancer,” which is why I am focusing on the mental
health of struggling women (Burns, 2007). Why is the loss of fertility the most agonizing experience of a woman’s life?

According to one study done in Sweden, there were three separate factors that seemed to contribute the most to the psychological stress women experience with their infertility. The three factors, in order of importance for the women were, "Having Children is a Major Focus of Life," "The Female Role and Social Pressure,” and "Effect on Sexual Life" (Nachtigall, 1992). Oddly enough, the third factor was the only factor that shared equal importance for both men and women (Nachtigall, 1992). Similarly, it was also shown in the study that women “experienced their infertility more strongly than the men” in terms of describing infertility as a personal attack (Nachtigall, 1992). Lastly, Nachtigall’s study concluded that women also showed a more intense desire to have a baby than men, which could possibly explain why women are experiencing a stronger setback and a deeper pain than their male partners. Therefore, this feeling of “sadness” and “disappointment” is almost always present when you are a woman struggling with your fertility, as your fertility can affect all aspects of life.

For starters, please remember that it is normal and acceptable to feel sad when dealing with fertility challenges. These emotions can be caused by a number of things, like a negative pregnancy test or an invitation to another baby shower. You may also experience sadness, frustration, or disappointment when your period arrives or after a miscarriage. Moral of the story, when struggling with infertility, everything might have a “saddening” effect on your mental stability, so be sure to check-in with yourself and know when it is time for help. Clinical depression is seen in many women struggling,
and may even become worse if infertility continues for a long time. One study in the early 1990s found significantly higher depression scores in women who had experienced fertility problems for two to three years and lower levels in those who had been coping with the issue for a year or less (Domar, 1992).

Depression during your period of struggle could be brought on by a number of harmful sources out of your control. A woman dealing with infertility can feel opinions from family and friends, coworkers, and complete strangers. You might be bombarded with questions from relatives who do not understand what is “wrong” or who say insensitive things. You can also be pestered by people wondering “when you are going to start a family.” In particular, holidays and family gatherings, like birthday parties, can be especially hard when children are the focus. Thus, depression has the potential to make its way into all life events, hence making the symptoms never ending. You could be “living with fatigue” that makes it impossible for you to face other responsibilities; you may be “weighed down” by feelings of guilt or worthlessness; or you might “feel numb” and empty (Weschler, 2015). Symptoms can be physical as well, “disrupting the quality of sleep, causing aches and pains that seem to have no specific cause and triggering overeating or weight loss” (Weschler, 2015). Therefore, we must consider that depression symptoms may contribute to continued infertility. Stress and other forms of intense anxiety, such as depression, may also affect when ovulation occurs (Weschler, 2015). Weschler also states that “one of the most common causes of delayed ovulation is both physiological AND psychological stress.” Speaking physiologically and psychologically, when stress affects the hypothalamus, this can delay secretion of proper reproductive hormones that are necessary to release the mature ovum (Weschler, 2015).
Similarly, catecholamines, prolactin, adrenal steroids, endorphins, and serotonin all affect ovulation and in turn are all negatively regulated by stress (Weschler, 2015).

Aside from physiological effects, stress may also affect your behavioral patterns. For example, depression-induced overeating, and the weight gain that comes with it, can decrease fertility and women who self-medicate depression with alcohol or smoking can be less fertile as well (Pressman, 2009).

If you believe you are struggling with depression, please remember that it is highly recommended that you seek help. If you are still going through fertility treatments, it is critical to work with both your fertility specialist and your mental health professional to determine if antidepressants are right for your state. Researchers now believe that “selective serotonin reuptake inhibitors (SSRIs) decrease pregnancy rates in women undergoing fertility treatments” (Domar, 2012). In addition, this 2012 study suggested that the drugs may raise the risk of miscarriage, preterm birth, and other neonatal complications, including heart defects (Domar, 2012). Yet, in very serious cases of depression, especially those that include suicidal thoughts or actions, it may be necessary to put fertility treatments on hold while using antidepressants to help your brain chemistry and overall mental stability get back into balance.

Aside from all the new drugs on the market, we must remember that medication is not the only option for treating depression. In fact, cognitive behavioral therapy (CBT) has been shown to be more effective than medication in treating infertile women (Faramarzi, 2008). In Faramarzi’s 2008 study, one group of women attended 10 CBT sessions to restructure their thinking patterns and receive relaxation training; 79% reported significant reduction of depression symptoms. In contrast, just 50% of a group
treated only with the antidepressant fluoxetine reported fewer depression symptoms (Faramarzi, 2008).

Regardless, therapy is also very essential for treating depression symptoms in cases where it becomes clear that a pregnancy may never actually happen. Because this is everyone’s worst nightmare, this can be a very severe reality to grasp and it is a reality that some women dealing with infertility may eventually need to face. Please note that a therapist will and can help you work through the emotions so you can cope with a different kind of future in a healthy way. Furthermore, a positive of therapy is that there should be no recorded side effects of medication. While yes, medication may be necessary to treat your psychological distress, please note that this may come at a cost. For example, the synthetic estrogen clomiphene citrate (Clomid, Serophene), frequently prescribed because it improves ovulation and increases sperm production, “may cause anxiety, sleep interruptions, mood swings, and irritability in women” (Gameiro, 2017). Oddly enough, these side effects have not been documented in men as of now. Other infertility medications, particularly those that are hormone-based, have also been linked to cause depression, mania, irritability, and thinking problems (Gameiro, 2017). Patients and doctors may find it hard to figure out which reactions are psychological and which are caused by medications, yet it should still be documented that certain infertility medications may take a toll on your physical and mental health.

Apart from depression, other psychological disorders have been documented in many infertility cases. One 2008 study tried to determine the prevalence of psychiatric disorders in infertile men and women undergoing in vitro fertilization treatment. Participants attended a fertility clinic in Sweden for a two-year period and underwent
the Primary Care Evaluation of Mentor Disorders (PRIME-MD). The results showed that “any psychiatric diagnosis was present in 30.8% of females and in 10.2% of males in the study sample, any mood disorder was present in 26.2% of females and 9.2% of males, and any anxiety disorder was encountered in 14.8% of females and 4.9% males” (Volgsten, 2008). The article also concluded that mood disorders, such as bipolar disorder, schizoaffective disorder, cyclothymia, and other conditions that affect a woman’s emotional state, are among the most presently seen side effects in women struggling with infertility (Volgsten, 2008). Similarly, “only 21% of the subjects with a psychiatric disorder received some form of treatment,” showing the importance of seeking help whenever you are able to (Volgsten, 2008).

So, why are women experiencing such a power psychological crisis? Because if you are infertile, you feel powerless. You feel powerless to change your life in a way that other people have no difficulty changing. There are certain emotions, such as hurt, that the public will be able to see. Yet, lying beneath it all are emotions you don’t want anyone to know about. Grief and denial? Present. Sadness and hatred? Present.

However, researcher Cathie Quillet believes there are six main emotions every woman struggling with infertility will experience. Those six are as follows: rage, pain, sorrow, disappointment, fear, and apathy (Quillet, 2016). And because these emotions may not be expressed publicly, it is no wonder that those closest to us struggle trying to support us: because they have no clue what is going on in our minds. From here, we are left feeling alone.

It is impossible to grasp everything that goes on in the mind of a woman struggling with infertility. However, early psychologists have a beginning step to do just
that. Erik Erikson, a psychologist from the 60’s, used the word “generativity” to express “the human need to take care of a child and be responsible for its upbringing (Christie, 1998). With this, generativity implies a “primary interest in establishing and guiding the next generation” (Christie, 1998). Erikson claimed that this meant that we have not only the capacity to take responsibility for our own lives through a sense of self, but also “the emerging ability to lose ourselves in a meeting of bodies and minds” (Christie, 1998). According to Erikson, these achievements in a woman lead to a “gradual expansion of her interest and instinctive investment to include a child, which has been generated and accepted as a responsibility” (Christie, 1998). Thus, since the 1960’s with Erikson, many psychologists claim that women who struggle with fertility feel irresponsible and, in a sense, a failure.

Psychologically, this sense of failure and irresponsibility takes a toll on our daily lives and our daily interactions. In particular, reactions between you and your spouse, family, friends, and physician can struggle.
Figure 5: Data taken from USNews in 2014, showcasing the relationship between Total Fertility Rate and Divorce Rate per 1000 people.

The above graph was taken from USNews in 2014 and shows a relatively parallel pattern between fertility rates and divorce rates. As the Total Fertility Rate declines, the Divorce Rate per 1000 increases, and vice versa (Firth, 2014). Similarly, a study of 47,500 Danish women found that those who don't have a child after treatment are “three times more likely to divorce or end cohabitation with their partner than those who do” (Kjaer, 2014). Beginning with the relationship between the woman and her spouse, it is challenging. Trying many times to conceive can cause anger and tension, but also has the ability to bring couples closer together. In terms of the most common relationship challenges brought out by infertility, studies concluded the following to be the most common: sexual stress when trying to conceive, disagreements on when to seek help, disagreements on whether to tell other people, fears that it is “your fault” and your partner will leave, tension and resentment over “who has it worse”, misunderstandings on different coping mechanisms, financial strain, and differences of opinion on moving forward (Cousineau, 2007).

Starting with sexual stress, a new study from Stanford University found that 40% of infertile women suffered from sexual problems with their spouse that caused them distress, compared with 25% of a control group of healthy women, as many women experienced low desire and had trouble becoming aroused (Millheiser, 2010). In the study, researchers noted that “sex, rather than being a place where you can escape the world, becomes a reminder of what you can’t do. You can’t make a baby” (Millheiser, 2010). Similarly, stress from sexual relationships is even more common for couples who
are trying to time the intercourse for their most fertile time. Stanford's research found there to be an increase in sexual dysfunction, both for men and women, when timed intercourse was used to get pregnant (Millheiser, 2019). Thus, since sexual intercourse is usually a way to feel closer to your partner, stress in your intimate sense of life can affect the tension of your overall relationship.

As more stressors, disagreements on when to seek help and disagreements on who to tell can arise. Whether you are the husband or the wife, the one with the infertility or not, every individual involved in the process of infertility will come from a different perspective. Thus, it is no surprise that individuals differentiate on when and where help is needed. To assure some sense of direction, if you’ve been trying to conceive for one year, your doctor suggests that you should immediately see the doctor after a year has passed. Yet, if you are 35 years old or older, the doctor recommends to seek assistance after six months. Similarly, if either of you have obviously painful symptoms or risk factors for infertility, you should schedule a doctor's appointment right away. Regardless, when one of you wants to get help now, and the other wants to wait, there will be conflict. This conflict could possibly be resolved through research and the above recommendations. Similarly, when debating on whether or not to tell other people, everyone has a different grasp on the situation. With the exception of single men or women trying to have a baby with a donor of sorts, infertility is usually a couple’s problem. Thus, talking about the struggle with other people is a decision you should make together. The partner who does not want to share their experience with others may feel more embarrassment or guilt. The one who wants to talk to others about their fertility may be lacking social support and feel isolated. If you and your partner are not
on the same page with public advertisement, there could be some sense of resentment or judgment towards one another.

Two other conflicts that could arise come from fear of it being “your” fault and also resentment over “who has it worse.” A common fear many individuals reveal is that their partner may leave them if they are the infertile one (Cousineau, 2007). Thus, the best way to deal with this fear may be to put it all out there and talk about these fears. Oddly enough, research has found that those who resort to self-blame and criticism, tend to have higher levels of infertility stress (Tao, 2012). Similarly, researchers suggest that some individuals choose self-blame as a way to take stress away from their spouse, but this type of thinking can hurt relationships (Tao, 2012). Likewise, resentment over “who has it worse” may inevitably arise. A phenomenon of “Pain Olympics” could show up, as couples may differentiate in their thought process of who is suffering more (Tao, 2012). Many may think the individual who is infertile has it worse, many may think the one who has to have surgery has it worse, many may think the male who has to ejaculate in a clinical room has it worse, and many may find the female with invasive fertility measures to have it worse. In sum, both partners involved will struggle with equivalent levels. Thus, try to take away the self-blame and the comparisons.

A difference in coping mechanisms may appear as an issue as well. We all cope with stress differently, and therefore, studies have found that there are gender differences in the way people cope with infertility (Peterson, 2006). From here, there is only room for misunderstanding. One partner could accuse the other of “not caring enough” if they are more silent with their coping, or one partner could accuse the other of “overreacting” if they are more expressive with their coping. Along these lines, studies
found that “women are more likely to experience marital stress than men, regardless of the infertility cause” (Peterson, 2006). However, this by no means implies that men don’t care. It just means that, statistically speaking, men’s relationship stress from infertility is lower.

The final two issues that cause great stress in couples are a sense of financial strain and differences in moving forward into next steps. Because infertility can quickly get expensive, arguments over money are not uncommon. As stated in my prior Biological section, co-pays, fertility tests and treatments are not covered by insurance. Not all couples require IVF treatment, but those that do can experience long-term financial stress, as statistically speaking, almost 80% of couples that go through IVF need to borrow money (Peterson, 2006). From here, the financial stress of infertility can follow a couple for quite some time, even after treatment. Thus, arguments can arise over whether to pursue more treatment due to costs, whether and how to borrow money, and whether to skip treatments and quickly adopt (Peterson, 2006). Along these lines, there may be differences of opinion on moving forward. These disagreements can come from debt and bills, but also from the discomfort of treatment overall. Couples could disagree on whether to take a short break from the overwhelming treatment or whether to keep trying or whether to stop completely. They could also disagree on the pursuit of adoption or being childless. Thus, many fertility clinics require couples to speak to a fertility counselor before pursuing donor or surrogacy or other intense fertility treatments (Tao, 2012).
Regardless, while some research has found that men and women faced with infertility may be more likely to feel dissatisfied with themselves and their marriages, other studies have found that it can bring couples closer together (Peterson, 2006).

Aside from the role of marriage, many have tried to research the relationship between women and their mothers/family. A number of studies have found that “infertile women had repressed hostile feelings towards their own mothers, warded off by a defensive overprotectiveness, like an obligation to maintain daily telephone contact with them” (Christie, 1998). Similarly, women also felt a subconscious sense of resentment, implying that it is “not fair” for them to experience an entirely different path than their mothers (Christie, 1998). Personally speaking, I believe this could come from a fear of judgment, again showing that women may feel pressured by family to continue the lineage. This pressure may come from your in-laws, your own parents, grandparents, siblings, or other family members. One of the primary issues, according to natural fertility expert Nat Kringoudis, is a knowledge gap between the two age groups (Molloy, 2015). “If you rewind 50 years not people didn’t talk about the inability to have children,” she says. “We also handle a diagnosis differently. The older generation took a doctor’s word as a given, whereas people today have more knowledge of the workings of their bodies” (Mollowy, 2016). She warns that many “prospective grandparents” assume IVF is a sure fix, which is not always the case (Molloy, 2016). Moving forward, more pressures from families will be touched on in later portions when discussing familial traditions in terms of cultural expectations.

Apart from family, friends and co-workers may also contribute to your emotional distress when undergoing infertility struggles. As newly-weds or any sort of serious
couple, many will be asked the infamous question, “When will you two start having kids?” This question can hurt. It is not as if your friends are purposefully trying to spark unwelcome feelings, as they may not know that you have already been trying for months. Yet, many women have reported feeling envy and anger towards their expecting friends, questioning “why her and not me?” (Van den Broeck, 2010). It should be noted that this jealousy and envy is less about your friend or co-worker's pregnancy, and more about your own grief over your own infertility (Van den Broeck, 2010). Infertility is a frustrating, difficult disease to face. Thus, when those around us have an easier or more graceful time having a child, Van den Broeck says we experience “Pregnancy Envy”. This envy is expected, as how can the human right of childbirth be granted to your friend and not you? You are not a bad person for feeling this way. It is not that you are not happy for your friend or relative. It is that you are feeling sad for your own loss, an entirely normal reaction.

Lastly, in terms of professional relationships, women struggling with infertility may experience feelings of unhappiness with their healthcare provider. Infertility patients generally see provider-patient communication and relationships as “important, but as often insufficient” (Klitzman, 2018). OB-GYNs and other fertility specialists may provide news that many women may not want to hear. Similarly, patients and providers may differ in their physical and emotional experiences, expectations concerning treatment outcomes and uncertainties, and time frames and finances (Klitzman, 2018). This can then generate tensions and anger towards the ones who are supposed to “cure” the struggling women. Many believe this comes from the notion that “infertility patients tend to find only one outcome acceptable – a “take home baby” – rather than partial
success” (Klitzman, 2018). Similarly, women have reported that it’s important that their physician is friendly and understanding, since the research showed that “patients would trade off 9.8% of pregnancy rate to see a friendly and interested doctor, instead of an unfriendly and uninterested one” (Klitzman, 2018). Overall, women are concluding that their relationship with their physician is important, as they are the ones with the strongest sense of wisdom to provide answers. All in all, physicians have spoken up about their passion for helping women, as one quoted “I’ve lost sleep over patients I’ve grown strongly attached to. I really want them to be pregnant. During those 12 days after the transfer and before their pregnancy test, I’m sweating it out as much as they are” (Klitzman, 2018).

As we have covered all the stressful relationships women may encounter throughout their fertility journey, remember again that this is not the case for everyone. However, to help reduce the psychological stress from many of these potential relationship barriers, psychiatrists recommend everyone involved should work on communication, find ways to connect unrelated to infertility, allow for differences in experience, reach out for social support, sit down and make a plan together, compromise, consider counseling and support groups, and remember that infertility is not forever (Tao, 2012).

In terms of communication, talk to each other. If you feel comfortable doing so, tell the important people in your life about your fears and your worries. Find balance in willingness to talk or willingness to talk less, depending on what form of communication is better for you. Working with ways to connect outside of infertility, try not to let infertility take over your entire communication. Especially in the midst of fertility
testing and treatment, infertility can overpower everything in your life. You may not remember what you talked about before your fertility challenges hit. Again, everyone needs different speeds of communication, but try to incorporate intimacy and love into all relationships you may be apart of, as long as it is not too exhaustive. Similarly, in allowing for differences in experience, try to avoid comparison. Emotional pain is emotional pain, and everyone will inevitably experience some sense of unhappiness. Therefore, everyone involved should attempt to offer one another relationship support, without preconditions or comparisons, to achieve some sort of peace. Furthermore, do not be afraid to reach out for social support. Trying to cope with infertility alone is only going to increase the feeling of isolation (Tao, 2012). You do not have to “tell the world,” so to speak. You can decide to share the information with only specific friends or family members. Just do not attempt to do it all on your own. Moving along, sitting down, and making a plan with your spouse or other important people has been shown to improve marital satisfaction and a sense of understanding in women (Peterson, 2006). Yes, infertility is not “plan friendly”, as you may not know how long or what your struggle will entail. Regardless, it is okay to talk to your loved ones about what you would do if you needed IVF or other surgery, even if those were not on the radar. And it is okay to make those plans, knowing that you may change your minds later. This will allow the important people in your life to know where your head is at and how best to support you. Next, the idea of compromise is very important, especially with marital and intimate relationships. Just as different coping mechanisms, different experiences, and different opinions were discussed earlier, compromise is the only way to assure everyone who deserves a say is being heard. Finally, be sure to consider counseling and
support groups when going through this process. Sometimes, compromises cannot be reached alone. Thus, counselors can help you communicate and reach mutual visions. Whether you see a therapist as an individual, a couple, a family, or as a support group, it can help. Because when you feel supported and listened to, you will feel a stronger sense of peace.

When struggling with the psychological pain of infertility, remember that infertility is not forever. I know I may not have the right to say that, but it is true. A woman may or may not have children one day, but she will not be struggling to conceive forever. Research has found that feelings of depression and anxiety peak in women around three years post-infertility diagnosis (Tao, 2012). However, six years post-diagnosis, couples are feeling stronger, and depression and anxiety symptoms lessen in women (Tao, 2012). I, as well as the researchers, believe your relationships can survive the tough and temporary challenge of infertility. With time, treatment, and possibly counseling, your attempts to conceive for years can bring you closer to your loved ones. Eventually, you’ll either have a child or stop trying to conceive, but there is life after infertility.

However, speaking psychologically, I still will agree that it’s the lack of closure with infertility that can hurt the most. Women struggle every day escaping their mind, but it can sometimes be just as hard to escape the cultural expectations women may face everywhere, they go.
Cultural Expectations

“Over the past several months, Amelia’s Google history had become a reference of her despair: ‘can’t have children, reasons for infertility in women, reasons for infertility in men, discussing infertility with husband, price of surrogate mothers, signs of depression, adoption agencies, infertility support groups…’ The endless searches only provided two categories of results: medical sites that took pride in listing every worst-case scenario, and blogs written by white women with phrases like ‘silent suffering’ and ‘living with uncertainty,’ mixing in Bible verses about God’s grace, none of which filled the void or helped Aimee ignore the fact that Mother’s Day was a month away and she would have to watch her family celebrate the one thing she wanted most and might never have.” – Jake Vander Ark.

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**Figure 6:** Data taken from the Centers for Disease Control and Prevention in 2017, displaying the rate of Total Fertility in the United States.

Women are delaying childbirth. The average age at first birth increased from 21.4 years of age in 1970 to 26.3 in 2014, while the percentage of women giving birth to their first child at age 35 years or older has increased from 1% to 9% (Matthews, 2009). Similarly, in reference to the above Figure from the Centers for Disease Control and Prevention in 2017, the graph displays that as time goes on, the average number of children per one woman is decreasing rapidly in America (Chandra, 2014). More so, Figure 6 shows that the Total Fertility in the United States is nearing a historic low. Why? And how are we as a society adjusting to this?

If you don’t mind, let me ask you this: Why do you want to have a child? Is it because every family member has children? Is it because your peers keep asking you to have one? Is it because your favorite celebrity just had a child? Is it because your spouse would like one? Is it because you are bored? Before you attempt to conceive, ask yourself these questions. Make sure you want a child for all the right reasons and fully understand that this decision should be made by you and only you. After all, it is your body and your life, so do not lose track of the one in charge. Still, I acknowledge that this can be easier said than done.

Touching back on the prior statistics, approximately 70-80 million couples worldwide are currently struggling with infertility, and it can be estimated that tens of millions of couples are primary infertile (have been trying for at least a year) or childless (Boivin et al., 2007). And despite the fact that 30% of infertility are male-related, 30% are female-related, and 40% are related to both or to unknown causes (Boivin et al.,
Still, with these percentages, “in some communities the childbearing inability is almost always attributed only to ‘woman’ and ‘women are often blamed for infertility even if the cause of infertility does not relate to them’” (Hasanpoor-Azghdy, 2014). Thus, it is safe to assume that women face a different cultural expectation than their male counterparts.

For most people, having children is immensely important, as not being able to have them demonstrates a major life problem. This major life problem has side effects, as we have seen the reported outcomes of being “childless” to be noted as “distress, raised depression and anxiety levels, lowered self-esteem, feelings of blame and guilt, somatic complaints, and reduced sexual interest” (Greil, 1997). And, for a small number of women and men in the Western world, these effects are at a “clinical level” or can be considered extremely serious (Greil, 1997). Therefore, this major life problem stems from biological pain and psychological pain, yet we often forget that social and cultural consequences are rarely mentioned in terms of the agony felt, despite their significant influence. It should come as no surprise that there is an inbred pressure for women to have children in today’s society. When we meet a woman between the ages of 30 and 50, and she does not have children, our initial instinct is to ask: “why?” Why is that? Because having children is considered a social norm, and whenever you break the social norm, society is not pleased. It is as if women are only seen as fulfilled if they have children, and when they choose to go against the “traditional family structure,” many may view them as destructive to cultural expectations.

Consequently, as a result of this “high” value of children in society, the social consequences of infertility can be severe. Gossip and social stigma are noted to afflict
many women’s lives without their consent, and the judgment is continuous. For many, it feels as though no matter what they accomplish in life, their “lack of children” is still a focus for many of their family members and loved ones. More importantly, no matter what levels of success women go on to reach, many socio-cultural institutional setbacks have been put in place that inevitably judge women and their uterus.

With regard to the many social barriers experienced by expecting mothers, black women were more likely to be classified as infertile than white women based on the definition “12 months of unprotected intercourse” (40.1% vs. 33.7%) but less likely to be diagnosed as infertile by “12 months of attempting pregnancy” (14.3% vs. 21.8%) and “visiting a doctor for help getting pregnant” (8.4% vs. 19.7%) (Jacobson, 2018). This inherent racial bias was recorded in many studies, showcasing the additional setbacks that women of color may face in the world of infertility and the world of equal healthcare. Similarly, the fertility options for LGBTQIA+ couples remain limited. Currently, there are two primary treatment options for lesbian couples that would like to have a baby: 1) Intrauterine insemination (IUI), also known as artificial insemination, uses donor sperm from an anonymous or known donor and 2) In vitro fertilization (IVF) can be used with donated sperm for fertilization (Jacobson, 2018). Similarly, one study looking at the fertility experience of lesbian couples found that the lesbian pregnancy experience is characterized by “the use of donor insemination, social discrimination and a dependence on peer rather than family networks for social support” (Wismont, 1999). Based on these socio-cultural constraints, the researchers then proposed that the lesbian couple is faced with greater barriers than heterosexual couples to achieve the developmental tasks of “safe passage” and “acceptance by others” of the pregnancy.
Thus, members of the LGBTQIA+ community have limited methods for fertility treatment and limited social support, a trend that the scientific and general community should continue working on.

Aside from social setbacks, family pressures may also seep their way into the lives of many current women. Infertility and any sort of childlessness is generally an ‘interruption’ to the family life cycle, as families feel the need to foster a new generation (Parry, 2005). As proof, when asked to reflect on their “conceptualizations of family” prior to experiencing infertility, a study of women described a traditional family structure including “two married parents and biological children” (Parry, 2005). This traditional view of “family” is continually reflected in today’s modern society, as the notion that “family” consists of two married, usually heterosexual parents with children is still very prevalent. Children are then perceived as the “missing piece to the puzzle” of a modern family. However, these children are also assumed to be strictly biologically related to their parents. Research refers to this need for biological children as a “blood bias,” defined as “the assumption that blood relationship is central to what family is all about” (Parry, 2005). Thus, when women struggle with infertility, there is a sudden fear of going against the blood bias. From here, the above traditional ideology of family is what eventually led to the “social construction of infertility as a problem requiring high technology medical treatments to produce a biologically related child” (Parry, 2005). Consequently, women feel a sense of expectation from their own family members who chose the traditional, “ideal” route in reaching a family structure. A 2011 study even found that the depression rates of an infertile group among the women who have pressure from family for not getting pregnant was “higher than in the women who have
no pressure of the same group” (Al-Homaidan, 2011). Thus, these notions of “family” should be more dynamic than static, as everyone has a different definition of family and a different way of getting there.

Looking at perspectives on partner expectations, motherhood is seen to be extremely significant in many traditional societies, since “women’s reproductive capacity is something which women consider their source of power, and as defining their identity and status” (Widge, 2002). Along these lines, many of us seldom talk about the male role in parenting. In proposing why that is, it is necessary to discuss the certain gender roles put in place in many of our societies. Speaking on behalf of the United States, the work pathways of men and women were found to “diverge as parenthood approaches and diverge even further after childbirth” (McGinn, 2017). When questioning this, it is important to note that researchers found that “people in low-power positions, whether due to gender or class, tend to exhibit other-oriented rather than self-oriented behavior” (McGinn, 2017). Therefore, because of the inequality women face in terms of power structures, they are more likely to orient their lives around others before themselves. On the opposite spectrum, men reportedly live a more self-oriented lifestyle, therefore increasing the lack of male involvement when it comes to child rearing. This sense of generosity that manifests through women’s behavior may be less of a choice and more of an expectation. In other words, society has implemented intense expectations of child rearing for women. For example, many women are given baby dolls as childhood toys. These gifts have almost an instant effect on young girls, teaching them that they must be nurturing to children over time. As these young girls grow into adults, the sense of nurture manifests through other-oriented behavior.
Therefore, women are expected to be child-rearers, thereby causing a different expectation amongst men and women.

Furthermore, focusing on workplace expectations, worries of job security begin to surface when women choose to pursue maternity leave. According to a 2012 study, “49% of mothers and 27% of fathers experienced discrimination at some point during their pregnancy or return to work” (Broderick, 2012). Similarly, it was discovered that a pregnant woman was “more likely to experience discrimination in a large business than a small business, and in a male-dominated workplace” (Broderick, 2012). Lastly, when experiencing discrimination or shame, “91% of women did not report it to either their place of employment or a government agency” (Broderick). This shame was predicted to result from an underlying sense of judgment, viewing pregnant women as lazy or selfish or unfocused in their careers. Thus, the declining birthrate in the U.S. could be partially due to workplace discrimination and the lack of job security women experience. Along these lines, discrimination from male coworkers also occurs when it comes to breastfeeding. This could possibly induce other feelings of shame experienced by potential mothers, reducing in some the desire to procreate. Similarly, referring back to women struggling with infertility, as discussed in the Psychological research section, there can be competition experienced in the workforce when many of the women around the workplace are getting pregnant and throwing baby showers. Lastly, many have concluded that motherhood and infertility “cost” women more than men. Focusing on finances, research has found that “parenthood contributes to the gender pay gap” (Sin, 2018). With this national gap, researchers believe it penalizes all women, particularly
those who are on high incomes, and sets them “on a trajectory of lower lifetime earnings relative to their male peers” (Sin, 2018).

**Figure 7:** Data taken from 2018 shows strong evidence of the gender pay gap for women after childbirth.

Looking at Figure 7, after children are born, across every pre-parenthood income quartile, “employed women experience decreases in monthly earnings when they have children, while men do not” (Sin, 2018). In sum, the decline in earnings and pay could also contribute to the decline in fertility across the globe. Consequently, the cost of childcare is continually rising, thereby forcing parents to consider sacrificing their employment to stay home with children as a cheaper option. As we touched on earlier, this sacrifice is usually made by females.

Outside of the workforce, media outlets do not make the struggle of infertility any easier. It is no secret that celebrity baby watches are common, with frequent reports on
everything from “how much weight this pop star gained” to “what kinds of baby gear a
certain celeb is stocking up on.” If you are struggling with infertility, this makes it seem
as though everyone is getting pregnant, and once again, you feel cursed and alone.
Nevertheless, I also would like to draw attention to the positive, progressive portrayal of
infertility in the media.

Particularly with regard to television, women struggling with infertility can feel
particularly isolated, and that isolation can be magnified by the way pregnancy is
typically addressed on-screen (Gannon, 2014). Movies are prone to show couples getting
accidentally and effortlessly “knocked up,” or even couples being surprised with twins
when multiple babies were not even on their radar. While all these scenarios are very
routine, the actual heartbreak of struggling to conceive is significantly rarer in film.
Luckily, television series and films such as “Sex and The City,” “Friends,” “Baby Mama,”
“Juno,” “The Help,” and a few others are breaking the status quo, showing realistic
portrayals of the rollercoaster that is infertility.

Continuing on, while much of the prior Biological research provided has touched
on assisted reproductive technology (ART), I would like to draw attention to the process
of adoption. While struggling with infertility, it can be easy for those around you to
suggest adoption. After all, the most recent estimate shows there are approximately 140
million orphans in the world (CAFO, 2018). Thus, many couples who struggle with
infertility may be asked the question of “Why don’t you just adopt?” Many infertile
women spoke up about their thoughts toward adoption, usually labeling it as a “last
resort” for many (Daniluk, 2003). According to one study, about half of a sample of
women (59/105) said there was an “importance of a genetic link” (Daniluk, 2003).
When asked why this is, 50% of women said they were worried about attachment disorders, saying “adopted children may never feel like they know who they are or where they belong” (Daniluk, 2003). Similarly, adoption from a private, trustworthy agency can cost upwards of $50,000, a cost many couples cannot even comprehend, as IVF is statistically cheaper (Daniluk, 2003). There are also separate ethics behind transracial adoption, suggesting that the differences in cultural narratives can have “detrimental effects on both children and adults” (Patton-Imani, 2002). Thus, the previously mentioned “blood bias” is strong in many women, as it is true that women have the lawful right to try assisted-reproductive technology in hopes of achieving a biological baby. However, because of the immense number of orphaned children in need of homes, adoption should still be considered as an option. Apart from ART, adoption puts a lesser physical strain on potential mothers. More importantly, adoption is a strongly certain way of fulfilling your dreams of having a child, as it is also an opportunity to provide a child with a loving home. Because adoption, aside from price and the strain of time, is a guaranteed path towards parenting, many suggest it be considered as a potential path taken during infertility.

In discussing other socio-cultural pressures on those with infertility, it is important to note that this pressure is global. In sub-Saharan Africa, research suggests that “infertility increases the risk of psychological distress and marital conflict, encourages risky sexual behavior and deprives infertile individuals and couples of an important source of economic and social capital” (Fledderjohann, 2012). Fertility is ingrained into the Sub-Saharan African culture, as it is the sole passage for familial and cultural traditions. Thus, women feel it mandatory to reproduce, and infertility does not
seem like an option. Similarly, in India, which is mostly a patriarchal society, “motherhood has connotations of respect and power” (Widge, 2002). Since a woman is then seen to be defined by her fertility, it is as if she internalizes this motherhood role to the extent that if she is infertile, she feels “worthless.” According to one 2011 article, children in Indian society are looked at as a “source of labour, income, happiness and security in old age,” and because of this, procreation still remains an important factor in the socioeconomic well-being of most Indian women (Shamila, 2011). Consequently, much of the Indian tradition demands that all marriages must result in children, preferably males, as there is a strong desire for men to continue the family lineage (Shamila, 2011). This inherent pressure from a long-lived tradition puts many Indian women in a hurtful, fearful place when working with their infertility.

Aside from Sub-Saharan Africa and India, infertility in many European countries shows similarity to the United States. In western Europe, the rate of infertility is reported to be around 10-12%, and there is also a reported delay in child-rearing (Nygren, 2006). Because Europe has a comparable amount of female employment and development to the United States, research suggests that the behavior of European women is translatable to women in the U.S. (Nygren, 2006). Thus, the same socio-cultural factors that have an effect on the American fertility rate may also be affecting Europe.

Concerning developing countries, most societies are organized such that children are “necessary for care and maintenance of older parents” (Rutstein, 2004). Even in developed countries with social support systems, children and families are expected to provide most of the care for the elderly. Childless couples are also “excluded from taking
leading roles in important family functions and events such as birthdays, christenings, confirmations, bar mitzvahs, and family weddings” (Rutstein, 2004). Similarly, many different religions assign important “ceremonial tasks”, such as baptisms or christenings, to the couple’s children (Rustein, 2004). Thus, infertility is again not a socially acceptable option in many developing countries. As proof, by ages 45 to 49, only three to six percent of sexually experienced women in developed countries have not attempted to birth a child (Rutstein, 2004). Yet, infertility is always prevalent, as the study estimated that in 2002, “more than 186 million ever-married women of reproductive age (15 to 49) in the developing countries (excluding China) were infertile because of primary or secondary infertility” (Rutstein, 2004). Therefore, when experiencing infertility in a developing country, many women find themselves feeling like outsiders because of the social norm of reproduction.

Statistically speaking, infertility prevalence was reported to be highest in South Asia, Sub-Saharan Africa, North Africa/Middle East, and Central/Eastern Europe and Central Asia (Shamila, 2011). And yes, approximately 50 to 60% of all infertility cases “can be treated if the couple has access to expert medical care” (Gannon, 2004). However, each country has its own degree of medical care, therefore limiting the options of others as to whether or not infertility can be treated. This inequality puts different strains on women across the globe, making them feel isolated and misunderstood.

In digressing, the trends of global infertility are so broad and complex that each country would require its own thesis to accurately summarize the big picture of infertility. Therefore, it is impossible to summarize an entire country’s culture and expectations. The point I would like to make, however, is this: In the face of all this
controversy, remember that we cannot do it all in life. Women must make difficult choices, and with each path taken, there is another that must be left behind. The more awareness we have of WHY we are choosing a particular lifestyle, the less we will experience uncertainty in the face of all this pressure. And with these societal pressures, we should know that the socio-cultural setbacks may be to blame for the decline in fertility practiced in the United States.

**Figure 8:** The above graph was taken from gapminder.org to display the celine in total fertility trend in the United States in comparison to other global countries.

Looking at Figure 8, the United States has shown a rapid decline in fertility over the years. As we have touched on the socio-cultural pressure’s women face, we must remember that as society and technology advances, our independence for reproductive rights will follow. Still, regardless of birth control or women’s rights, there is still an
inherent sociocultural pressure given to women globally. When coping with this pressure, do not be afraid to stand up and talk. Whether it be to a counselor, your spouse, your family, a News platform, in a blog, in a book, or to yourself, having children is your decision and your voice should be heard.

In sum, societal pressures intensify the pain of infertility. In many religions, countries, and cultures, our worth and power as women are measured by our ability to procreate. Some of us may be viewed as irresponsible for having “too many” children, while others are pitied or perceived as not being truly fulfilled if we choose not to or are unable to bear a child. There seem to be many reasons for the importance given to biological children in society, as it is almost assumed that the desire to have children is “normal,” and parenthood is part of our “natural order.” Some childless women might not be that enthusiastic about motherhood but want a child to satisfy their in-laws or husband, or experience pregnancy/childbirth. Some are under external pressures to have children (as in India). For some, a child gives them a routine and a chance to be apart of a normal, daily lifestyle. And for other couples, a child is like an achievement. For a few men, having a child is used for proving their sexual potency, but it is almost more important for women; for them, there is a link between femininity and fertility. Motherhood also gives women a female adult identity and a “reputation of a responsible human being” (Gannon, 2004).

Generally speaking, there is no doubt that children provide emotional satisfaction, make life interesting, and for some, provide a reason to achieve something bigger than themselves. People want children because it is almost like a biological need, as they want to see a part of themselves in their child. Having a child for some couples
affirms their love for each other as a child is seen as a binding factor. A child is also looked upon as someone who helps an urban middle-class housewife spend her time, “since the child occupies her and gives her status in society, she also has something to talk about with other women” (Boivin, 2007). Thus, regardless of experiences or backgrounds or culture, children are precious resources. These resources are irreplaceable, as children are seen as a centralized, necessary sources of happiness in today’s culture. Regardless, there is truth in knowing that children don’t define you. The choice, method, or path you take in working with your infertility is entirely in your hands.

**Qualitative Data**

“Of course, not every family dealing with infertility is the same or is going to look the same. Who is the poster child for infertility? Whether you’re single, married, gay, straight, black, white, Hispanic, or something in between — we all know the same heartache.” - Dresden Shumaker.

Aside from prior research obtained from outside sources, I took it upon myself to collect data from over 265 randomized women between the ages of 18-50. An anonymous survey was completed by the women using the Mechanical Turk, with the monetary award of $1.50 per survey. The survey took around 10-20 minutes to complete, and asked participants questions about their biological, psychological, and cultural perspectives revolving around their personal experiences with fertility.
Beginning with the biological perspective, roughly 40% of participants said they experienced issues with conceiving. Around 30% said they did not experience any issues, and the remaining 30% did not feel comfortable answering. In terms of attempts, around 20% of participants said it took them between 2-5 attempts to reach pregnancy. 10% of participants said it took between 5-10 attempts, and another 7% said it took them more than 10 attempts to reach a completed pregnancy. 35% of individuals said it only took them between 0-2 attempts, and then 7% said they were never successful in completing their pregnancies. Another 32% of the women did not feel comfortable answering the question.

In discussing methods of treatment, around 13% did not use any sort of treatment besides repetitive sexual intercourse. 12% of women used natural remedies such as diet and weight-loss. 3% of women used intrauterine insemination (IUI), 7% used invasive surgery to fix some sort of obstruction, around 8% used hormonal medication, around 9% used in vitro fertilization (IVF), and around 5% used a combination of treatment methods including ovulation kits, artificial insemination, hormone therapy, and surgery simultaneously.

Finally, in answering whether or not they were successful after the above treatment methods, around 11% said “No they were not successful”, around 32% said “Yes they were successful”, and the remaining 50+% did not feel comfortable answering the question.

Looking at the psychological perspective, I asked participants to discuss their relationships with themselves and those around them after experiencing the setback of infertility. When evaluating their interactions, I used a ranking scale of 1-5, 1 meaning
positively affecting their relationship and 5 meaning negatively affecting their relationship. Beginning, with how fertility issues affected their relationship with their spouse/partner, 14% ranked a 5, 21% ranked a 4, 42% ranked a 3, 18% ranked a 2, and 5% ranked a 1. Thus, roughly 35% said it affected their relationship in a negative way, 42% remained relatively neutral, and 23% said there was a positive effect.

Furthermore, participants had the opportunity to comment on their decision, and a few standout comments can be seen below:

- “Negative in beginning but brought us closer through the process”
- “The pressure to conceive put a strain on our relationship”
- “There were many supportive elements but it was very stressful. That's why I picked 3 instead of 1 or 2. It ended up bringing us closer together but for a time I thought my feelings and inability were going to be something he couldn't tolerate much longer.”
- “There was a lot of stress associated with having sex and trying to conceive a baby. It took a lot of the love and feelings of connection out of the act.”
- “It made me feel unwanted and that I was failing. He felt horrible watching me suffer wanting kids so badly.”
- “sex became a chore, both became depressed with failed attempts for years”
- “It felt negative at first, we were put into some awkward situations and forced to have difficult conversations, but in the end I think it brought us closer. The fact that we were eventually successful probably helped.”
Next, I asked participants to rank how their fertility issues affected their relationship with friends and family. Looking at the results. Around 10% ranked a 5, 22% ranked a 4, 50% ranked a 3, 12% ranked a 2, and 6% ranked a 1. Therefore, roughly 32% said they experienced a negative effect on their relationship with friends and family, 50% remained neutral, and around 18% said there was a positive effect.

In commenting on their relationship with friends and family, some participants wrote:

- “The people that we spoke to had often found their relationships with family and friends difficult to manage during their fertility problems”
- “While family and friends could and did offer fantastic support, those relationships could also make people feel isolated and different”
- “It was more difficult to be around our friends who had kids because it made the reality of our problem more so.”
- “It was a positive experience because my friends and family knew I had problems conceiving so they were happy for me when I used this method and was successful.”
- “I'm a private person I didn't share much, it also hurt to hear all of the commentary so I avoided a lot of people.”
- “It really hurt to constantly answer the "when are you having kids?" question. Everyone in my family and friends expect me to have children.”
- “Almost everyone has children now. Cousins, siblings. I get treated like a child at times. It is like not having a job, house or car. My younger siblings treat me like one of the children in the family.”
- "There was some embarrassment at having to tell them why we hadn't been able to conceive. I was depressed and withdrew from relationships. Particularly relationships that were with someone who was pregnant or had a child."

Then, I finally asked participants to describe their relationship with themselves and their own mental well-being. 13% rated a 5, 15% rated a 4, 30% rated a 3, 24% rated a 2, and 18% rated a 1. Thus, 28% said there was a negative effect on their mental health, 30% remained neutral, and 42% actually stated there to be some sort of positive effect on their mental health. This statistic was one that stood out to me the most, as prior research stated more negative than positive effects on a woman’s mental well-being.

Looking at a few of the comment’s women made about their own mental health, some stated:
- “Felt like I was broken, not meant to be a mother. Self-esteem dropped. The physical side effects also made it a difficult to be positive”
- “I felt incapable, depressed, blue.”
- “I felt like a complete failure as a wife and as a woman. The one thing my body was made to do seemed out of my reach.”
- “I felt like I couldn't do anything right, include getting pregnant.”
- “It was stressful since I'm the only child in my family. If I were to not have kids, our line ends here and we would have no legacy.”
- ‘Made me question if I am able to be a mother”
- “It is embarrassing not to have children. It is almost like I want a child to make everyone else happy and my own opinions don’t matter. When I was younger, I
just wasn’t ready yet. I wanted to wait until graduation so I could give the child my whole attention.”
- “Like above, I was depressed and my anxiety still hasn't recovered.”
- “It was a hard staying positive at certain points. I would like to have more, but I'm not sure I want to go through the emotional ups and downs again right now.”
- “I was me stronger as I felt that I can overcome obstacles.”

Finally, aside from the biological and psychological perspectives on infertility, I asked participants to comment on their cultural influences. I first asked the participants if they would like to have children altogether. 37% of them answered “Yes”, 7% answered “No”, 12% were undecided, and the remaining 44% already had children.

Then, I asked participants what factors influenced their decision to have children the most. I had the women rate their feelings of pressure on a scale of 1-5, 1 meaning “not pressured at all” and 5 meaning “very pressured.” Beginning with societal cultures, I asked women if they felt pressured by society to have children. 20% of women ranked at a 5, 29% of women ranked a 4, 18% ranked a 3, 12% ranked a 2, and 21% ranked a 1. In sum, almost 50% of women felt some sense of larger pressure (ranked 4-5) from our society. This confirmed prior research that our societal values can greatly pressure women into having children.

Similar to societal pressures, I asked participants to comment on the effects of our current media system. In doing so, only 8% ranked a 5, 18% ranked a 4, 24% ranked a 3, 19% ranked a 2, and roughly 31% ranked a 1. Therefore, pressures from the media may not be as detrimental, in comparison to others, in today’s culture of fertility.
Moving on, I then asked participants if they felt pressured by their religion to have children. 10% ranked a strong 5, 15% ranked a 4, 12% ranked a 3, 11% ranked a 2, and astonishingly, 52% ranked a low 1. Therefore, the majority of people felt little to no pressure from their religion to have children.

Next came family, where I asked participants to rank the sense of pressure that they felt from family members. In asking them about the role their families play in deciding to have children, 24% of them ranked a strong 5, 23% ranked a 4, 23% ranked a 3, 9% ranked a 2, and 21% ranked a 1. These results showed a much stronger sense of pressure felt from family, as almost 50% of participants felt a stronger sense of pressure from family members.

Lastly, I asked participants to rate the pressures felt from their friends when contemplating having children. Roughly 12% rated a 5, 18% rated a 4, 21% rated a 3, 17% rated a 2, and 32% rated a 1. Thus, in sum of all cultural data, majority of individuals felt the most pressure from their familial and societal expectations.

In wrapping up the collection of my data, I was able to also collect excerpts from the perspectives of doctors, family members, spouses, and women themselves who have dealt with and experienced the setbacks that infertility can bring.

**Excerpts**

The below excerpts were given from individuals I interviewed and those who completed my anonymous survey. I asked members to share their experiences and their perspectives on the ways in which infertility hurts. Doctors, spouses, family members,
and women themselves were able to truthfully share their point of view on infertility and those who are affected by it.

- **Doctor**

  “As a general OBGYN, I am often one of the first people patients see in the evaluation of infertility. Over the years there are a couple things I have noticed that have impacted me. One is how many people are caught off guard. They’ve assumed their whole lives that they would be able to have a child when they want and are often very confused and almost angry when they can’t. I’ve also seen that the drive to have a child can be so strong that it can be all consuming. It can change a person’s whole outlook on life, end marriages, and cause depression and basically personality changes. As their physician it can be incredibly frustrating to not always be able to fix things or even explain causes as we are trained.

  Unfortunately, I’ve also seen that because pregnancy becomes the “pot of gold at the end of the rainbow”, these patients are often disillusioned and even a little let down by the realities of parenthood. Thus, the challenges continue.”

  - **OB-GYN**

  “Before, when patients asked about how to prepare for pregnancy, I would sugarcoat the issue of age and fertility by giving the few examples of patients I knew who were able to naturally conceive in their 40s. I have stopped tiptoeing around the issue and now have more open discussions with my patients about the decline in fertility potential as we age. It gets harder to get pregnant and maintain a pregnancy as we get older, especially after age 35. If childbearing is something
that is in your future plans, consider doing it earlier than later, if you can.” - OB-GYN

- **Spouse**

  “Me and my wife tried for a few years and had a few miscarriages. It was very hard because the one thing you are supposed to be able to do is have kids. It made us blame each other and tried so hard not to upset each other that it made it worse. It was very stress related and also actually drove us apart for a while.” - Female, 49 years old

  “As little boys we grow up thinking about sports, playing video games, fighting with our siblings and wondering what kind of professional athlete we will be when we grow up. Rarely do we play with baby dolls (unless our female siblings or cousins force us to) and even more seldom do we think about having a baby of our own. This also means that we never develop the fear of not being able to have children, like many women acquire as they get older.” - Male, 35 years old

  “First things first, please understand early on that this struggle with infertility that you and your wife are going through is not just something you can "fix." Especially her crazy emotions and unprompted tears - which will probably come often. It does no good to try to make the situation seem better than it is either, or fake that everything is ok. The situation you are in sucks, so just agree with her that it sucks and love her in the midst of it.” - Male, 49 years old

  “I complained to my wife about masturbating in a cramped, scary room at the fertility clinic, even though it was the room’s sole purpose. I was relieved and
ashamed I brought my iPhone because there were no magazines or videos. My eyes avoided any sort of contact as I exited the room because all the doctors and nurses know what I just did. Meanwhile, my wife undergoes procedures of increasing complexity and invasiveness. IUI, IVF, all are agonizing to hear as they cost me money and they cost me my happy wife. I just hope that this time, this procedure, will work. This will make me a father. This will give me my wife back.” - Male, 36 years old

“I mean, look, when you’re in your twenties, it feels like you can’t look at someone else without getting pregnant. We’ve all heard about someone who got pregnant through 2 condoms, spermicidal lubricant, and an IUD. Right? But we didn’t get pregnant. And we’re nowhere near prepared.” - Male, 32 years old

- **Family**

“Your role is so important in her life. She is grieving something monumental, and unless you grieved it once too, you cannot imagine the depth of this pain accurately. Tell her you love her. Tell her you are praying for her if that’s something she would like. Listen. Be present. Do not offer advice. Just offer your ear. And your hugs. And your heart. Respect her feelings even if you don’t think you would do it the same way.” - Mother to struggling daughter

“I believe that for the most part, people almost always mean well, especially when it comes to trying to support family and friends. We have likely all said or done things from the goodness of our hearts that have not come out right, or unknowingly struck the wrong chord. So, I think we must stop asking people
about their family-expanding plans unless we are confident that our son or daughter would like to talk about it.” - Father to struggling daughter

“Infertility is such a foreign idea to my generation. I had four children, the first when I was 21. I’m lucky that my son researches everything and then passes all the information down to me. I occasionally Google infertility, but there’s so much information out there it’s hard to know what’s accurate. To be honest, I find some things too painful and prefer not to dwell on what might not be” - Mother to struggling son

- **Women**

“The pain of infertility is so much more than failure to conceive a child. ... And even if you do become a mother by treatment or by adoption, infertility leaves in its wake so many incomplete dreams and emotions that feel like they will never heal.”

“I felt so frustrated each month and wondered what was wrong with me. I thought about it every single day and it was hard to focus on anything else.”

“When I meet new people I always dread when they act like it’s weird that I don’t have any kids. I put my career on hold because I thought I would be a stay at home parent, and now I have no career and no children.”

“It made me look at women, babies, and life differently. It made me appreciate little things, but also resent a lot of big things as well. I hated women who were able to get pregnant easy, but also respected them. It was a lot of mixed emotions.”
“I just felt that they were living the life I wanted. It When you are struggling with Infertility, it feels like it is affecting your mental stability. Infertility can leave you feeling out of control of your life and your future.”

“It had a huge negative impact in my relationship, well-being, and just me as a whole. Every month that came and went without becoming pregnant you fall deeper and deeper into an abyss. I hate it, and my husband and I try our best to be happy, but deep down, or not even that deep down, you just can't. Try to put on a brave face and get thru it, but it's terrible.”

“It was a difficult thing to go through. Struggle is definitely the right word to describe it. It all felt very negative in the beginning and it felt like we were under a lot of pressure. In the end, it was all worth it because our life is filled with more love than ever.”

“My sisters were all easily able to get pregnant. I have struggled repeatedly, and I'm only going to get older. It's frustrating. Women are told our whole lives that it's easy to get pregnant, and you try so hard not to when younger, that it's a slap in the face when you finally want kids and cannot have them.”

“I loss a sense of purpose.”

These are real people. These are people I know, people you know, and people we see on the streets daily. Thus, we must be kind and respectful and supportive of every individual on their journey towards fertility.
Conclusion

“Many of us grow up dreaming about the day when we will have children. The forces that contribute to these desires are complex, powerful, spiritual, and sometimes unexplainable. Our longing for children is a deep primal need, and being unable to conceive or carry a pregnancy to term can be devastating. Infertility can rock our very foundation—our sense of control over our futures, our faith in our bodies, and our feelings about ourselves as women. It can be a source of frustration, as we find ourselves on the wrong side of the statistics” - Jaquita Callaway.

~

I do not know everything. I don’t know what’s going on your mind. I don’t know what it’s like to be in your shoes. But I do know this: the prevalence of infertility is large, but the support is larger.

1 in 4 of your friends will or have lost a baby, over 70,000 families are doing IVF treatment this week, and over 100,000 women lost a baby to a miscarriage today (OWH, 2019). The hurt and the pain of infertility is present and powerful, but once again, the research and assistance is stronger.

Infertility has multiple dimensions. Your body will be physically affected by the biological adaptations you will undergo. Your psychological strength will be tested due to the intense hardships. Your beliefs will require defense as those around you will question your decision making. Infertility will thus setback your biological, psychological, and cultural norms; yet above all, women are not alone. We must not make false promises or give false hope. We cannot tell them about all the other success stories we have heard, as someone else’s success does not guarantee theirs. We all have
different stories, some with the outcome we would like and some not. Thus, throughout it all, listen to people. Tell them you love them. Tell them you are praying for them or sending happy thoughts. Allow them to be heard.

In wrapping up the thesis, many might wonder why a young adult like myself would care so much for a topic I may not be experiencing. This is accurate to a degree, as I am not currently attempting to reproduce, but I have currently been standing on the sidelines of it all.

A few years ago, at the age of 19, my good friend was diagnosed with PCOS. To remain anonymity, I will call her “K”. K was told there was an 8-10% chance she would be successful in having children. K was just like me, a young adult not contemplating children for quite some time. And still, everything changed.

No one told K in her health class that this would happen. No one told K that the baby dolls she held would never become real. No one told K that her life plan would change. No one told K she would be struggling with infertility as a 19-year-old. But here she is, and here you are. And here she goes, and here you go. I wrote this thesis to be a guidebook for K, you, and all the other women struggling to find the words or the place to start. This guidebook by no means has all of the answers, but it does have research and recommendations from someone who cares. More importantly, it has voices from people who are fighting with you. With the perspectives offered along the way, I hope for you to gain validation and permission to openly express yourself, your decisions, and your path. I have now walked you through much of what is coming your way, so now you don’t have to tackle this battle alone.
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**Conclusion**