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# The ART of couple satisfaction

Kristy Koser  
*James Madison University*

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The ART of Couple Satisfaction

Kristy Koser

A dissertation submitted to the Graduate Faculty of

JAMES MADISON UNIVERSITY

In

Partial Fulfillment of the Requirements

for the degree of

Doctor of Philosophy in Counseling and Supervision

Department of Graduate Psychology

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FACULTY COMMITTEE:

Committee Chair: Debbie C. Sturm, PhD

Committee Members/ Readers:

Renee Staton, PhD

Robin Anderson, PsyD

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## ABSTRACT

It is estimated 10-15% of women aged 20-45 or 1 in 4 to 6 couples are unable to get pregnant after one year of trying to conceive. This failure to conceive within 12 months without contraception meets the requirements for a diagnosis of infertility (Association for Reproductive Medicine [ASRM], 2014). With such a large percent of the United States population navigating the world of fertility treatment, the field of mental health must also evolve, offering new areas of specialty to address this specific client population. Couples face significant concerns while undergoing fertility treatment as they cope with complex decision-making, rigid medication schedules, side-effects, and the ongoing process of dealing with the diagnosis of infertility (Griel, Slausen-Belvins & McQuillan, 2010). This highlights the increasing need for counselors to become educated and specialized in the unique support fertility patients require. While couple distress during fertility treatment has been well studied, research is unclear if the phase of treatment has an impact on the rate of relationship satisfaction throughout the duration of treatment. This study examined the level of couple satisfaction at three key phases of fertility treatment starting from the least invasive to most invasive treatment. The researcher examined whether differences in relationship satisfaction for couples exist among couples engaging in each of these various phases of fertility treatment using the Couple Satisfaction Index [CSI] (Funk & Rogge, 2007). While the results indicated couples do not experience a great amount of change in satisfaction throughout the various phases of fertility treatment, the literature has been clear that the experience of treatment itself can be daunting. This study reinforces the need for



quality, well-trained fertility counselors to remain accessible and engaged with the needs of this specific population.

## **CHAPTER I: INTRODUCTION**

### **Infertility in the United States**

It is estimated 10-15% of women aged 20-45 or 1 in 4 to 6 couples are unable to get pregnant after one year of trying to conceive. Failure to conceive within 12 months without contraception meets the requirements for a diagnosis of infertility (Association for Reproductive Medicine [ASRM], 2014). It is estimated over seven million women have utilized infertility services in the United States (Centers for Disease Control and Prevention [CDC], 2017). With such a large percent of the United States population navigating the world of fertility treatment, the field of mental health must continue to evolve, offering new areas of specialty to address this specific client population. In the last thirty years there has been a growing trend in the practice of fertility counseling. As the medical field continues to succeed helping others build their families through non-traditional modalities such as assisted reproductive technology (ART), mental health services are becoming crucial to the outcome. Often fertility medical practices are incorporating mental health staff and services into the ART protocols, placing special emphasis on the emotional distress ART can contribute to the successfulness of treatment (Covington & Adamson, 2015; Boivin, 2003). Therefore, as reproductive technology advances, so does the need for specialized counselor training to help in navigating the complex issues surrounding ART.

Issues arising from ART differ from typical distress related to conception, and often involve factors such as age, genetics, health diagnoses, financial strain,

grief and loss, morality, ethics, and of course managing interpersonal relationships (Covington & Adamson, 2015; Peterson, 2015). In most cases, the primary interpersonal relationship is often in reference to the fertility patient's partner. Within the last two decades a considerable amount of research has emerged pertaining to the unique experience of the individual receiving the fertility treatment, however, little has been clinically theorized regarding the impact treatment has on the couple relationship and how to therapeutically treat it. Research has shown that couples rely on their own relationship as the primary source to navigating infertility stress (Pengelly, Inglis, & Cudmore, 1995). Couples face significant concerns while undergoing fertility treatment as they cope with complex decision-making, rigid medication schedules, side-effects, and the ongoing process of dealing with the diagnosis of infertility (Griel, Slausen-Belvins & McQuillan, 2010).

As counselors it is becoming increasingly important to understand the impact of a medical diagnosis and its treatment on the couple relationship. This is especially true for the use of ART as it often involves questions of morality, ethics, and grief of natural conception. Studies have shown that one of the top reasons for drop out in fertility treatment is not the heavy financial burden, but instead depression, relationship distress and the lack of support (Boivin, Domar, Sharp, Wishchmann, Fauser & Verhaak, 2012; Brandes, van der Steen, Bokdam, Hamilton, de Bruin, Nelen, & Kremer 2009; Daniluk, 2001; Daniluk & Tench, 2007; Pedro, Pedro Sobral, Mesquita-Guimaraes, Leal, Costa, & Martins, 2016; Strauss, Hepp, Staedling & Mettler, 1998; Van den Broeck, Holvoet, Enzlin, Bakelants,

Demyttenaere & D'Hooghe, 2009; Verhagen, Dumoulin, Evers & Land, 2008). This highlights the increasing need for counselors to become educated and specialized in the unique support fertility patients require. This also illuminates the crucial need for patients to feel supported by their partners. Helping a couple to become more connected and secure in their relationship can influence their ability to successfully end the fertility treatment. Relational support is something a couple can explore in counseling, enabling them to readily reaching for their partner in times of distress and more effectively responding in ways that soothe and comfort. These relational skills have the ability to reach far beyond the family building process, which will be discussed later.

### **Background of the Problem**

#### **Counselors Working With Infertility**

As more people are utilizing ART, the counseling community must be able to address the unique issues that surround these endeavors. Fertility counseling is a new and innovative approach to mental health that requires a keen awareness of the interplay of medical intervention and its impact on the individual, the couple, and the future child.

Reproduction has been central to the survival of humans and the evolution of population. Depending on a person's culture, children can be seen as representing a particular status, a means of survival, definition of identity and more importantly, as an emotional investment (Griel, 1991). As the desire for children emerges for couples, attempting successful conception can be a tiresome and complicated task. For some couples conception may require assistance from medical professionals,

which can be a lengthy and burdensome process. Due to the recent advances in the medical field, ART has been incredibly successful in helping many couples reach their family building goals. However, the road to success may also require support from mental health professionals.

As ART treatment continues to evolve, so does the need for comprehensive training to adequately prepare counselors to effectively manage these conversations. Social workers, counselors, psychologists and psychiatrists have been utilizing fertility counseling since the first in-vitro fertilization (IVF) conception in 1979 (Klock, 2015). Therefore, reproductive psychology has become an integral part to assessing and supporting couples throughout the process. Klock (2015) defined reproductive psychology as “...the psychological, behavioral and societal aspects of reproductive potential, fertility control and infertility, pregnancy and birth, and parenting” (p. 33). This broad definition has a specific focus on the “intrapersonal and interpersonal emotional, cognitive and behavioral factors related to the experience of infertility” (p. 33). In the past, many professionals believed that psychological factors were the cause of infertility, creating internal conflicts about the readiness for motherhood or barriers to achieving conception success. Overtime, it became clear to mental health professionals that the opposite is true.

Typical emotional and psychological distress indicators among those experiencing infertility include grief and loss (Klock, 2015). Fertility counseling is unique in that it “...differs from patient-centered care as it requires professional qualification for addressing the psychological and social challenges associated with infertility” (Van den Broeck, Emery, Wischmann, & Thorn, 2010, p. 423). Fertility

counseling is utilized throughout the United States, each practitioner abiding by state practice guidelines. In the United States, guidelines for fertility counseling have been created and maintained by the Mental Health Professional Group (MHPG) of the American Society for Reproductive Medicine (ASRM). These guidelines help to ensure counselors working with individuals and couples experiencing infertility have the basic qualifications needed. As with many other specialty areas, the MHPG of the ASRM strongly recommends ongoing training and continuing education be readily sought out to stay up to date and appropriately supervised. Qualifications of a fertility counselor identified by the MHPG of the ASRM include: psychological assessment and screening, diagnosis and treatment planning, psychometric testing, decision-making, grief, supportive, educational, crisis, sex, support group, and referral counseling, and couple and family counseling. Counselors may also be asked to be a consultant with the medical staff. According to MHPG, fertility counselors could be trained as counselors, social workers, psychologists and psychiatrists. Fertility counselors are required to hold a license to practice in their state, have a specified amount of clinical experiences as well as training in fertility related issues, and make a commitment to ongoing continuing education (MHPG, 1995).

**Interdisciplinary Focus.** When engaging in fertility counseling it is rare a counselor would be working in isolation. A major responsibility of a fertility counselor requires communication with the many health professionals involved in the family building process (Covington & Adamson, 2015). A fertility counselor would likely be working in collaboration with a medical clinic, which would include communication with a doctor, nurse, patient care coordinator, attorney,

psychologist, and possibly other participants in third party reproduction. Knowing how to work within a system is a crucial component to a successful fertility counseling experience, helping to make sure all parties are in communication and the patients are supported psychologically.

According to Boivin, et al (2012), providing fertility patients with effective emotional support while helping couples learn how to do that for each other has the potential to decrease drop out and increase success rates. The results from offering this step in successful treatment have benefits for both the patient and the healthcare provider. Healthcare providers are often rated and ranked based upon their success rates. If including mental health services to an ART protocol helps to maintain patient engagement and possibly improve success rates, this partnership could prove to be beneficial to all parties involved.

The use of ART is common around the world, and the requirements for access to mental health care is increasing as research begins to show its impact on successful treatment. Other medical organizations similar to ASRM, such as the European Society for Human Reproduction and Embryology (ESHRE) and the German Society for Fertility Counseling, have adopted fertility counseling practice guidelines. Fertility counseling is becoming a standard of care in other countries such as Australia, Chile, Argentina, Canada, China, Czech Republic, Ireland, and Switzerland (International Infertility Counseling Organisation [IICO], 2017). Therefore, this research has implications for fertility counselors world wide, as they help couples navigate building a family.

### **Counselor Competence In Fertility Counseling**

According to Van den Broeck et al, (2010a), “infertility is considered a biopsychosocial crisis and infertility counseling is recommended as an integral part of a multidisciplinary approach...requiring professional expertise and qualification” (p. 422). Several types of fertility counseling, according to Blyth (2012), include: implications counseling, support counseling, therapeutic counseling, decision-making counseling, and crisis counseling. These are foundational fertility counseling techniques, but require attention to the uniqueness of the ART process. Mental health professionals are often asked to lead *support groups* creating an opportunity to serve as a liaison between the patient and the medical staff. *Implications counseling* involves a look at the variety of fertility treatment options and the implications it can have on the patient’s life. This is often completed before treatment begins. *Supportive counseling* is a common modality that is utilized throughout the treatment process (Klock, 2015). The counselor provides supportive interventions while the patient endures the diagnostic phases and the active process of their treatment. *Therapeutic counseling* allows for the opportunity to provide counseling in more depth surrounding issues that may emerge during the treatment. This may include ways of coping with stress, loss, and more ongoing pervasive issues. *Decision-making counseling* helps to facilitate the individual and couple make informed and clear decisions regarding the treatment direction. And lastly, crisis counseling is utilized in moments when crises emerge throughout the treatment process (Klock, 2015). One thing all types of counseling have in common is a focus on helping individuals create realistic goals and cope with the treatment



by proper use of clinical interviews, formal assessments, and the administration of psychometric measures. As Klock (2015) noted, there are times when certain risk factors leave patients vulnerable to psychological distress. It is up to the fertility counselor to assess this risk and its potential impact on the success of treatment, the potential unborn child, and the patient's life in a broad framework.

Grief and loss are common themes in fertility counseling as couples begin to cope with the reality that their family building route will likely be much different than imagined. Loss can occur in many instances during infertility, including pregnancy loss, loss of reproductive organs, diminished finances, decrease general health and wellbeing, dissatisfaction in relationships, and viewing oneself as lacking. Both members of the couple can experience each of these areas of loss. At times loss can be experienced vicariously as partners watch their loved ones endure painful procedures and copious amounts of hormones (Griel, Slausen-Belvins & McQuillan, 2010). Couples can also grieve their life prior to the attempts to conceive, longing for the simplicity and uncomplicated decisions involved in everyday life. Relationships for couples begin to change, as they witness others having children or struggle supporting friends who are trying to conceive. A couple's sexual lifestyle may shift as the added pressure for conception becomes a barrier to intimacy and sexual fulfillment. This struggle creates difficulty for couples to find emotional closeness and effective ways of discussing this shift in their relationship. Infertility is often considered a private matter, not openly disclosed and at times stigmatized. This self containing phenomena can often lead couples to feeling more isolated and more alone in their grief (Klock, 2015).

Another common theme in fertility counseling is the use of a stress and coping model to help address areas of loss. This particular approach to working with clients values the appraisal of the difficult event, along with an individual's personality and ability to cope with the event, and the overall adjustment to the event. Coping can be identified as problem-focused, emotion-focused, social or meaning-focused (Klock, 2015). While it may be helpful to educate individuals and couples on the variety of coping modalities available, these coping strategies do not lend to concrete interventions for counselors to use in exploring these areas of grief and loss. It also does not bring a strong theoretical foundation to understanding the underlying emotions that couples bring into the fertility treatment process that often get woven into their ability to endure these difficult situations.

### **Clinical Focus On Infertility**

At this point, little counseling theory literature addresses concrete interventions that can be used with couples in these situations. Most interventions have a foundation in a cognitive behavioral approach, often trying to improve coping strategies, enhance relaxation, and decrease anxiety (Klock, 2015; Applegarth, 2015). Rarely do fertility counselors address issues that are long standing or utilize a psychodynamic approach to counseling unless they have been made aware of hesitation or concern on behalf of the medical staff or psychological evaluation results. Even then, fertility counseling struggles to have a cohesive modality of therapy incorporating both the challenges of present day and the effects of the past.

While individual counseling is becoming more standardized for fertility counselors, including specific protocols that need to be followed in order to move ahead with various treatment, couples counseling for these patients continues to be optional. The exceptions to individual counseling tend to be situations in which a couple is using third party reproduction, which requires a couple to meet with a counselor, often for a very limited number of sessions.

Read, Carrier, Boucher, Whitely, Bond, and Zelkowitz (2014) interviewed couples undergoing fertility treatment and their desire for support through infertility. In their study the major expressed need was the importance of being able to discuss the impact the diagnosis of infertility has on their relationship. This need was defined as finding tools to improve communication, address ongoing relationship tension, and to have a shared experience of the treatment process. Couples reported a desire in seeking support from others who understood the fertility treatment process and the difficulties associated with it, creating more evidence for well trained fertility counselors willing to address these needs for couples. Researchers such as Cunningham (2014) have explicitly addressed this gap in the fertility counseling for couples literature stating “there is a need for more research considering couples as a dyad” (p. 248). Similarly, Luk and Loke (2015) recommended future research in the area of fertility counseling intervention, including the types and content of clinical treatment. If counseling is utilized it is often segregated into either implications counseling or therapeutic counseling (Peterson, 2015), neither rooted in a strong theoretical approach. Chow, Cheung, and Cheung (2016) proposed the “need for developing standardized effective design

of psychosocial interventions for clinical use...” (p. 2111), also emphasizing the lack of best practices for intervening with infertile couples that enhance a couple’s ability to adapt and better prepare for the fertility treatment ahead.

### **Infertility Impact On Couple Relationship Satisfaction**

A number of studies have examined the psychological effects of infertility (Covington & Adamson, 2015; Gameiro, Boivin, Peronace & Verhaak, 2012; Luk & Loke, 2016; Peterson, 2015). Often those diagnosed with infertility suffer from some degree of depression and anxiety, resulting at times in lower self-esteem and various stages of grief and loss (Covington & Adamson, 2015). The diagnosis of infertility can be complex since the individual is not only coping with a medical issue, but likely the lasting impact this diagnosis can have on their family planning. Realizations regarding medical issues and life trajectory expectations can lead to feelings of loss, grief, anger, and can heighten preexisting mental health conditions (Covington & Adamson, 2015). Coping with these emotions can become difficult if there is not adequate support from the medical staff, family and friends, or from their partner (Gameiro et al., 2012). Luk and Loke (2016) stated “...the inability to conceive could jeopardize a couple’s marriage” (p. 515) impacting each individual partner and the couple as a unit.

Using ART requires the ability to make complicated decisions, often quickly and with lasting effects for the successfulness of treatment. If couples or individuals are already experiencing disregulation in their emotions or dissatisfaction in their relationship, the decision-making process can escalate to the point of an impasse and the risk of drop-out increases. This risk not only impacts the medical team, but

also the couple relationship. Couples may leave the ART treatment suddenly without the ability to process the various diagnoses, losses, disconnection or traumatic experiences they have endured. Such experiences are then carried into their relationship making further connection more challenging, and potentially having a significant impact on their sexual relationship (Peterson, 2015).

### **Statement Of The Problem**

If couples are unable to obtain the specialized support and necessary professional help to speak about these encounters it can influence future decisions. Decisions may include the consideration of other family building options, such as adoption or living childfree. Inability to receive appropriate help may impact their decision regarding returning to ART treatment or determining the fate of their stored gametes. Even instances when couples are successful in becoming parents, the process of getting to parenthood can influence their bond as parents and the decisions required in raising a child. Ultimately, couples that do not have adequate support in processing their experiences using ART could potentially affect the unborn child. In fertility counseling the unborn child becomes an important component in the couple relationship: understanding that unprocessed distress can potentially impact the family atmosphere. Hammarberg, Fisher and Wynter (2008) found that couples who conceived via ART were more vulnerable to psychological difficulties in the transition of becoming parents.

With all the elements mentioned above, mental health interventions have extraordinary implications for fertility patients. Those diagnosed with infertility are vulnerable to a myriad of psychological disorders, difficulty coping and relating with

their partner, and problems connecting with their body that has, in their eyes, failed them. When such dynamics manifest in the couple relationship, their connection, satisfaction, sexual relationship and ability to make decisions are negatively impacted (Peterson, 2015, Cousineau & Domar, 2007).

### **Purpose Of The Study**

The prior research is clear that a diagnosis of infertility and its treatment can increase a couple's experience of distress and dissatisfaction (Covington & Adamson, 2015; Cousineau & Domar, 2007; Gameiro, Boivin, Peronace & Verhaak, 2012; Luk & Loke, 2016; Peterson, 2015). However, the research is unclear if the phase of treatment has an impact on the perception of relationship satisfaction throughout the duration of treatment. This study examined levels of couple satisfaction at three key phases of fertility treatment from the least invasive to most invasive treatment. Phase I is for couples engaged in tracking ovulation, taking a prescription oral pill to stimulate ovulation, and having timed intercourse. Phase II is for couples that are introducing injections to suppress hormones and stimulate ovulation. This includes procedures such as intrauterine insemination. Phase III includes couples that are undergoing IVF, using donor gametes or surrogacy. The researcher examined whether differences in relationship satisfaction for couples exist among couples engaging in each of these various phases of fertility treatment. The degree of satisfaction was assessed using the Couple Satisfaction Index (CSI). Participants were recruited and elected to participate from the national infertility support and advocacy organization, *Resolve*, social media platforms that were directed towards fertility related discussions and from a Southeast regionally

located fertility clinic. The researcher followed up this assessment with an attachment-oriented theoretical perspective that could be used in a fertility counseling setting.

### **Research Question**

The specific research questions addressed in this study include:

Is there a difference in couple satisfaction based on the phase of fertility treatment (phase I, II, or III)? If so, is this difference statistically significant and how does this influence effective couple therapy interventions in each phase?

### **Delimitations**

Delimitations of this study include understanding couple satisfaction after successful family building through ART or natural conception. Due to the intensity and stress couples endure in fertility treatment, the researcher has focused the study to better understand more effective ways of addressing the fluctuations in satisfaction during the family building process instead of the transition to parenthood. Another delimitation of this study is the quality of the doctor-patient relationship and its impact on pregnancy success rates and fertility-related stress. The doctor-patient relationship is an important component of the medical treatment and its success, however, it does not directly involve the measurement of couple satisfaction. Therefore, the researcher did not include this component of the family building process into the study. Other aspects of the couple relationship are not measured in entirety such as the sexual relationship, compatibility, and level of interpersonal distress. The researcher decided to specifically measure satisfaction

as it relates broadly to the couple relationship encompassing key factors such as decision-making skills, communication skills, happiness, level of connection, and overall quality of the relationship.

### **Limitations**

While the findings of this study have potential implications for furthering the effectiveness of fertility counseling, there are limitations that must be discussed. Limitations of this study include self-selection. First, participants included only those that self selected to become a part of the *Resolve* online community to receive support and potentially engage in research opportunities. Second, the *Resolve* participants along with social media participants and fertility treatment patients had to select to participate in this current study, consenting to answering demographic questions and taking the CSI. Self-selection brings into question the accuracy of the representation of infertility patients and if the information in this study can be generalized to the majority of couples undergoing treatment.

Another limitation includes the snowball and convenience sampling using social media platforms and the patients at the Southeast reproductive clinic. In these situations, participants were already a part of an infertility network therefore; the sampling was not completely random. The participants were already part of a “system” (*Resolve*, social media communities, and a reproductive clinic) that provided to some degree of formal or informal support. This limitation can affect the ability to make accurate inferences about the data and can run the risk of higher sampling error.



Lastly, another limitation is the nature of self-reporting. Each participant was asked to rate themselves and their relationship with their partner in a variety of scenarios. The accuracy and honesty in these ratings were subjective and can contain an over or underestimation of their perception of couple satisfaction that may be reflected in their responses.

### **Assumptions**

An assumption in this study is the expectation that each participant is truthful in their responses and is honest about their fertility-related distress. Another assumption includes that the inclusion criteria of the participants in order to enter the study is appropriate and that all participants have similar experiences with fertility-related procedures in each phase (I, II, or III) of medical treatment. Lastly, there is an assumption that participants sincerely want to participate in the research and are not acting on any other motives other than to further the research in this topic area.

### **Threats to External and Internal Validity**

**Threats to Internal Validity.** The researcher hypothesizes that couple satisfaction is dependent upon the current phase of fertility treatment. However, there is a possibility that changes in relationship satisfaction could be caused by other confounding variables not measured in this study. Those variables could include: job loss, a significant change in financial status, changes within extended family system, unexplained health factors, or a non-fertility related crisis. Therefore, these threats or confounding variables can impact the internal validity of the findings from this study.

**Threats to External Validity.** The goal of this study is to discover findings generalizable to the wider fertility patient population, across treatments, settings and contexts, and time. However, this study focuses on a specific group of participants that have self-selected to be a member in the *Resolve* online support community, social media platforms, and patients at a specific reproductive clinic and have also selected to participate in this study. All of these participant recruitment platforms formally or informally already have an implied degree of support. Therefore, these aspects must be considered in making generalized statements about the results of this study.

### **Operational Definitions**

Several important terms used throughout this study need to be defined within the context of this research process. These terms include: *couple satisfaction*, *assisted reproductive technology*, and *phase I, II, and III* of fertility treatment.

*Couple satisfaction* has been defined as it relates broadly to the couple relationship encompassing key factors such as, decision-making skills, communication skills, happiness, level of connection, and overall quality of the relationship as measured by an individual's score on the Couple Satisfaction Index (CSI).

*Assisted reproductive technology (ART)* includes procedures such as: in vitro fertilization with an embryo transfer (IVF-ET), gamete intrafallopian transfer (GIFT), zygote intrafallopian transfer (ZIFT), and frozen embryo transfer (FET). These procedures also apply to oocyte donation and

gestational carriers (Society for Assisted Reproductive Technology [SART], 2018).

*Phase I* is for couples engaged in tracking ovulation, taking a prescription oral pill to stimulate ovulation, and having timed intercourse.

*Phase II* is for couples that are introducing injections to suppress hormones and stimulate ovulation. This includes procedures such as intrauterine insemination.

*Phase III* includes couples that are undergoing IVF, using donor gametes or surrogacy.

### **Summary**

With the growing need for mental health professionals to become better trained and equipped to effectively treat fertility patients, it is imperative that the psychological impact of an infertility diagnosis be understood and explored. A counselor must understand the clinical aspects of working with an individual or couple and the potential further psychological distress can have on medical treatment success, the decision to drop-out of medical treatment, or the level of satisfaction in their relationships. Couple relationships endure many difficulties while engaged in fertility treatment, from decision-making to healing from grief and loss. Helping couples learn how to face these areas of complexity with interventions that are effective and supportive will be a crucial element to the overall success in the family building process.

The following chapters address key components of this research study, including a review of literature and adequately addressing research questions. In

addition, a methodology for investigating those questions, results from collecting data, and a final chapter discussing recommendations and conclusions is also included.

Chapter II contains a thorough review of current literature surrounding infertility and its definitions, the psychological impact of infertility, couple satisfaction, and fertility counseling and its origins, along with its limitations regarding couple therapy interventions. Also included will be an overview of attachment theory and its relevance to couples therapy and the potential role it can play in addressing the satisfaction levels of couples in fertility treatment.

Chapter III discusses the specific methodology used in this study. Aspects such as the description of participants, instrumentation, and reliability and validity and data analysis will be explored.

Chapter IV will provide an overview of the results from the data analysis. This overview includes an in-depth review of the statistical operations used in analyzing the data and preliminary implications of the findings.

Chapter V further explains the results from the study and presents the clinical, research, and methodology implications involved. In addition, an overview of the study will be provided with recommendations for future research and final conclusions for the current study.

## CHAPTER II: REVIEW OF THE LITERATURE

### Introduction

In order to understand infertility and its effects, the definition, categories, and medical procedures treatment of it will be explored in this chapter. Also addressed is the psychological impact of infertility for both the individual and the couple and its relationship to couple satisfaction. Fertility counselors are faced with the complexities of working with couples in these situations; therefore, this chapter highlights current treatment approaches and interventions. In addition, the concept of attachment theory and emotion-focused therapy is introduced as another potential theoretical model that can be used with this population. At the conclusion of this chapter, the application and consideration for using different interventions throughout the various phases of fertility treatment is discussed.

### Infertility

The value placed on fertility, particularly among women, dates back to ancient practices, performing fertility rituals and rites, visiting fertility places and statues, and worshipping fertility goddesses (Talalay, 1994; Behjati-Ardakani, Akhondi, Mahmoodzadeh, & Hosseini, 2016). In certain cultures, reproduction is considered the only route to survival, with the goal of birthing children to eventually help in caretaking responsibilities or in more desperate times, to continue the human race. Procreation is also a popular component in religious practice, from paganism through all major religious theologies (Arousell & Carlborn, 2016). Even today, fertility is seen as a symbol of wealth and health, as portrayed in movies and societal expectations for an easy natural conception. However, a significant

percentage of the population struggles to conceive, often experiencing judgment and shame for their difficulty in building a family. Zegers-Hochschild, Adamson, de Mouzon, Ishihara, Mansour, Nygren, Sullivan, and van der Poel, (2009) on behalf of the World Health Organization declared infertility as a “disease” defining *primary* infertility as someone experiencing infertility having never been pregnant and *secondary* infertility as infertility after a pregnancy. Another common term, *recurrent miscarriage* is typically diagnosed after three spontaneous pregnancy losses.

The causes of infertility can be difficult to determine, however the cause is likely in one of four categories: *female factor*, *male factor*, *combined factor*, or *unexplained* (Covington & Adamson, 2015). However, according to Covington and Adamson (2015) the most common cause in younger patients (under 35) include ovulatory problems (15%), tubal/pelvic pathology (35%), male factor (35%), unexplained infertility (10%), and other (5%). In older couples, poor egg quality and ovulatory problems account for almost half of the cases. Covington and Adamson go on to say “ the goal of fertility treatment is to optimize the number of healthy eggs and can be potential fertilized in any given cycle and result in implantation of embryos and birth of a health singleton baby” (p. 4). There are many barriers to successfully achieving pregnancy with medical intervention including a poor prognosis and the financial burden and psychological factors. A diagnosis of infertility typically includes an investigation to find the cause of the problem, which could be anything that gets in the way of successful fertilization or implantation.

Covington and Adamson (2015) offer several categories of etiology for infertility. *Female factor* infertility includes any kind of egg, ovulatory, or hormonal problems or decreased ovarian reserve. Other disorders or syndromes common to female factor infertility are polycystic ovarian syndrome, thyroid disorders, or renal gland disease. The proper shape and function of a uterus can also be an issue creating difficulties such as fibroids, polyps, or the presence of endometriosis. *Male factor* infertility generally surrounds issues of sperm including motility, morphology, and quality; however, there are some genetic disorders that can also affect sperm quality. Some couples have a *combined factor* that includes issues related to fertilization and embryo development. And lastly, couples may have *unexplained* infertility. This diagnosis is given to about 10-20% of patients, indicating there is no identifiable explanation for their infertility problem (Covington & Adamson, 2015).

In order to properly diagnosis and understand the origins of a couple's fertility problem, a variety of tests are available to help determine the cause, including physical examinations to check the size and shape of reproductive organs, blood work to monitor hormone levels, a hysterosalpingogram to assure clear passage through the fallopian tubes, and a laparoscopy to check for or remove any unwanted tissue around reproductive organs (Covington & Adamson, 2015; Gianaroli, Racowsky, Geraedts, Cedars, Makrigiannakis, & Lobo, 2012; Practice Committee, 2015). While all of these tests are usually completed at the onset of fertility treatment, some of them are extremely painful and invasive. These initial

tests can be difficult for couples to experience and may cause physical and emotional distress.

In addition to medical treatment, physicians often offer lifestyle recommendations to patients including increased exercise, elimination of smoking and alcohol consumption, stress reduction, and close monitoring of body weight (Covington & Adamson, 2015; Practice Committee, 2015). The stress of fertility treatment can take a toll on the body, so proper rest, diet, and psychological health are greatly encouraged.

### **Assisted Reproductive Technology (ART)**

After a diagnosis, medical testing, and female, male, and combined factors are evaluated, treatment can begin to address those problems. A variety of treatment options are available for couples depending on the severity of problems and the willingness of couples to engage in invasive treatment. Even with a diagnosis of male factor infertility, the majority of procedures happen to the female partner. Therefore, fertility treatment procedures that directly involve the female partner, starting with least to most invasive procedures, will briefly be discussed.

**Oral Hormones.** For most ovulatory problems (with the absence of male factor), the goal is to regulate and induce ovulation. In order to do so, Clomid, Letrozole, or Metformin is often prescribed (ASRM, 2014). These medications are ingested orally and usually taken for a specific amount of days during a treatment cycle (ASRM, 2014). While the prescribed procedure appears to be easy, these medications often have severe side effects that can interfere with everyday life for the patient and their partner. In some cases women can experience ovarian



hyperstimulation syndrome (OHSS) causing pain, swelling of the ovaries and retention of fluid (Covington & Adamson, 2015; ASRM, 2014). Women on Clomid or medications like it are monitored through blood work and ultrasounds in order to time the likely release of eggs and to properly coordinate intercourse (ASRM, 2014).

**Intrauterine Insemination (IUI).** An IUI is performed around the time of ovulation. When the egg(s) are set to release, they are inseminated by their partner's sperm through the insertion of a small catheter into the uterus (ASRM, 2016). A procedure such as IUI is no longer used after 3-6 unsuccessful cycles (Covington & Adamson, 2015).

**IVF, Donor Gametes, Surrogacy.** After unsuccessful IUI treatments, the next step generally involves ART. This includes IVF, the use of donor gametes, or surrogacy (ASRM, 2012). For some couples, they may chose not to try IUI and go directly to IVF for financial or time-related factors such as advanced maternal age, diminished ovarian reserve, moderate male factor, tubal damage, or repeated failed fertility treatments (Covington & Adamson, 2015). The IVF process is effective for most couples but does not help couples that are diagnosed with a uterine problem or poor egg quality. Those couples would be candidates for using donor gametes, which will be discussed later.

**IVF.** IVF is a cumbersome, time consuming process that requires full consent of the couple to understand the demands of a treatment cycle. Typically IVF involves suppressing the ovaries with oral contraceptives to allow eggs to mature at the same rate for up to three weeks (SART, 2018). Next the ovaries are stimulated with a variety of injectable medications (SART, 2018). Women are instructed to give

themselves daily subcutaneous injections at very specific times of the day lasting up to 12 days in order to prepare their eggs for retrieval (Covington & Adamson, 2015). Due to the risk of OHSS patients are monitored by ultrasound and blood work daily for up to two weeks (SART, 2018). These daily appointments can cause difficulty in work schedules, childcare, or transportation for one or both couples. During these preparatory weeks there is also a constant risk for a cancelled cycle due to poor medication response or OHSS, which can create added stress for the couple.

After successful ovarian stimulation, patients are instructed to use a final trigger injection, which allows the release of eggs. This injection is given about 35-36 hours before egg retrieval, and the timing of it is crucial to the success of the entire IVF cycle (Covington & Adamson, 2015; SART, 2018). Egg retrieval occurs under anesthesia with conscious sedation, usually in a surgery center or outpatient setting (SART, 2018). During the procedure a physician carefully extracts the mature eggs from the ovaries using a fine needle going through the vaginal wall into the ovary guided by a transvaginal ultrasound. The retrieved eggs are then inseminated by the partner's sperm in an embryology laboratory (SART, 2018). In cases where male factor is a problem, eggs would be inseminated by a technique called intracytoplasmic sperm injection (ICSI), where a single sperm is injected into a single egg (Hochschild, 2009).

At this point, the couple is sent home to wait for the fertilization results. This can be a stressful time for couples as they anticipate hearing the final outcomes of the extensive protocol they just completed over the last four to six weeks. Couples are notified of the number of eggs retrieved, the number that fertilized, and then

given ongoing updates on a daily basis about embryo development. According to Covington and Adamson (2015), only about 50% of embryos continue to develop from day 3 to day 5, indicating those that fail to grow are likely abnormal. At this stage couples have the opportunity to select to genetically test their embryos using preimplantation genetic diagnosis (PGD) to determine if there are any genetic abnormalities that could affect implantation or the success of a full term pregnancy (SART, 2018). This testing requires a substantial additional fee and a delay in transferring the embryos back to the uterus while waiting on test results. For those not genetically testing embryos, transfer is usually between 3-5 days after fertilization. Or in some cases couples may choose to cryopreserve their embryos to transfer at a later date, or after the patient's body has recovered more effectively post-retrieval (SART, 2018). A natural or frozen embryo transfer (FET) is a short procedure where the embryo is transferred back into the uterus using the guidance of an ultrasound and a catheter to place it in the most optimal place (Practice Committee, 2016; SART, 2018). Women are instructed to start progesterone injections daily to support the growing embryo, commonly a physically painful process. Patients are typically asked to decrease their activity or are put on bed rest for a part of those days. A pregnancy can be determined through blood work 12 to 14 days after embryo transfer (Covington & Adamson, 2015; SART, 2018). The two weeks of waiting or "two week wait" (Malik & Coulson, 2010, p. 316) after a transfer can be an extremely emotional time for couples, not knowing the outcome of their treatment cycle. Malik and Coulson (2010) found during those two weeks between an IUI or IVF cycle and pregnancy test, fertility patients' requests for peer support

and information in online support groups were at its highest. Boivin and Takefman (1995) found that women in retrospect recalled the two week wait as the most stressful part of IVF.

***Donor gametes and surrogacy.*** The use of donor gametes is common during ART (ASRM, 2012). In the case of male factor infertility couples may choose to use donor sperm while undergoing IUI or IVF cycles. For female factor infertility, couples may choose to use donor eggs in an IVF cycle (ASRM, 2012). In the event a couple may experience both female and male factor infertility, considerations of a donor embryo may be raised. Donor embryos originate from other couples completing their family building process with an excess of embryos (ASRM, 2012). Couples can choose to dispose of the embryos or donate them to another couple. These donated embryos are simply transferred into the uterus during a FET (ASRM, 2012).

For couples that have unexplained infertility or uterine receptivity issues the use of surrogacy is a common option (ASRM, 2012). Traditional surrogacy involves inseminating the surrogate's eggs with the patient's partner's sperm through an IUI or IVF, and having the surrogate carry the pregnancy to term (ASRM, 2012). Gestational surrogacy does not use any donor gametes, instead it requires a transfer of the couple's genetic embryo into a surrogate's uterus using IVF, having the surrogate carry the pregnancy to term (ASRM, 2012). Both surrogacy scenarios require extensive psychological assessments and counseling as required by ASRM and a binding legal contract prepared by a reproductive attorney (Practice Committee, 2016).

There are many routes to building a family using ART, each requiring a fertility counselor who is well versed in the medical procedures, medication side effects, psychological stress, and impact of these procedures on the couple relationship. There are several stages of heightened anxiety for couples during these processes that may require extra support or better communication between partners. These stages include tasks such as enduring the two week wait, arranging daily appointments, or financially preparing for each cycle, which can put pressure on the couple relationship making it difficult to provide effective support to each other in moments of insecurity, fear, and pain. The economic impact of treatment itself can cause significant distress, with ovulation-inducing medication estimated at \$2000 per cycle and IVF cycles costing between \$12,000-\$15,000 per cycle (Cousineau & Domar, 2007). Most insurance companies do not cover fertility treatments, requiring couples to make large financial investments without a guarantee of success (Cousineau & Domar, 2007).

### **The Psychological Impact of Infertility**

#### **The Individual**

A diagnosis of infertility can have profound effects on an individual. Society has placed a great expectation on women and couples to move along a natural progression of family building, at times not understanding delays in childbearing (Cousineau & Domar, 2007). When couples experience difficulty conceiving it automatically creates difficulties with their view of self, view of their partner, and concern about how society will interpret their lack of procreative success (Cousineau & Domar, 2007). Suddenly the fertility patient, often the female partner,

is under intense and invasive medical investigation, dealing with a range of difficult feelings, and a new lifestyle consisting of timed intercourse and a rigid schedule of potent medication. Couisneau and Domar (2007) found that “most infertility patients, especially women, consider the evaluation and treatment of infertility to be the most upsetting experience of their lives” (p. 295). Further, these authors highlighted that patients often experience the desire for social isolation, increased mental distress, feelings of loss of control, jealousy towards friends and family, and difficulty relating to others around them.

Cook (1987) stated the infertility experience parallels the stages of death and dying, from surprise and guilt to depression and grief. The diagnosis and treatment of infertility brings about profound and deep feelings surrounding loss and grief. It has been reported that those diagnosed with infertility struggle to understand the reason why, often worrying it is a punishment for past transgressions, holding on to an immense amount of guilt and anger, and responding as if it was a death (Daniluk, 1991). When women with infertility were compared to women with cancer, hypertension, myocardial infarction, chronic pain, or HIV positive status, their depression and anxiety scores were indistinguishable from other patients, except those with chronic pain (Domar, Zuttermeister & Friedman, 1993). Most women are reluctant to disclose this pain and suffering due to shame or fear, and therefore experience these intense emotions silently or within their relationship. This suffering can become serious as women reported suicidal ideation after unsuccessful IVF attempts, sharing that the inability to conceive challenged their female identity (Cosineau & Domar, 2007).

Pasch and Sullivan (2017) reported significant evidence that in heterosexual couples often the female partner experiences more distress due to the physical toll treatments, medication, and lifestyle changes require during fertility treatment. Women often carry the majority of the psychological burden of infertility even if they are not the party responsible for the infertility (Cousineau & Domar, 2007). Men are also affected during the diagnosis of infertility, but not well represented in the literature. Research has shown men can feel inadequate in caring for their partner's needs during medical treatment and tend to involve themselves more in their career, maintaining more optimism and a problem solving approach. Although men do experience more self-image distress when there is a male factor infertility diagnosis (Cousineau & Domar, 2007).

Often the treatment for infertility can require sacrifices in many areas, creating a complete change in lifestyle. Van den Broeck et al. (2010a) described the process as an emotional roller coaster, recommending that individuals in fertility treatment work to find distractions from the topic, indulge in something special while waiting for test results, practice relaxation techniques, and reflect on other life goals. This also includes talking with other parties involved, including medical professionals, to determine an alternative plan if treatment is unsuccessful.

### **The Couple**

It is estimated 7.4 million women have received infertility treatment services in their lifetime (National Survey of Family Growth, 2011-2015) with one-third of infertility due to the female partner, one-third due to the male partner, and one-third caused by a combination of both partners or unexplained (ASRM, 2018).

Primarily the medical treatment is happening to and with the female partner, however, the experience of infertility is felt dramatically in the couple relationship. Couples are asked to make complex decisions regarding their reproductive organs and potential future child. Decision-making quickly becomes ethical and moral, especially with the introduction of a third party (donor gametes or a surrogate). Couples are also asked to make long-term decisions about the disposition of their remaining embryos, the number of eggs to fertilize, the number of embryos to transfer, and their openness to multiples. Infertility becomes the focal point of conversations and daily tasks, requiring significant lifestyle changes in work, diet, and finances (Cousineau & Domar, 2007).

Research has indicated that in addition to the typical stress associated with fertility treatment, same-sex couples face additional barriers associated with heteronormative assumptions (Pasch & Sullivan, 2017, p. 131). Holley and Pasch (2015) note that these barriers include navigating a medical system that is set up to treat primarily heterosexual couples, therefore, areas such as insurance issues, acknowledgement of the non-birthing partner during office visits, heterosexism, and legal rights become more problematic for same-sex couples. Even more complex can be the family building process for transgendered individuals, who will likely face more discrimination and bias during treatment and must endure additional decisions regarding the timing of hormone therapy and surgery (Holley & Pasch, 2015). Lesbian couples face decisions regarding which partner will carry the baby to term, whose eggs will be inseminated, and the selection of a sperm donor. Gay couples have similar decisions regarding which partner's sperm will be used, but



will need to enlist the help of a surrogate and select an egg donor to complete the process (Holley & Pasch, 2015).

The weight of the physical demands and emotional roller coaster can stress the coping mechanisms within the couple, causing psychological and physical withdrawal from each other, communication breakdowns, a dramatic decrease in their quality of life together, and sexual dissatisfaction (Daniluk, 1991). Infertility commonly activates feelings of “shame, guilt, anger, sadness, and loss of control” (Pasch & Sullivan, 2017, p. 131). In addition, infertility can be physically and emotionally demanding requiring decisions about whether to pursue treatment or end, amounting to decisions on top of decisions. Then of course, there is the unpredictability of the success of treatment (Pasch & Sullivan, 2017).

Couples may go through infertility sharing information with family and friends openly, seeking and receiving support, hoping for encouragement and success. However, as Peterson (2015) stated, if several treatment attempts fail family members may try to offer advice or overly optimistic support that could further isolate the couple in future disclosures. Decision-making regarding the level of disclosure is an important task for couples to help avoid painful and insensitive comments (Peterson, 2015; Daniluk, 1991).

Infertility treatment and testing can be seen and experienced as invasive and humiliating (Cousineau & Domar, 2007), sometimes leading the couple to keep the diagnosis and treatment process to themselves. This can result in the couple relationship taking the brunt of processing for both individuals. Many researchers are stressing the importance of working with both partners stating, “a couple-

focused approach is valuable in studying infertility because infertility is a dyadic, rather than individual problem; both partner together must construct the significance of infertility in their lives and how to cope with it" (Read et al., p. 394). Working with the couple is crucial if psychosocial interventions are to be helpful for infertile women, with studies showing an increase in effectively processing the distress together as a dyad (Cousineau, Green, Corsini, Seibring, Showstack, Applegarth, Davidson, & Perloe, 2008).

### **Couple Satisfaction**

The breakdown of psychological coping for both the individual and the couple have profound effects on relationship satisfaction. While some have found there to be little change in satisfaction or an increase in satisfaction during fertility treatment, research has been clear that couples experience some change in satisfaction especially as treatment continues without success (Cousineau & Domar, 2007).

A common area of dissatisfaction is in the couple's sexual life, often due to the heightened priority around achieving pregnancy and precision in scheduling sex (Cousineau & Domar, 2007; Peterson, 2015). This pressure can compound the stress they are already feeling making sexual intimacy feel mechanical or artificial. It is likely sexual dissatisfaction is a symptom of infertility, not the cause (Peterson, 2015). Couples lose this intimate activity as a potential opportunity to connect, instead seeing it as becoming part of the fertility treatment (Peterson, 2015). The change in a couple's sexual relationship becomes difficult to amend once it is affected (Peterson, 2015). After the infertility process has ended, couples are often

worried about sex causing pregnancy complications and then as new parents they may feel too overwhelmed in their new role to prioritize this aspect of their relationship (Peterson, 2015). Therefore, addressing the sexual relationship of a couple should be given top priority, however, as Peterson (2015) stated, stress on the sexual relationship commonly continues long after fertility treatments.

Chow, Cheung, and Cheung (2016) stated couples diagnosed with infertility have a tendency to blame their partners and become dissatisfied with their marriage. Couples have reported feeling more depression and anxiety after failed treatment or pregnancy loss, especially if using IVF (Cousineau & Domar, 2007). Feelings of depression and lack of control can continue to grow as couples advance to more invasive medical treatment such as IVF or ICSI (Verhaak, Smeenk, Evers, Minnen, Kremer, and Kraaimaat, 2005; Cousineau & Domar, 2007). Treatments such as these mentioned require more financial sacrifice, create more opportunity to feel out of control, and experience more intense side effects from hormone medication (Cousineau & Domar, 2007).

Some couples take a leave of absence from their work in order to manage the complexities of IVF treatment and the unpredictable schedule it demands. A study by Verhaak et al (2005) examining the emotional responses to unsuccessful treatment outcomes linked marital dissatisfaction with increased anxiety after a failed treatment. Additionally, Chow et al (2016) reported “more than 60% of couples do not complete IVF treatment due to its unbearable psychological burden” (p. 2102). The demands of treatments such as IVF or ICSI require extensive social support, which usually entails the couple relationship. Currently, there is a lack of

research highlighting this need for social support and maintaining a marital relationship capable of withstanding such pressure (Verhaak, et al., 2005).

The research discussing the profound psychological impact of infertility and its treatment for the individual, the couple, and relationship satisfaction is clearly indicating the need for supportive services to aid in these situations. Studies have found that psychological counseling for infertile couples increased marital satisfaction (Vizheh, Pakgozar, Babaei, Ramezanzadeh, 2013). However, a strong theoretical approach to how to work with these couples is still lacking. While there are a few major theoretical approaches that have been used and found to be effective, none have worked primarily to help understand and restructure negative patterns of interacting while repairing attachment injuries. Lowyck et al (2009) found that preexisting psychological factors such as romantic attachment are more important for marital satisfaction and psychological well-being throughout fertility treatment than treatment-related factors such as fertility problem duration. These findings indicate the quality of the couple's attachment bond is more crucial to determining the level of satisfaction than the length of time a couple is in treatment. The research between attachment theory and a couple's ability to successfully navigate infertility is discussed further in the following sections.

### **Counseling Couples**

#### **Current Practices and Theoretical Approaches**

More often than not fertility counseling will focus primarily on the individual receiving the medical treatment, emphasizing more effective coping skills and stress reduction techniques. However, as stated above, couples endure a

tremendous amount of stress, grief, and loss throughout the treatment of infertility. The most common theoretical interventions include Cognitive Behavioral Therapy (CBT), stress management, group support, relaxation techniques, and coping skills training (Couisneau & Domar, 2007). In a recent study, CBT and supportive therapy have shown a significant effect in decreasing anxiety, improving couple satisfaction, and increasing chances of pregnancy (Chow et al., 2016).

While some of these theoretical approaches have been helpful for individuals, most interventions for couples surround decision-making and psychological evaluation of the relationship, making sure it's sufficient for the preparation of using ART. In a critical review of psychosocial interventions for infertile couples, Chow et al (2016) found that psychosocial interventions (i.e. addressing the social needs of client in individual, couple, or group format) in general improved a variety of factors, including marital relationships and pregnancy rates. In addition, a review of current couple psychotherapy fertility interventions showed the majority of approaches consisted of CBT (39.1%), acceptance and commitment therapy (ACT, 13%), body-mind-spirit (BMS, 8.7%) and psychological counseling (17.4%). The content and interventions mostly focused around "emotional stress, positive thoughts and mind-body balance, the meaning of parenthood, and communication between couples" (Luk & Locke, 2016, p. 522).

Fertility counselors work diligently to help couples understand they have control over their responses to the situation (although not the situation itself) and their decisions about it. Counselors may give encouragement to release control over the unpredictability if a cycle will work while incorporating stress management

techniques. This includes discussions surrounding how to focus on making love not only making babies, helping to reframe each other's responses, looking intentionally at sexuality, self esteem, and making decisions to take a break from treatment (Daniluk, 1991). Integrated Behavioral Couples Therapy (Pasch & Sullivan, 2017) works to find the couples core conflict surrounding infertility, helping each partner develop empathy and understanding around the pain each feels, changing their language of how they describe the "problem," offering validation and supporting couple self-care. Van den Broeck et al (2010a) suggest that counseling offers the opportunity to "explore couple dynamics when faced with infertility, to learn to support and understand each other, enhance communication as well as gain insight into gender differences in the experience of infertility" (p. 427). Daniluk (1991) recommends that counseling goals include: when to relinquish and accept control, healing the couple relationship, reassessing each partner's motivation for parenting, and helping to make decisions regarding future parenting options

The goal of increasing communication, finding the core conflict, or healing the relationship between partners is noted as a common task for fertility counselors. However, Chow et al (2016) indicated the need for an identification of best practices to accomplish this despite the numerous positive outcomes that support psychosocial interventions as effective. Communication becomes a broad goal, with little support in what specific interventions and theoretical model give guidance to addressing those negative cycles of interacting that have been present for couples far before the start of fertility treatment. Cousineau and Domar (2007) found that "overall, the majority of information and support available to couples focuses on the

medical and technical aspects of consultation and treatment” (p. 301), leaving little room to address and effectively work with a couple relationally. Couples can experience an increase in the distress that has already been a part of their relationship for a long time. This can leave couples struggling to navigate the compounding stress of fertility treatment, with prior relationship barriers getting in the way. Using a short-term cognitive approach may neglect to address long-standing emotional dynamics that are well rooted into a couple’s narrative and pattern of interacting.

Cognitive or mindfulness-based interventions may focus more on the present concerns, developing cognitive solutions to get through the infertility, and forming communication techniques that may not attend to foundational personality characteristics. These interventions run the risk of missing an opportunity to work with couples using reparative interventions that focus more on resolutions, couple resilience, corrective emotional experiences, and strengthening of the couple bond. Some research suggests that counselors explore how couples are polarizing each other, examining if they are sinking into depression and sadness, isolation, or perceiving the other partner as not experiencing as much pain (Van den Broeck et al., 2010a). While these are valid areas of concern, the authors do not provide a clear theoretical orientation that would help the counselor expand and explore these couple dynamics, only suggestions for possible interventions.

Overall, it appears as though the current suggested theoretical approaches to fertility counseling lack a systemic viewpoint, neglecting the complexities that couples entering fertility treatment already experience in their relationship.

Understanding the emotional cycle of a couple and or an individual may help to develop a greater self-reflective capacity, which could be utilized throughout the trials of fertility treatment.

### **Theoretically Based Clinical Interventions for Couples**

As previously mentioned, strong emotions are a common companion throughout the diagnosis and treatment of infertility. Daniluk (1991) said:

“counselors should be aware of the fact that the feelings associated with clients’ fertility status strike at the very core of their sense of self. Clients may never be completely finished experiencing these feelings. Through counseling, however, clients may complete much of the emotional work required to reach a point of resolution and acceptance of their infertility. Their grief is no longer experienced as incapacitating” (p. 320).

The essential part of healing centers on the ability to process these feelings in the presence of their partner. Often partners can feel left out of the treatment, making decision-making difficult and coping with loss isolating. Relational wounds could resurface during such an intense time, triggering couples to get stuck in their negative cycle or activating aspects of their relationship that were particularly painful. The ability to work with couples together can help strengthen their response to moments of disconnection and fear more effectively, especially as they face the complexities of ART. This relational work has the ability to greatly affect how they see each other and their couple narrative as they work to build their family.

In the following section, attachment theory (Bowlby, 1973) is presented as a potential lens to understanding the importance of proximity, emotional engagement,



and the power of relational reparation in times of couple distress (Johnson, 2004). Understanding attachment theory while utilizing evidence-based interventions can help couples to stay emotionally open and accessible to each other during times of distress (Johnson, 2004). This openness and exploration of attachment strategies has the potential to help couples avoid the pursue-withdraw dynamic that can be observed in some couples experiencing infertility (Donarelli et al., 2016). Donarelli et al (2016) have argued that an individual's attachment style and its relation to their partner's attachment style can influence how they perceive stress when dealing with infertility. Research has shown a link between one's attachment style and the psychological stress associated with infertility (Donarelli et al., 2012; Lowyck, Luyten, Corveleyn, D'Hooghe, Buyse, & Demyttenaere, 2009; Van den Broeck, D'Hooghe, Enzlin, & Demyttenaere, 2010b). The researcher hypothesizes that helping couples learn attachment cues and understanding attachment longings from their partners can have lasting benefits including a closer relationship connection when facing infertility-related distress and a more successful transition to parenthood.

### **Attachment Theory**

When considering the relationship stability of couples going through fertility treatment, research has found that marital satisfaction in general is higher when there is more attachment security for both the individuals and the couple as a unit. Likewise, marital satisfaction was lower when there was anxious attachment present in either partner or both (Banse, 2004). Lowyck et al (2009) found that "adults who are securely attached to their partner (i.e., who represent their partner

as being emotional available and responsive) report a higher degree of well-being during IVF/ICSI than individuals with an insecure romantic attachment style” (p. 392). This research implies that couples recover more successfully from the grief, loss, and disconnection heightened by the diagnosis and treatment of infertility if the couple relationship is safe, secure, and partners are emotionally accessible. Lowyck et al (2009) also stated “perceiving one’s partner as being emotionally available and responsive during IVF/ICSI may also lead to greater relationship satisfaction, whereas being either overly preoccupied with the availability of one’s partner, or dismissing the need for his/her presence may negatively impact relationship satisfaction across IVF/ICSI procedures” (p. 392).

Attachment theory has become an essential theoretical framework for understanding emotion regulation; a framework that highlights the need for close, intimate, relational bonding between partners. When under relational stress, attachment needs become activated and the need for comfort and emotional security become a priority (Karen, 1998). As individuals and couples learn to navigate difficult situations they may seek proximity to loved ones (attachment figures) looking for comfort and safety. In adult romantic relationships, the primary attachment figure is the partner, offering safety and security during adversity (Mikulincer & Shaver, 2007). Jafarzadeah, Ghahiri, Zargham, and Habibi (2015) indicated the spouse is often the main source of support when going through infertility, highlighting the unique impact a partner’s empathy and support can provide beyond that of family and friends. Often couples are required to manage situations that are challenging to this attachment emotional bond. Research has

indicated that coping with a diagnosis of infertility is a tremendous stressor, one that is capable of activating attachment-seeking behavior (Lowyck et al., 2009). Depending on their attachment styles and history of closeness in relationship they may not be able to comfort themselves, and may turn to their partner seeking proximity to accommodate their needs. The degree to which one partner has the ability or inability to soothe, comfort, or respond to a partner's attachment needs can lead to a great amount of distress and a sense of abandonment or isolation. Donarelli et al (2012) found a strong correlation between attachment dimensions of partners and psychological distress in fertility treatment, indicating that one's attachment plays a critical role in the ability to cope and integrate the tremendous stress of ART treatment. The clinical implications from Lowyck et al (2009) strongly suggest that counselors "discuss romantic attachment with the couple and help insecure couples develop a more secure partner relationship in which they can overtly talk about their thoughts and emotions associated with this difficult experience of IVF/ICSI" (p. 392). The authors advocate that "working toward a more secure partner relationship may be especially important for two reasons: 1) research has shown that the partner is a primary source of support during IVF/ICSI treatment, and 2) difficulties in partner communication predict high fertility problem stress when couples fail to get pregnant" (p. 392).

At the core of attachment theory is the belief that contact with others and closeness in relationship is a crucial aspect of survival. The presence of an attachment figure, or someone who is considered an important other provides comfort, safety, and security. Likewise, disconnection or separation causes

significant distress. This attachment figure becomes what Bowlby (1973) called a “safe haven.” As Johnson (2004) stated, proximity to a loved one “...is the natural antidote to the inevitable anxieties and vulnerabilities of life” (p. 26). This safe haven provides a barrier to stress and fear for both children and adults and allows for further psychological growth and a deeper relationship with others. For children this safe haven fosters the courage to take risks both emotionally and developmentally, knowing the attachment figure or safe haven is a secure place to return to integrate these experiences. For couples, this is a similar process. The couple relationship thrives on an effective safe haven, one that allows for each partner of the couple to receive comfort and security. This encourages a sense of belonging and purpose within the relationship that helps to regulate difficult emotions and experiences, and restore a sense of equilibrium to a heightened nervous system. (Shore, 1994). Couples can then seek proximity to each other, learning how to best soothe and comfort their partner when they are in distress.

Similar to a safe haven, attachment theory presumes the primary caregiver or attachment figure is what Bowlby (1973) described as the “secure base.” A secure base is a place from which exploration can safely occur. This can be seen in children as they approach developmental milestones, learning to walk, seek proximity, and understand safety in their environment. Secure attachment can aid in self-reflective skills of behavior and others around them (Fonagy & Target, 1997). The same is true in adult relationships. Couples are often seeking safety and security, viewing each other as a secure base to practice taking emotional risks and display vulnerability since emotional accessibility and responsiveness become paramount in bonding

relationships. A healthy secure base in couple relationships allows each partner to reach and respond to attachment longings, offering comfort and an effective approach to emotional repair. Johnson (2004) said couples who co-create a secure base are often more happy and satisfied, with the capacity to understand and deal with conflict more effectively. Couples who face distress without the safety of a secure base can often default to their own history of fear and isolation or easily become entangled in a desperate plea for help with feelings of disconnection and helplessness. Both options lead to pushing their partner farther away, and heightening their attachment fears. Suddenly, past experiences of emotional safety and security, accessibility and responsiveness are put into perspective, and partners will likely move toward or away from the other.

Pushing away or attachment avoidance is commonly understood as a fear of dependence or emotional intimacy within the relationship (Donarelli, LoCoco, Gullo, Marino, Volpes, & Allergra, 2012). Those who are more avoidant in nature tend to believe others are not there for them or cannot be trusted. Moving towards or attachment anxiety is understood as a fear of rejection or abandonment, leading those partners to pursue and feel distress when their partner is emotionally unavailable (Donarelli et al., 2012). Research has found that attachment anxiety or avoidance in each partner correlates with infertility distress (Bayley, Slade, & Lashen, 2009; Donarelli et al., 2010). More securely attached partners tend to have a better sense of well-being during ART treatment and less infertility distress versus more insecurely attached individuals (Lowyck, et al., 2009, Mikulincer, Horesh, Levy-Shiff, Manovich & Shalev, 1998). Donarelli, Kivlighan, Allegra, and LoCoco

(2016) reported “the male partner feels more distress when his female partner displays elevated levels of attachment anxiety” whereas, “the wife’s infertility-related distress was related to her husband’s tendency to avoid needing his partner in order to need maintain independence...” (p. 67). One could speculate these behaviors create a negative cycle for the couple, consisting of a pursuit for connection (anxiety) and a withdrawal of engagement (avoidance). Donarelli et al (2016) stated “husbands with elevated attachment avoidance address their attachment needs by withdrawing from their partners but their partners’ pursuit can lead to heightened distress for the husbands” (p. 67). As attachment-seeking behaviors become activated through the various opportunities for disconnection during the infertility treatment process, couples run the risk of turning away from their partner, creating attachment injuries, and further escalating the heightened experience of loss and disconnection they are already feeling from each other, those around them, and their body.

Donarelli et al (2016) has argued that partners are a crucial target for meeting each other’s attachment needs and longings; how they approach this task will determine how they experience distress dealing with infertility. Because infertility is a shared event for a couple, actively seeking attachment relies heavily on couples having similar objectives and desires. Research has found that those unsure about their partner’s availability will perceive positive feelings from their female partner who may be anxiously seeking comfort and security. This emotional miscue or miscommunication seems that it is “difficult for husbands to manage the different ways of expressing the anxious attachment strategy within the couple”

(Donarelli et al., 2016, p. 68). It has been suggested this may be due to the increasing amount of focus and attention the female partner is giving to the physical demands of the fertility treatment process, with “coping resources [that] are strained” (p. 68), focusing less on the couple’s interpersonal functioning. This phenomenon provides more evidence as to why fertility counseling is imperative to assessing the couple’s ability to stay engaged, connected, and present to their relationship. Paying attention to attachment theory, using its framework to better understand a couple’s need to seek, reach, and attune to each other can not only alleviate infertility distress, but aim to restructure past attachment-seeking strategies that may not have been effective.

While attachment theory operates as a foundational lens to conceptualize adult romantic love, it does not provide clinical interventions that can aid in increasing more attachment security. Emotionally Focused therapy (EFT) was created and developed around these core attachment beliefs, with the potential to help MHPs navigate strong emotions, complex cycles of misattunement, and the process of building attachment security.

### **Emotionally Focused Therapy**

As mentioned above, after careful research and development of these attachment theory tenants, researchers applied these concepts to adult relationships (Shaver & Mikulincer, 2002). As these attachment dynamics became more explicit in couple relationships, the role of emotion became paramount. From this realization, Johnson and Greenberg (1985) developed a theoretical orientation that highlighted the role of emotion and attachment longing on a couple’s ability to

create a lasting bond. This new theory, EFT, has its origins in systems and humanistic theories, but is firmly rooted in and heavily influenced by attachment theory, and more recently, affective neuroscience. Sue Johnson, the creator of EFT describes the foundation of EFT as “...first a theory of change, which arises from a synthesis of humanistic experiential therapy and systems theory, and second an attachment process” (2004, p. 8). While EFT is primarily for those in couple therapy, it is often adapted for individual therapy as well.

The process of change in EFT is primarily through the evocation, heightening, and reprocessing of emotion within and between partners. Emotion, as Johnson (2004) says is “the necessary agent of change” (p. 4). The therapeutic relationship is crucial to the establishment of safety, and the opportunity for vulnerable emotions to emerge, focusing on “making contact with the client’s world” (Johnson, 2004, p. 60). A firm knowledge in attachment theory also helps to guide the process of creating a corrective emotional experience, and a more coherent narrative of loving relationships.

In EFT, the change, the cure, or the corrective experience happens within the couple relationship as emotions are evoked, attachment longings and fears are identified, and as partners reach and respond to each other for comfort. EFT according to Johnson (2004) “...considers how systemic pattern and inner experience and sense of self evoke and create each other” (p. 9). Similar to self-psychology, couples are often looking to their partner to mirror and provide crucial self-object experiences. Just as Lessem (2005) discussed “transmuting internalization” (p. 81) takes place in the realm of self-psychology, a very related



process in attachment theory also exists: the formation of the internal working model. Both theories discuss an internal representation of attachment figures, self-object experiences, and a more securely structured ego that allows the individual to seek out security and regulate distressing emotions when safety is temporarily unavailable. EFT requires the therapist to track, monitor, and stay consistently present to the unfolding process, working almost solely in the here-and-now. Any reflections, validations, attachment reframes, or interpretations are always given within the therapeutic relationship, and in the context of the couple bond.

Conceptually, EFT and attachment theory help to make sense of difficult and complex couple relationships. It has proven to be effective in helping to understand negative patterns of interacting and staying present with emotion (Johnson, 2004). Theoretically, EFT is rooted in attachment theory, helping provide a road map to working with couples, highlighting the need for couple bonding and attachment repair.

### **Attachment Theory and Fertility Counseling**

As mentioned above, there is a significant lack in theoretical approaches to working with couples in fertility counseling. Most fertility counseling involves the individual and focuses around relaxation and cognitive behavioral techniques (Cousineau & Domar, 2007; Pasch & Sullivan, 2017; Chow et al., 2016). However, due to the unique situation of fertility treatment its demand can be taxing on the couple relationship and decrease satisfaction. One of the theoretically grounding forces of attachment theory is that early attachments have a direct impact on relationships later in life, including romantic couple relationships (Johnson, 2004).

These early attachment experiences can influence adult attachment styles and a couple's ability to navigate complex relational dynamics, including decision-making, a common aspect of couples experiencing infertility (Johnson, 2004). Simpson and Rholes (2010) stated this is especially true for adults who have demonstrated a more insecure attachment (both anxious and avoidant) style leading to more relationship dysfunction, feeling less satisfied and more distressed. Therefore, it is increasingly important that fertility counseling focus heavily on preparing, repairing, and preserving the relational bond. Paying attention to the couple relationship with a sound and effective theoretical approach addresses the current limitations of fertility counseling with couples. Research has shown that EFT is effective at reducing the rate of depression and anxiety in infertile couples (Soltani, Shairi, Roshan, & Rahimi, 2014). EFT has also had a significant effect on increasing emotional, sexual, physical satisfaction for infertile couples (Soleimani, Najafi, Ahmadi, Javidi, Kamkar, & Mahboubi, 2015; Najafi, Soleimani, Ahmadi, Javidi, Hoseni, & Pirjavid, 2015).

Fertility treatment can extend for a number of years, progressing with intensity and causing significant prolonged distress. This distress and dissatisfaction may then be carried into a pregnancy, this extra stress having a potential impact on the growing baby and the mother (Hammarberg et al., 2008). In a review of current literature Hammarberg et al (2008) reported that women who conceived by ART had higher rates of anxiety related to losing the pregnancy than those who conceived naturally. This ongoing relational distress and distance if not attended to, can be carried into the parenting relationship (Burns, 1990). Or if treatment is

unsuccessful, this distress can continue and cause significant or irreparable damage to the couple bond with 10% of couples leaving treatment due to relationship strain after prolonged unsuccessful treatment (Daniluk & Tench, 2007). Proper use of EFT founded upon the core tenants of attachment theory can guide couples through increasingly complex conversations related to fertility treatment with potential results that could extend far beyond the current relationship distress (Najafi, Soleimani, Ahmadi, Javidi, Hoseni, & Pirjavid, 2015; Soleimani, Najafi, Ahmadi, Javidi, Kamkar, & Mahboubi, 2015; Soltani, Shairi, Roshan, & Rahimi, 2014).

Understanding the concepts of attachment theory and identifying with a strong theoretical approach can help the fertility counselor facilitate more bonding, sharing of fears, processing loss and desire for connection and create the opportunity to have a more coherent relational narrative for the future. In this scenario the partner becomes an important part of the treatment, fully engaged and not just a bystander to the process. Helping couples learn these relational and attachment cues has implications not only on successful fertility treatment, but, cohesive parenting, the ability to bond with their new child, and the development of tools to aid in increasing the satisfaction in their relationship.

### **Considerations for Different Phases of ART or Fertility Treatment**

It is clear the diagnosis of infertility and duration of fertility treatment is stressful on the couple relationship, however, this researcher hypothesizes through this study that couples may need different therapeutic support in different phases of treatment. There is no research addressing the relationship satisfaction of couples in various phases of fertility treatment, therefore this study has the potential to add

a new perspectives on this topic to better guide fertility counselors. This research will assess couple satisfaction during various phases of treatment to determine if satisfaction changes through the treatment duration. If satisfaction fluctuates between phases of treatment, this could have implications for therapeutic interventions. Couples may need differing levels of support as medical treatment progresses or as they are faced with more complex decisions and financial burden. The increase in stress may highlight and bring to the surface areas of the couple relationship that are in need of attention or long-standing attachment wounds that have been activated through the unpredictability of treatment success. The researcher hypothesizes that utilizing attachment theory and EFT in fertility counseling could increase couple connection, serving as a safe haven to process loss or traumatic events that occur during treatment. Helping partners understand their partner differently could foster flexibility and adaptability, two things fertility treatment demands of the couple relationship. The researcher speculates if couples can learn how to pay attention to attachment cues and understand attachment longings from their partners, these skills can have lasting benefits including the ability to bond with their new child and successfully transition to parenthood. This increase in emotional engagement and bonding has the potential to help couples stay motivated and engaged in the treatment process through delays, medical testing and results, and financial constrains.

There is a possibility that couple satisfaction does not change dramatically through various phases of treatment and that couples feel supported with similar therapeutic interventions throughout. Either result of the satisfaction assessment

provides critical information for fertility counselors to more effectively meet the psychological needs of fertility patients.

### **Summary**

With the mounting research on the psychological impact of infertility for the individual and couple relationship, understanding couple satisfaction and finding effective interventions to address it are becoming a priority of fertility counselors (Chow et al., 2016; Cousineau & Domar, 2007; Daniluk, 1991; Lowyk et al., 2009; Peterson, 2015; Van den Broeck, 2010a). Providing therapeutic interventions for the individual has tremendous benefits, however, treating the couple relationship gives opportunity to strengthen the couple bond and process the difficulties of fertility treatment; a noted priority for fertility patients (Read et al., 2008). The research has clearly stated that a couple feels the pressures and demands of fertility treatment, so it makes most sense to support the not only the individual but the couple (Chow et al., 2016; Cousineau & Domar, 2007; Cousineau et al., 2008; Daniluk, 1991; Donarelli et al., 2016; Donarelli et al., 2012; Lowyk et al., 2009; Read et al., 2014; Van den Broeck, 2010a).

Attachment theory and EFT have been shown to have a significant effect on a couple's ability to process difficult emotions, feel supported by one another, and better understand their partner's experience of infertility (Bayley et al., 2009; Donarelli et al., 2012; Donarelli et al., 2010; Lowyck, et al., 2009; Mikulincer et al., 1998; Najafi, Soleimani, Ahmadi, Javidi, Hoseni, & Pirjavid, 2015; Soleimani, Najafi, Ahmadi, Javidi, Kamkar, & Mahboubi, 2015; Soltani, Shairi, Roshan, & Rahimi, 2014). These findings give continued evidence that couples undergoing fertility treatment

need more than stress reduction techniques and cognitive reframing to successfully navigate the emotions they encounter.

In order to better understand couple satisfaction and its possible fluctuations, an assessment was provided to couples currently undergoing fertility treatment. Chapter III discusses the details of this research, including the desired participants, research methodology, satisfaction instrument, and data analysis.

## CHAPTER III: METHODOLOGY

### Introduction

After a review of literature with surmounting evidence that infertility and its treatment has significant consequences for the individual and couple relationship, the need for effective fertility counseling is indicated. In order to understand what couples may be experiencing throughout various medical treatments and better address those needs, this study assessed couple satisfaction during three key phases of fertility treatment. As couples navigate the progression of treatment, the stress and demands of it may influence their satisfaction. This study explored whether there is a difference in couple satisfaction due to the phase of fertility treatment. If so, is that difference statistically significant and what clinical implication does that have for fertility counselors to better treat couples?

### Participants

Participants included heterosexual and same-sex couples that identify as married, living together, or in a committed relationship and are actively participating in fertility treatments performed by a medical professional. Participants were initially recruited and elected to participate from the national infertility support and advocacy organization, *Resolve*. *Resolve* has a large online community consisting of thousands of fertility patients who were offered the option to participate in this study. In addition to *Resolve*, participants were recruited via social media platforms that were directed towards fertility related discussions. Participants were also recruited from a Southeast regionally located fertility clinic to participate in the study (See Appendix A). Requirements to participate included

active fertility treatment by a medical professional, being currently involved in a romantic couple relationship, and the current treatment procedures fit into the identified key phases. Treatment phases were defined as Phase I being for couples engaged in tracking ovulation, taking prescription oral medication to stimulate ovulation, and having timed intercourse; Phase II being for couples that are introducing injections to suppress hormones and stimulate ovulation (including procedures such as intrauterine insemination (IUI)); and Phase III includes couples that are undergoing IVF, using donor gametes or surrogacy.

### **Procedures**

Participants were invited to complete the Couple Satisfaction Index (CSI) (attached as Appendix A) developed by Funk and Rogge (2007), consisting of 32 self-report items for couples married, engaged, or dating. The CSI is available in a shorter version, however this study used the complete version of 32 self-report questions for the most thorough assessment of this vulnerable population. In addition, the shortened versions (CSI 16 and 4) excluded questions that are pertinent to the current research such as asking participants to rate their agreeableness in making decisions together. Due to the complex decisions this population faces, this is an important area of their relationship to assess. Participants answered a series of demographic questions to be developed by the researcher at the conclusion of the CSI.

Upon approval from the various stakeholders and institutional review board (IRB), participants were recruited via a) *Resolve*, b) social media directed



towards fertility related discussions and information and c) patients of a Southeast regionally located fertility clinic to participate in the study.

After proper and clear informed consent to participate, individuals accessed the CSI and demographic questions via an electronic link. Data was then collected and stored confidentially; appropriately scored and analyzed.

### **Instrumentation**

**Couple Satisfaction Index.** Funk and Rogge developed the CSI in 2007 with instrument questions determined from a pool of both relationship satisfaction and communication items. After further editing and analysis, 103 items were paired down to 66 after redundant items were eliminated. It was finally decreased to 32 items after inter-item correlations were evaluated on two main criteria, using item response theory (IRT). The convergent and construct validity for the CSI (32) showed a strong correlation with other satisfaction measures such as: Marital Adjustment Test (MAT 15) ( $r=.91$ ), Dyadic Adjustment Scale (DAS 32) ( $r=.91$ ), and the Quality of Marriage Index (QMI 6) ( $r=.94$ ), along with others, however it had minimal overlap with those scales. This indicates that while there is an expected positive relationship between these measures of couple satisfaction, they are not too highly related, thus making the CSI unique from other satisfaction measures. With such strong construct validity, it can be assumed that the CSI is measuring similar aspects of satisfaction as the DAS or MAT, but with increased precision due to its item-level analysis, creating lower levels of noise or error variance. This precision includes accuracy in measuring only couple satisfaction and not communication skills, a common mistake of most current measures of couple satisfaction. This

improved precision also increased the power and effect size when compared to other couple satisfaction assessments, with the ability to detect subtle group differences (Funk & Rogge, 2007). The internal consistency and reliability of the CSI were strong for all three versions with alpha coefficients of .98 (CSI-32), .98 (CSI-16), and .94 (CSI-4).

This measure is closely normed for the population to which it was administered. Due to strong evidence of reliability and validity, along with its low levels of error variance in the items selected, the CSI has shown to be a great contribution to the measurement of couple satisfaction. In fact, it's demonstrating to be on the leading edge of efficiency and comprehensiveness, with the potential to significantly benefit couple satisfaction research in the future and enhance couple therapy interventions.

The CSI consists of questions regarding a couples' overall degree of happiness asking the participants to rate their happiness on a 6-point scale (0=extremely unhappy, 6=perfect). Participants were then asked a series of questions considering the extent of agreement and disagreement in their relationship (0=always disagree, 5=always agree). Further into the assessment, participants were asked to rate their relationship on a variety of questions using a 5-point scale (0=not at all true, 5=completely true). Examples include, "I still feel a strong connection with my partner" or "I really feel like part of a team with my partner." The instrument included additional questions asking participants to rate relationship expectations, general satisfaction, and happiness in comparison to other couples.

The CSI concluded with participants rating their *feelings* about the relationship on a 5-point continuum of interesting/boring, bad/good, full/empty, lonely/friendly, sturdy/fragile, discouraging/hopeful, and enjoyable/miserable. The combination of these questions totals the entirety of the 32 self-report items. According to the developers and based upon a confirmatory factor analysis, totaling the sum of the point values can score this assessment (Funk & Rogge, 2007). Scores can range from 0-161, the higher the score the more satisfaction. Scores falling below 104.5 indicate relationship dissatisfaction (Funk & Rogge, 2007).

### **Research Design and Data Analysis**

This study utilized a univariate quasi-experimental research design model designating fertility treatment procedures into three key phases (Phase I, II, and III), ranging from non-invasive procedures to invasive procedures. Participants indicated which phase they are currently in and then completed the CSI online. Upon completion of the CSI, scores were totaled and compared using a three-way between-subjects factorial ANOVA to understand the possible interaction between variables (phase of fertility treatment, pregnancy loss, and sequential movement through fertility treatment phases) and if there is a significant difference in couple satisfaction levels determined by the total score from the CSI. Data was carefully screened for assumptions of normality, independence of observations, homogeneity of variances, and homogeneity of covariances.

### **Summary**

This study examined the level of couple satisfaction among participants who identify being at one of the three key phases of fertility treatment, Phase I, II, or

III, indicating the least invasive to most invasive treatment. The rate of satisfaction was assessed using the Couple Satisfaction Index (CSI). The results of this analysis will be discussed further in chapter four, detailing the description of participants and statistical findings.

## CHAPTER IV: RESULTS

### Introduction

The purpose of this study was to examine the group differences between phase of fertility treatment and the level of couple satisfaction as determined by the Couple Satisfaction Index (CSI). Other variables such as prior pregnancy loss and sequential movement through the fertility treatment phases were also considered and evaluated to determine if they had an impact on couple satisfaction.

Data collection consisted of a survey (See Appendix A) including the CSI and demographic information distributed electronically via Qualtrics through email or accessed through an online link. The CSI was used as the primary couples satisfaction assessment tool maintaining an internal consistency and reliability with alpha coefficients of .97 (CSI-32) throughout the current study.

Upon approval from the various stakeholders and James Madison University's Institutional Review Board (IRB), participants were recruited via a) *Resolve*, an online support community for those with infertility b) social media platforms directed towards fertility related discussions and information and c) patients at a Southeast regionally located fertility clinic to participate in the study. After proper and clear informed consent to participate, individuals accessed the survey via an electronic link. Data was then collected, stored confidentially, appropriately scored, and analyzed using a variety of statistical operations.

### **Description of Participants**

Participants included 171 females, with 168 included in the analysis due to incomplete responses to the CSI. All data was completed by females currently undergoing fertility treatment by a medical professional in what was defined as phase I, II, or III of treatment. Participants also indicated they are currently in a heterosexual or same-sex relationship, and over the age of 18.

Phase I of treatment was defined as tracking ovulation, taking a prescription oral pill to stimulate ovulation, and having timed intercourse. Phase II included the introduction of injections to suppress hormones and stimulate ovulation. This includes procedures such as intrauterine insemination. Phase III included IVF, using donor gametes or surrogacy. Participants varied in fertility treatments with 22.8% identifying as in phase I, 12.9% in phase II, and 59.1% in phase III.

Participants were asked to indicate if they had experienced a pregnancy loss; over half of the respondents answered “yes” (55.6%) and the remaining 42.7% indicated they have not. Participants answered whether they had moved sequentially through fertility treatment (phase I to phase II to phase III). Almost 70% indicated they had moved sequentially through treatment, with 33.3% noting they had not.

Table 1  
*Descriptive Statistics for Fertility Treatment Phase*

	<i>N</i>	<i>%</i>
Phase I	39	22.8
Phase II	22	12.9
Phase III	101	59.1
Missing	9	5.3
Total	171	100

Table 2  
*Descriptive Statistics for Pregnancy Loss*

	<i>N</i>	<i>%</i>
Yes	95	55.6
No	73	42.7
Missing	3	1.8
Total	171	100

Table 3  
*Descriptive Statistics for Sequential Movement Through Treatment*

	<i>N</i>	<i>%</i>
Yes	111	64.9
No	57	33.3
Missing	3	1.8
Total	171	100

The age of participants ranged from 20 to over 47 years old with the majority of participants in the range of 27-33 years old (53.8%). Most respondents (92.4%) indicated they were married (heterosexual or same-sex) with 4.7% in a committed cohabiting relationship. Participants were predominantly Caucasian (90.6%), with some African American (2.9%), Hispanic (1.8%), Asian (.6%), and Pacific Islander (.6%) participants. The range of time these couples have been trying to conceive including the time prior to medical treatment, ranged from 1 to over 6 years. The majority of couples tried for 1-2 years (44.4%) the next highest range was 3-4 years (29.8%), 5-6 years (9.9%) and over 6 years (12.9%)

Table 4  
*Descriptive Statistics for Age Range*

	<i>N</i>	<i>%</i>
20-26	7	4.1
27-33	92	53.8
34-40	58	33.9
41-47	8	4.7
47+	1	0.6
Missing	5	2.9
Total	171	100

Table 5  
*Descriptive Statistics for Relationship Status*

	<i>N</i>	<i>%</i>
Married	158	92.4
Committed Partners	8	4.7
Missing	5	2.9
Total	171	100

Table 6  
*Descriptive Statistics for Race and Ethnicity*

	<i>N</i>	<i>%</i>
Asian	1	0.6
African American	5	2.9
Caucasian	155	90.6
Hispanic	3	1.8
Pacific Islander	1	0.6
Missing	6	3.5
Total	171	100

Table 7  
*Descriptive Statistics for Years Trying to Conceive*

	<i>N</i>	<i>%</i>
1-2	76	44.4
2-3	51	29.8
4-5	17	9.9
6+	22	12.9
Missing	5	2.9
Total	171	100



When analyzing the total scores of the CSI, the data showed a minimum score from respondents of 27 and a maximum score of 161. The mean total score of respondents was 128.19 ( $SD = 27.45$ ). Higher scores indicate higher levels of relationship satisfaction. CSI-32 scores falling below 104.5 suggest notable relationship dissatisfaction. The maximum score for the CSI is 161 (Funk & Rogge, 2007).

Table 8  
*Descriptive Statistics for CSI Total Score*

	<i>M</i>	<i>SD</i>	<i>N</i>	<i>Min</i>	<i>Max</i>
Total CSI Score	128.19	27.45	168	27	161

### **Instrument Reliability and Preliminary Analysis**

Preliminary analyses were conducted to determine if the data were suitable for a univariate analysis of variance (ANOVA). In order to proceed with a univariate analysis, the data was screened for violations of assumptions of normality of the dependent variable for all cells and the equality of variances for all cells. The test for normality displayed about half of the cells satisfy this assumption ( $p > .05$ ), it is speculated that the cells producing lower values were due to the simple fact there were too few people in those cells.

Because an ANOVA is generally robust to the violations of this assumption, the researcher checked for the equality of variances. A Levene's Test was utilized to examine the equality or heterogeneity of variances. It was determined this assumption was not violated  $F(11, 150) = 1.456, p = .154$ .

A three-way between-subjects factorial ANOVA was utilized to understand the possible group differences between variables (phase of fertility treatment,

pregnancy loss, and sequential movement through fertility treatment phases) on couple satisfaction levels determined by the total score from the CSI.

### **Three-Way Between-Subjects Factorial ANOVA**

Participant responses were analyzed to determine if total scores on the CSI differed based on phase of fertility treatment (Q2), experience of pregnancy loss (Q3), and sequential movement through fertility treatment phases (Q4). The factorial analysis also displayed information indicating differences among groups for each variable.

The data showed there were no statistically significant interactions between Q2, Q3, and Q4 on the total score  $F(2, 150)=780.7, p = .118$ . This indicates the phase of treatment, pregnancy loss, and sequential movement through treatment does not have a significant combined difference on a couple's satisfaction score. The distribution of the total CSI scores displayed visually indicated a ceiling effect with a negative skew, and variance of 753.6 ( $SD=27.4$ ), suggesting most people self-reported high relationship satisfaction. Further, two-way interactions (Q2\*Q3, Q2\*Q4, and Q3\*Q4) also did not indicate significant interactions ( $ps >.05$ ). Lastly, when looking at only the main effects for each variable independently the results were not statistically significant, indicating there is not a significant difference between Q2 groups, Q3 groups, and Q4 groups on the total satisfaction score ( $ps >.05$ ).

Table 9  
*A Three-Way Between-Subjects Factorial ANOVA.*

<i>Source</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Q2	952.897	2	476.449	0.61	0.545
Q3	1565.862	1	1565.862	2.006	0.159
Q4	980.722	1	980.722	1.256	0.264
Q2*Q3	1037.791	2	518.896	0.665	0.516
Q2*Q4	1516.071	2	758.036	0.971	0.381
Q3*Q4	1293.629	1	1293.629	1.657	0.2
Q2*Q3*Q4	3385.771	2	1692.886	2.168	0.118
Error	117108.902	150	780.726		
Total	2786405	162			

\*Note.  $R^2=.05$

### Correlation

A simple correlation analysis was conducted of participant answers regarding a single-item question of self-reported happiness in their relationship and their final total score for the CSI. The data indicated a moderate-strong positive correlation between the total CSI score and the degree of happiness ( $r=.588$ ,  $p < .001$ ). A visual distribution of those responses displayed a negative skew, suggesting participants responded positively to that question. Therefore, participants who self-reported significant happiness in their relationship also consistently responded for the remainder of the CSI to end with score of high satisfaction.

Table 10  
*Correlation Between Degree of Happiness and Total CSI Score*

		Total Score	Degree of Happiness
Total Score	Pearson Correlation	1	.588**
	Sig. (2-tailed)		0

\*\*Correlation is significant at the .01 level (2-tailed)

### Summary

In conclusion, the results indicate no significant difference between phase of fertility treatment, experience of pregnancy loss, or sequential movement through treatment on a couple's satisfaction score on the CSI. In addition, participant responses to the CSI appeared to be average ( $M=128.19$ ) and did not indicate a higher level of distress dependent upon phase of fertility treatment. This display of couple satisfaction has clinical and research implications for fertility counselors and selecting effective fertility counseling interventions. These implications will be explored further in the next chapter, highlighting areas of theoretical orientation and understanding the challenges of fertility counseling with couples.

## **CHAPTER V: DISCUSSION**

### **Introduction**

Results from this study indicated no statistically significant differences in couple satisfaction regardless of phases of treatment, pregnancy loss, or sequential movement through treatment. These results can help inform fertility counselors and other fertility related professionals, patient support networks, and effective interventions to best treat couples in these specific situations. This chapter discusses the results from this study including the research and clinical implications of the findings, along with the limitations and contributions of the study. In conclusion, recommendations for future research are explored.

### **Overview of the Study**

The purpose of this study was to examine the group differences between phase of fertility treatment and the level of couple satisfaction as determined by the Couple Satisfaction Index (CSI). Other variables such as prior pregnancy loss and sequential movement through the fertility treatment phases were also considered and evaluated to determine if they had an impact on couple satisfaction.

Data collection consisted of a survey (See Appendix A) including the CSI and demographic information distributed electronically via Qualtrics through email or accessed through an online link. Data analysis consisted of a three-way between-subjects factorial ANOVA to understand the possible differences between variables (phase of fertility treatment, pregnancy loss, and sequential movement through

fertility treatment phases). Results indicated there was no statistically significant difference in couple satisfaction due to these variables.

### **Discussion of the Results**

This study aimed to better understand the relationship between fertility treatment phase and couple satisfaction. Variables such as pregnancy loss and sequential movement through fertility treatment were also assessed. It was determined there was no significant group difference between variables on couple satisfaction. This discovery indicates that couples remain, on average, satisfied regardless of the emotional, physical, and financial demands fertility treatment requires. These results are somewhat contradictory to previous research stating that couples experience relational distress through diagnosis and treatment of infertility (Covington & Adamson, 2015; Cousineau & Domar, 2007; Gameiro, Boivin, Peronace & Verhaak, 2012; Luk & Loke, 2016; Peterson, 2015). In a review of literature Gameiro et al (2012) found that discontinuation of treatment was strongly associated with psychological burden and relational problems.

Also this study revealed that experience with a prior pregnancy loss appeared to not have a significant impact on couple satisfaction. A pregnancy loss has been documented to contribute to relationship distress during such a complicated process of conception (Cousineau & Domar, 2007). Peterson (2015) stated that couples who experience repeated treatment failures or miscarriage can be at a greater risk of “psychological distress” (p. 68) if these experiences are not adequately addressed and processed. According to the results of this study,

participants indicated that prior pregnancy loss was not a contributing factor to their perception of couple satisfaction.

Another common variable described as contributing to couple distress and other mental health concerns is the intensity of fertility treatment (Verhaak, Smeenk, Evers, Minnen, Kremer, and Kraaimaat, 2005; Cousineau & Domar, 2007). Peronace, Boivin, and Schmidt (2006) found that those who discontinued ART treatment were suspected of lacking previous experience with prior treatments such as IUIs. Cousineau & Domar (2007) found “the level of distress in infertility patients tends to increase as treatment intensifies and as duration of treatment continues...” (p. 294). Since fertility treatment often begins with the least invasive measures possible, and progresses to more invasive treatment if unsuccessful, the variable of sequential treatment was measured to see if couples who started at the most invasive treatment versus gradually moving through the phases had a difference in couple satisfaction. According to the results, there was no indication that moving gradually through the treatment or moving straight to invasive treatment had any substantial effect on couple satisfaction.

Lastly, all of the variables (phase of treatment, pregnancy loss, and sequential movement through treatment) were analyzed together to see if in combination there was a significant group difference on couple satisfaction. Results showed that whether independently assessed or in combination, there is not a significant difference in couple satisfaction due to these variables.

### **Implications of the Study**

#### **Clinical Implications**

The findings from this study have important clinical implications for fertility counselors. Understanding that couple satisfaction may not be dependent upon the phase of treatment allows for flexibility in choosing effective therapeutic interventions that would be suitable for any couple undergoing fertility treatment. It could be stated that regardless of phase of treatment, couples are experiencing a similar level of relationship satisfaction in each phase therefore, specific interventions for specific phases may not be necessary. Furthermore, therapeutic interventions specifically developed to address infertility may be sufficient for treating couples regardless of phase.

This does not, however, negate the need for a more sound theoretical orientation when working with couples in these situations. While the phase of treatment may not require specific interventions, the experience of the infertility diagnosis and treatment is unique in its interpretation and treatment. As mentioned, the content associated with fertility counseling is different than most outpatient counseling sessions. It is often riddled with grief, life or death decisions, complicated and moral decisions that require foresight and usually a great financial commitment. Because of this, counselors should be trained in fertility counseling and nimble with the specific language and procedures that accompany it.

Couples may come to a fertility counselor regardless of phases of treatment looking for help processing these decisions or coming to terms with a diagnosis. As evidenced by this study, these extra stressors may not cause a decrease in satisfaction, but couples may require assistance in how to better communicate. Psychotherapy theories such as Emotionally Focused Therapy (EFT) could be a



helpful model in these situations. The foundation of EFT, attachment theory refers to the study of bonding and its role in effective emotion regulation and proximity seeking to specific loved ones (attachment figures). As mentioned before, EFT may highlight and bring to the surface areas of the couple relationship that are in need of attention or long-standing attachment wounds that have been activated through the unpredictability of treatment success. EFT has been described as “...first a theory of change, which arises from a synthesis of humanistic experiential therapy and systems theory, and second an attachment process” (Johnson, 2004, p. 8). The process of change in EFT is primarily through the evocation, heightening, and reprocessing of emotion within and between partners. EFT provides concrete interventions that could be useful to couples in navigating these complicated decisions while experiencing the stress of infertility. EFT can help to aid the counselor in tracking the negative relational cycle, understanding unmet attachment needs, or strengthening the couple bond (Johnson, 2004). All these treatment goals and interventions can assist couples more effectively enduring the challenges of continued treatment and possible parenthood. Attachment theory and EFT in fertility counseling could serve as a safe haven to process loss or traumatic events that occur during treatment. These skills have the potential to help couples understand their partner differently fostering more understanding and a more long-term desire for communication. It is speculated that if couples can learn how to pay attention to attachment cues and understand attachment longings from their partners, these skills can have lasting benefits including the ability to bond with their new child and successfully transition to parenthood.

Although there was no change in satisfaction regardless of treatment phase, it still may be helpful for couples to meet with a mental health professional throughout this process. Even though participants were reporting satisfaction in their relationship, there may be some couples who see a fluctuation. According to Boivin, et al (2012), providing fertility patients with effective emotional support while helping couples learn how to do that for each other has the potential to decrease patient drop-out and increase success rates. It may be a benefit to both the couple and the physicians in the practice for a counselor to meet with couples as a standard part of fertility treatment care. This allows the opportunity for more hands-on monitoring of the stress patients experience, while also providing skills for talking through complex decisions that may cause distress for the couple. This additional service for couples could be an attractive benefit as a patient and provide a more holistic view of treatment; giving the couple and physician the greatest opportunities for success.

### **Research Implications**

The infertility patient population can be difficult to study, due to recruitment limitations, such as protected health information barriers and the stigma surrounding infertility. A key component to the research process was the scarcity of participants in phase I and II of fertility treatment. It can be speculated, the lack of participants in these various phases may be because these couples are so new to the experience of fertility treatment and may not recognize a need for support. This could be because they have not experienced reoccurring reproductive loss or multiple unsuccessful treatments that would require additional support. Or

in some cases, participants in phase I or II may not know where to seek support or that it is available.

Another research implication of this study included the difficulty regarding recruitment due to a lack of an available participant pool. Recruitment at fertility clinics proved to be difficult due to protected health information. This shortage of available participants raises the question around the internal stigma around this population. While protection of patients is crucial to proper standard of care, the intense privacy from institutions may send a message to this population about their ability to be asked and process difficult emotional situations.

An additional research implication includes the access to people dealing with infertility. As discussed, recruitment was difficult and in this study and all participants were already connected with some form of informal or formal support communities. This aspect of recruitment can be difficult if research is aimed to reach any person diagnosed with infertility. While this study had recruitment requirements including only participants under the care of a medical doctor, future research may be impacted if those requirements for participants were not in place. If the easiest access to participants appears to be those getting some form of support, including medical support, it may be difficult to get an accurate rate of couple satisfaction for those not involved in these supportive environments.

Lastly, another research implication includes social desirability. Research has indicated that some parties involved in third party reproduction are motivated to make a positive impression in order to proceed with treatment or be accepted into a treatment cycle given the permission of a fertility counselor (Sims, Thomas,

Hopwood, Chen, & Pascale, 2013). This phenomena invites future studies attempting to understand this idea that ART participants must appear to be in good psychological standing, or remain positive in their outlook and presentation towards others in order to gain access to the next step of the family building process. This presentation may get in the way of truly understanding the negative impact a diagnosis and treatment of infertility may have on an individual, or perhaps perpetuate a feeling of superstition that a negative mindset creates negative results. The social desirability to be “doing well” could influence participant responses in future studies aiming to understand the difficulty associated with infertility. This mindset must be evaluated and researched more fully to know how much this false presentation may skew potential research results in the future.

Even though the survey in this current study was distributed and data collected confidentially, there could be participant concerns about potential repercussions regarding their survey responses. For those participants who were patients at the reproductive clinic, there may be a tendency for greater positive impression since the survey was distributed in conjunction with the clinic. Participants may worry their answers could somehow be discovered and impact their ability to receive treatment or unveil yet another private part of their intimate relationship. These aspects may have impacted participant responses to the survey, and must be considered for future research with this population.

**Methodology Implications.** The process of collecting data for this study provided a multitude of information for more effective research methodology. There

are several methodology implications for consideration if replicating this study or surveying this population. It is important to consider how the research is communicated to participants since there can be unforeseen complications if the research is not clearly denoted. If partnering with an organization, it is wise to be intentional about preparing past and current patients about the potential to participate in a study. This may include sending a preliminary email or form of communication that includes an option to opt-in or opt-out of receiving information about the study. This preliminary communication should come directly from the partnering organization so participants recognize the sender, and do not feel concerned about a violation of privacy. This simple step allows participants who may feel as though participating in research on this topic might negatively impact them or cause undue distress, can opt-out immediately without being directly contacted further by the researcher. Patients may not be prepared to receive information about their private reproductive health information via electronic communication or worry about the societal stigma of infertility and what it means to participant in a study that is researching it. This preemptive email from the partnering organization helps to provide clear wording, intent, institutional review board approval information, and assure patients of the continued standard privacy. If this step is not included, and patients receive an email directly from the researcher or without clear partnership with an organization it may cause distress for the patients. This population has already experienced a sense of loss and betrayal, especially if their prior reproductive treatments were unsuccessful, traumatizing, or detrimental to their mental health. Therefore, receiving a survey

electronically from an email address not affiliated with the clinic or from a clinic that they felt mistreated, may affect their responses to the survey or heighten their concern about a breach of medical information.

It was apparent in the data collection process of this study that this population expects and values a high level of privacy around this topic and can feel betrayed of a provider's trust depending on how research protocols are outlined and communicated at the initial contact with participants.

### **Limitations of the Study**

While the findings of this study have implications for furthering the effectiveness of fertility counseling, there are limitations that must be discussed. Limitations of this study include self-selection. First, participants selected to become a part of the *Resolve* online community, follow particular social media platforms, and become a patient at the reproductive clinic. Second, these participants had to select to participate in this current study, consenting to answering demographic questions and taking the CSI. Self-selection brings into question the accuracy of the representation of infertility patients and if the information in this study can be generalized to the majority of couples undergoing treatment.

Another limitation includes the snowball and convenience sampling using social media platforms and the patients at the Southeast reproductive clinic. In these situations, participants were already a part of an infertility network therefore; the sampling was not completely random. This limitation can affect the ability to make accurate inferences about the data and can run the risk of higher sampling error.

Lastly, another limitation is the nature of self-reporting. Each participant will be asked to rate themselves and their relationship with their partner in a variety of scenarios. The accuracy and honesty in these ratings are subjective and can contain an over or underestimation of their perception of couple satisfaction that may be reflected in their responses. Future research could involve a longitudinal replication of this research to determine if there is a change in self-reporting over time, instead of the cross-sectional approach utilized in this study.

### **Contributions of the Study**

This study provides multiple contributions to the infertility community, fertility counselors, and medical professionals working with this unique population. This study helps to better inform the mental health community about the specific challenges those undergoing fertility treatment endure. By understanding the impact of infertility on individuals and couples it allows for others to better know how to support those around them suffering from infertility, equipping providers and family and friends with new knowledge regarding couple satisfaction. Family, friends, medical professionals, and fertility counselors can be adequately informed this population did not experience a significant change in satisfaction, however, a patient's personal experience of infertility and its treatment is unique to each, needing support from various platforms. This information helps further more effective psychotherapy programming that could benefit couples in these situations and gives fertility counselors a more efficient approach to treating couples in various treatment phases. The introduction of attachment theory and EFT provides

the opportunity for fertility counselors to utilize a theoretical approach that aims to enhance couple connection during such personal distress.

Lastly, this study allows medical providers and fertility clinics to better understand the needs of their patients, including the need for continued formal or informal emotional, financial, and educational support. In addition, the need for new initiatives to engage couples who are new to the treatment process or processing through their diagnosis alone at home. In doing so they can offer services that are attractive to current and prospective patients, treating the couple both medically and emotionally.

### **Conclusions of the Study**

The findings of this study highlight the importance of fertility counseling and its unique support during the family building process. While the results indicated couples do not experience a statistically significant amount of change in satisfaction throughout the various phases of fertility treatment, the literature has been clear that the experience of treatment itself can be difficult on relationships. This study reinforces the need for quality, well-trained fertility counselors to remain accessible and engaged with the needs of this specific population. Regardless of veteran in-vitro fertilization patients or those just beginning the treatment process, relational support is a factor that cannot be ignored. Offering mental health support to those in fertility treatment should be an ongoing service that is accessible to patients at reproductive clinics, making the decision to seek help during complicated situations an easy and manageable task.



### **Recommendations for Future Research**

The recruitment process for participants proved to be a difficult due to a variety of barriers. Further research with this population is needed to better understand patients needs and desires. Especially needed is research regarding those in phase I and II of fertility treatment. Those couples were difficult to engage and it seems worthwhile to better understand how to best support those early in the treatment process. This includes equipping them with the educational and psychological support needed should they need to continue on to more invasive treatment.

For couples who would identify as receiving effective emotional support through fertility treatments, it could be beneficial to ask couples to expand on how that support did or did not meet their needs, or what mental health resources they were hoping to receive. This information might provide alternatives on how to better reach couples who are not already engaging in a platform of informal or formal support, but are instead dealing with the diagnosis of infertility at home specifically within their romantic couple relationship.

Another area for future research includes the effectiveness of theoretical approaches in fertility counseling. Little has been documented regarding well-defined theoretical models that adequately address the needs of fertility patients. Specifically, couple relationships and the stress couples may face throughout treatment. Having a sound theoretical model would help to better unify the process of fertility counseling training and provide a more uniform standard of care to fertility patients.

### **Concluding Remarks**

In conclusion, the need for well-trained, effective fertility counselors will continue to be in demand in the future as the field of reproductive technology advances to include complex procedures such as three-parent embryos and uterine transplants (Swetlitz, 2016). Fertility counselors' skills and attention to the unique experiences of fertility challenges is a much-needed adjunct service to medical treatment. The process of fertility treatment and the complicated decisions it requires will likely not decrease in the future. These decisions have the potential to expand and become more dynamic as science reaches new heights in reproductive technology. Couples will continue to need a non-biased, knowledgeable fertility counselor to help make such difficult decisions.

It is also helpful to understand the stability of couple satisfaction regardless of fertility treatment phase, pregnancy loss, or sequential movement through the treatment process. This information helps inform the fertility counselor that couples need support no matter what phase, beginning or end. It is also paramount that the fertility counselor becomes comfortable with a valid and effective theoretical orientation that provides interventions that are conducive to increasing couple connection.

Assisted reproductive technology (ART) continues to cross new thresholds, allowing the family building process to be accessible to anyone. With the vast array of services and procedures, couples are inedited with potentially stressful situations. As the field of science continues to evolve, so does the need for mental health professionals working to reach this population, often stigmatized and quietly

suffering due to their diagnosis. While the medical profession may define reproductive success as the number of live births or a statistic used to market their reproductive clinic, could the definition of success end without the birth of a child? Could success look like the ability to face adversity with a loved one, repair old relational wounds resurfaced through infertility in the presence of a partner, or take refuge and find safety from the one closest to them. As couples look to each other, could this process evoke strength and bonding instead of shame and guilt? Maybe infertility can be a vessel helping couples turn towards each other instead of away, successfully conquering difficult decisions and wading through grief and trauma in partnership instead of isolation? If this is possible, the need for counseling and mental health support through the family building process becomes a crucial aspect of what is defined as success.

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## APPENDIX A

# ART survey

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Start of Block: Default Question Block

## Q1 Identification of Investigators & Purpose of Study

You are being asked to participate in a research study conducted by Kristy Koser from James Madison University. The purpose of this study is to better understand couple satisfaction throughout various phases of infertility treatment in order to develop effective psychotherapy interventions. This study will contribute to the researcher's completion of her dissertation.

## Research Procedures

This study consists of an online survey that will be administered to individual participants through the *Resolve* Online Community using Qualtrics (an online survey tool). You will be asked to provide answers to a series of questions related to your experience of fertility treatment and its impact on your relationship with your partner.

## Time Required

Participation in this study will require 15-20 minutes of your time.

## Risks

The investigator does not perceive more than minimal risks from your involvement in this study (that is, no risks beyond the risks associated with everyday life). The investigator perceives the following are possible risks arising from your involvement with this study: possible distress when reflecting on your relationship with your partner or your fertility journey thus far. To minimize this risk the researcher has provided her contact information and is available to help find a trained fertility counselor in your area if the need arises to further the discussion surrounding this distress.

## Benefits

Potential benefits from participation in this study include the opportunity to assess your relationship satisfaction with your partner, to contribute in the endeavor to more effectively help couples who are struggling with infertility, and to give voice to your own experience of the fertility treatment process. The potential benefits of the research as a whole hopes to educate mental health professionals about the unique challenges couples experiencing infertility navigate on a daily basis and how to address those complexities with effective and efficient psychotherapy interventions.



### Confidentiality

The results of this research will be presented at James Madison University, published in professional journals, and presented at professional conferences. While individual responses are anonymously obtained and recorded online through the Qualtrics software, data is kept in the strictest confidence. No identifiable information will be collected from the participant and no identifiable responses will be presented in the final form of this study. All data will be stored in a secure location only accessible to the researcher. The researcher retains the right to use and publish non-identifiable data. At the end of the study, all records will be destroyed. Final aggregate results will be made available to participants upon request.

### Participation & Withdrawal

Your participation is entirely voluntary. You are free to choose not to participate. Should you choose to participate, you can withdraw at any time without consequences of any kind. However, once your responses have been submitted and anonymously recorded you will not be able to withdraw from the study.

### Questions about the Study

If you have questions or concerns during the time of your participation in this study, or after its completion or you would like to receive a copy of the final aggregate results of this study, please contact the primary researcher, Kristy Koser. To minimize this risk of participating in this research the researcher has provided her contact information and is available to help find a trained fertility counselor in the surrounding area if the need arises to further the discussion surrounding this distress.

Kristy Koser  
Graduate Psychology  
James Madison University  
koserkm@dukes.jmu.edu

Dr. Debbie Sturm  
Graduate Psychology  
James Madison University  
Telephone: (540) 568-4564  
sturmdc@jmu.edu

### Questions about Your Rights as a Research Subject

Dr. David Cockley  
Chair, Institutional Review Board  
James Madison University  
(540) 568-2834  
cocklede@jmu.edu

This study has been approved by the IRB, protocol #

- I have been given the opportunity to ask questions about this study. I have read this consent and I understand what is being requested of me as a participant in this study. I certify that I am at least 18 years of age. By clicking

on the link below, and completing and submitting this anonymous survey, I am consenting to participate in this research.

- I do not consent to participate in this study.
- 

Q2 Please indicate which phase of fertility treatment you are currently in or about to enter

- Tracking ovulation with timed intercourse and/or taking Clomid, Letrozole, or Metformin
- Preparing for or currently undergoing an IUI
- Preparing for or currently undergoing IVF, a FET, using donor gametes in an IVF cycle, or surrogacy
- 

Q3 Have you experienced a pregnancy loss?

- Yes
- No
- 

Q4 Have you moved sequentially through fertility treatment (tracking ovulation or taking oral ovulation medication to IUI to IVF or surrogacy)?

- Yes, I moved from one treatment to the next in this order
- No, I did not move from one treatment to the next in this order
-

Q5 Please indicate the degree of happiness, all things considered of your relationship.

- Extremely Unhappy
- Fairly Unhappy
- A Little Unhappy
- Happy
- Very Happy
- Extremely Happy
- Perfect

Q6 Most people have disagreements in their relationships. Please indicate below the approximate extent of agreement or disagreement between you and your partner for each item on the following list.

	Always Agree	Almost Always Agree	Occasionally Disagree	Frequently Disagree	Almost Always Disagree	Always Disagree
Amount of time spent together	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Making major decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Demonstrations of affection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q7 For the following questions, you will be asked to score your feelings regarding your relationship using a "all the time" to "never" rating.

	All the time	Most of the time	More often than not	Occasionally	Rarely	Never
In general, how often do you think that things between you and your partner are going well?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How often do you wish you had not gotten into this relationship?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>





I can't  
imagine  
ending my  
relationship  
with my  
partner

I feel that I  
can confide  
in my  
partner  
about  
virtually  
anything

I have had  
second  
thoughts  
about this  
relationship  
recently

For me, my  
partner is  
the perfect  
romantic  
partner

I really feel  
like part of  
a team with  
my partner

I cannot  
imagine  
another  
person  
making me  
as happy as  
my partner  
does

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Q9 For the following questions, you will be asked to score your feelings regarding your relationship using a "not at all" to "completely" rating.

	Not at all	A little	Somewhat	Mostly	Almost completely	Completely
How rewarding is your relationship with your partner?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How well does your partner meet your needs?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To what extent has your relationship met your original expectations?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, how satisfied are you with your relationship?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q10 How good is your relationship compared to most?

	1	2	3	4	5	
Worse than all others (extremely bad)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Better than all others (extremely good)						





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Q13 Please select your age range

- 20-26
- 27-33
- 34-40
- 41-47
- 47+

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Q14 Please select an option that best describes your relationship status

- Married (heterosexual or same sex marriage)
  - Committed partners living together (heterosexual or same sex partners)
  - Single by choice
-

Q15 Please select an option that best describes your race and ethnicity

- Asian
  - African American
  - Caucasian
  - Hispanic
  - Latino
  - Pacific Islander
  - American Indian
- 

Q16 Number of years trying to conceive including prior to medical treatment

- 1-2
  - 3-4
  - 5-6
  - 6+
- 

Q17 Would you be interested in answering two more questions about your experience of infertility?

- Yes
  - No
- 

Q18 What do you believe makes the current phase of fertility treatment more or less challenging than the previous phase?

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Q19 What do you believe has contributed to you feeling more or less satisfied with your relationship than before you entered fertility treatment?

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End of Block: Default Question Block

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