

**IMPACTS OF CONTRACEPTIVE METHOD ON BALANCE OF POWER
AND SATISFACTION IN MARITAL RELATIONSHIPS**

by

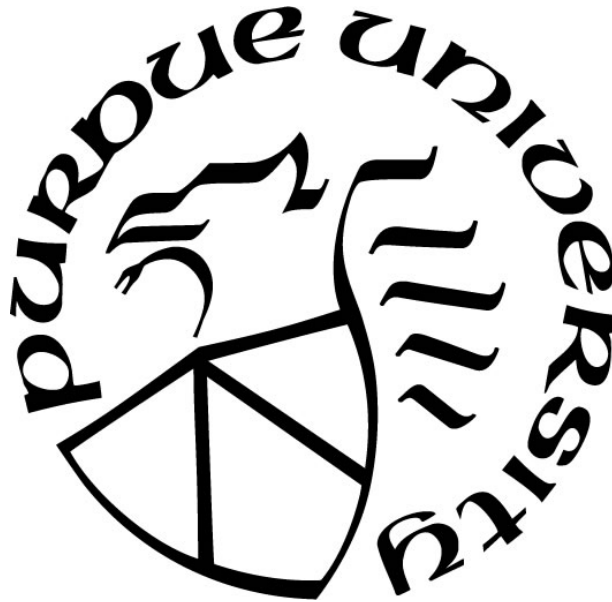
Mary Kate Shannon

A Thesis

Submitted to the Faculty of Purdue University

In Partial Fulfillment of the Requirements for the degree of

Master of Science



Department of Child Development and Family Studies

Hammond, Indiana

December 2020

THE PURDUE UNIVERSITY GRADUATE SCHOOL
STATEMENT OF COMMITTEE APPROVAL

Dr. Anne Edwards, Chair

Department of Behavioral Science

Dr. Megan Murphy

Department of Child Development and Family Studies

Dr. Richard Fehring

Marquette University's College of Nursing

Approved by:

Dr. Megan Murphy

Dedicated to my God, who has stood by me through it all.

ACKNOWLEDGMENTS

Thank you to my wonderful committee: Anne Edwards, Megan Murphy, and Richard Fehring, for your ‘yes’ to this research topic, even if it may have felt outlandish to each of you in different ways. In a special way, I’d like to thank you, Anne, for being a therapist to the therapists. Thank you for being able to derive a pep-talk out of thin air each and every time we requested one.

I also have to acknowledge the bottomless love and support offered daily by my fiancé, Aaron during these last two and a half years. When my cup was empty and I had nothing to give, you gave back anyway. You collected all my tears, frustration, fears, and embarrassment when I didn’t know what to do with them. You set them aside for me every time. You gave me a place to put them. You replaced them with courage, laughter, and empowerment. Your strength and encouragement is buried in between the lines of this work.

To my girls: your spirit and wisdom fuels me. I have learned more about myself through your eyes and experienced a friendship that healed me in profound ways. You are rare gems. You taught me the strength of womanhood. It was our combined strength that overcame all obstacles and met every challenge with fervor. This degree is *our* victory.

TABLE OF CONTENTS

LIST OF TABLES	7
ABSTRACT.....	8
CHAPTER 1: STATEMENT OF THE PROBLEM.....	9
CHAPTER 2: SIGNIFICANCE OF THE PROBLEM.....	11
Contraceptive Methods	11
Hormonal Birth Control.....	13
Population.....	15
Effectiveness	15
Relational Implications	16
Fertility Awareness-Based Methods.....	18
Population.....	20
Effectiveness	21
Relational Implications	22
Liberal Feminist Theory	26
Relationship Satisfaction	28
Power	29
Power in Relationships	29
Power and Contraceptive Methods.....	31
Hypotheses.....	32
CHAPTER 3: METHODS.....	34
Sample.....	34
Procedure	34
Instrumentation	36
Relationship Balance Assessment	36
Couple Satisfaction Inventory	37
Data Analysis.....	37
CHAPTER 4: RESULTS.....	39
Demographics	40
Instrumentation	51

Data Screening	52
Hypothesis One	53
Hypothesis Two	54
Results Conclusion.....	56
CHAPTER 5. DISCUSSION.....	58
Relationship Satisfaction	59
Significant Controls	60
Relationship Balance of Power	61
Significant Controls	62
Importance of Religion.....	62
Number of Children	63
Clinical Implications.....	64
Strengths and Limitations	66
Future Directions	68
Conclusion	69
REFERENCES	70
APPENDIX A. SOCIAL MEDIA INFORMED CONSENT	79
APPENDIX B. MTURK INFORMED CONSENT	83
APPENDIX C. QUALTRICS SURVEY.....	87

LIST OF TABLES

Table 1. Age.....	40
Table 2. Race	41
Table 3. Education Level and Annual Household Income	42
Table 4. Religion.....	45
Table 5. Length of Relationship.....	47
Table 6. Frequency of Sexual Intercourse	48
Table 7. Children	49
Table 8. Years using Current Contraceptive Method	50
Table 9. Contraceptive Method Demographics	51
Table 10. Instruments and Descriptive Statistics.....	52
Table 11. Multiple Regression Analysis Examining Contraceptive Method and Relationship Satisfaction.....	54
Table 12. Multiple Regression Analysis Examining Contraceptive Method and Relationship Balance.....	56

ABSTRACT

The following study used a liberal feminist lens to address a gap in the literature on contraceptive method use and romantic relationships by examining the association between contraceptive method use and both relationship satisfaction and balance of power. Specifically, it surveyed married women between the ages of 20-49 using either oral contraceptives (OCs) or natural family planning (NFP). Relationship satisfaction was measured using the Couple Satisfaction Index (CSI-4). Balance of power in the relationship was measured using the Relationship Balance Assessment (RBA). It was hypothesized that women using NFP would report higher relationship satisfaction and greater balance of power than women using OCs. Instead, results of the multiple regression analyses indicated that women using NFP experienced significantly lower rates of balance of power in their relationship. There was no significant difference in relationship satisfaction between groups. Additionally, control variables of religious importance and number of children were found to be associated with balance of power. Controls of age and religious importance were found to be associated with relationship satisfaction. Clinical implications, strengths and limitations, and future directions for research were discussed.

CHAPTER 1: STATEMENT OF THE PROBLEM

Safe and effective contraceptive methods are more accessible than ever before in the United States. According to the National Center for Health Statistics (NCHS), 99.3% of women age 14-44 have used any method of contraception between 2011-2015 (2019). As this number multiplies, so do the variety of options available to couples. It seems the problem lies not in access to preventative methods but in choosing a suitable technique to fit each woman individually. This is no easy task. A study done by Moreau et al. (2007) found that 46% of women will discontinue use of at least one contraceptive method over the course of their lifetime due to dissatisfaction. Unfortunately, when a woman discontinues use of one method, she typically moves to a less effective method or utilizes no method at all (Moreau et al., 2007); almost half (48%) of all pregnancies in America are unintended (Finer & Zolna, 2016) and this could be partly why. Moreau et al. (2007) stress the importance that counseling systems be put into place to properly inform women on the physical, behavioral, and relational effects of each method before they decide on one.

This concern leads to a new question altogether. What *are* the effects of each method? While the physical side effects and effectiveness of contraceptive methods are well researched, the relational side effects are less so. If women are selecting their contraceptive method in order to be intimate with a long-term partner, it would be wise to consider the effects they may have on the very relationship they are seeking to benefit. Studies examining the relational implications of using hormonal contraceptives have found that those who use hormonal methods see implications such as less sexual satisfaction (Roberts et al., 2011) and increased jealousy (Cobey et al., 2010) compared to those not using hormonal methods.

There are effective, non-hormonal options for women, however. One method of non-hormonal contraception, in particular, is less well-known and widely understudied: fertility awareness-based methods (FABMs), which is a broad term used to describe all family planning methods for tracking a woman's menstrual cycle and identifying fertile times. Then, differing strategies are used (i.e. withdrawal, barrier, abstinence) to either prevent or pursue conception (Frank-Hermann et al., 2007). FABMs vary in effectiveness depending on type of method. Pregnancy rates in the first year of typical use can be as low as 1.8% for the Symptothermal method and as high as 33.6% for the Billings Ovulation method. With perfect use, these rates

drop as low as 0% for the Marquette Method and as high as 12.1% for Persona (Urrutia et al., 2018). Despite promising effectiveness, very few women consider FABMs as an option. Only 1-2% of women in the United States have ever used a FABM (NCHS, 2019). This low number may be due to the lack of knowledge or negative attitude regarding FABM by physicians and/or laypeople (Fehring et al., 2001; Stanford et al., 1998). There is a shortage of research on FABM's impact on relationship dynamics. Studies that have examined FABM find positive implications such as increased intimacy, communication, and understanding (Borkman & Shivanandan, 1984; VandeVusse et al., 2004). One study also showed that divorce rates are 5% lower when couples report that they have ever used a FABM (Fehring, 2015). Women can be aware of their options and the possible effects of their choice before selecting a contraceptive method that is right for them.

Early studies focus on method choice and relationship satisfaction (Cobey et al. 2010; Crowley & Crowley, 1966). Given the strong association between relationship satisfaction and perceived egalitarian roles (Amato, 2003; Cooke, 2006), it follows that more recent studies would include an examination of power. A positive correlation has been found between woman's power in the relationship and her ability to assert greater decision-making in contraceptive method choice (Crissman et al., 2012; Stokes et al., 2016). This study sought to extend the examination past the initial method choice to find how the chosen method impacts the perceived balance of power in the relationship. Currently, the literature only hints at the impacts contraceptive method has on the power balances of its users (Fehring, 2018; VandeVusse et al., 2004) by noting themes of mutual respect and shared responsibility. The purpose of this study was to empirically examine what role contraceptive methods have in impacting the balance of power in the relationships of their users.

CHAPTER 2: SIGNIFICANCE OF THE PROBLEM

Studies on the effects of contraceptives on its users are plentiful (Higgins & Smith, 2016; Robakis et al., 2019; Skovlund et al., 2016). Some of this research focuses on examining the impact contraceptives have on the romantic relationships of its users (Alvergne & Lumma, 2009; Skocovsky, 2008). However, the research is still preliminary. Also, it has failed to directly address the issue of power in the relationships of the users of these methods. This study sought to add to this research in this particular area of interest: balance of power. In a liberal feminist framework, balance of power is a relevant consideration for the health of any relationship. Therefore, it is relevant to discuss how balance of power is impacted by contraceptive methods. In order to fully explore the literature, sections are devoted to each of the study's predictor variables: hormonal birth control and fertility awareness-based methods. Then, the study's outcome variables, power and relationship satisfaction, are defined through the lens of liberal feminist theory.

Contraceptive Methods

Contraceptive methods are the variety of strategies used to prevent conception. Contraceptive methods can be broken into three overarching groups: hormonal, non-hormonal, and permanent methods. A list of major contraceptive methods can be found in Figure 1. Hormonal methods refer to methods that supply doses of artificial hormones (i.e. estriadol, progestin) in order to alter the menstrual cycle. These can take the form of an injection, pill, patch, etc. Non-hormonal methods can include a wide variety of strategies that do not use hormonal treatment. These include chemical methods (creams and spermicides), barrier methods (condoms, cervical caps, and contraceptive sponges), fertility-awareness methods (rhythm, natural family planning, etc.) withdrawal, and the copper IUD, which uses copper ions, rather than hormones to lower fertility. Finally, permanent methods consist of various forms of medical surgery to the male or female to permanently sterilize the patient.

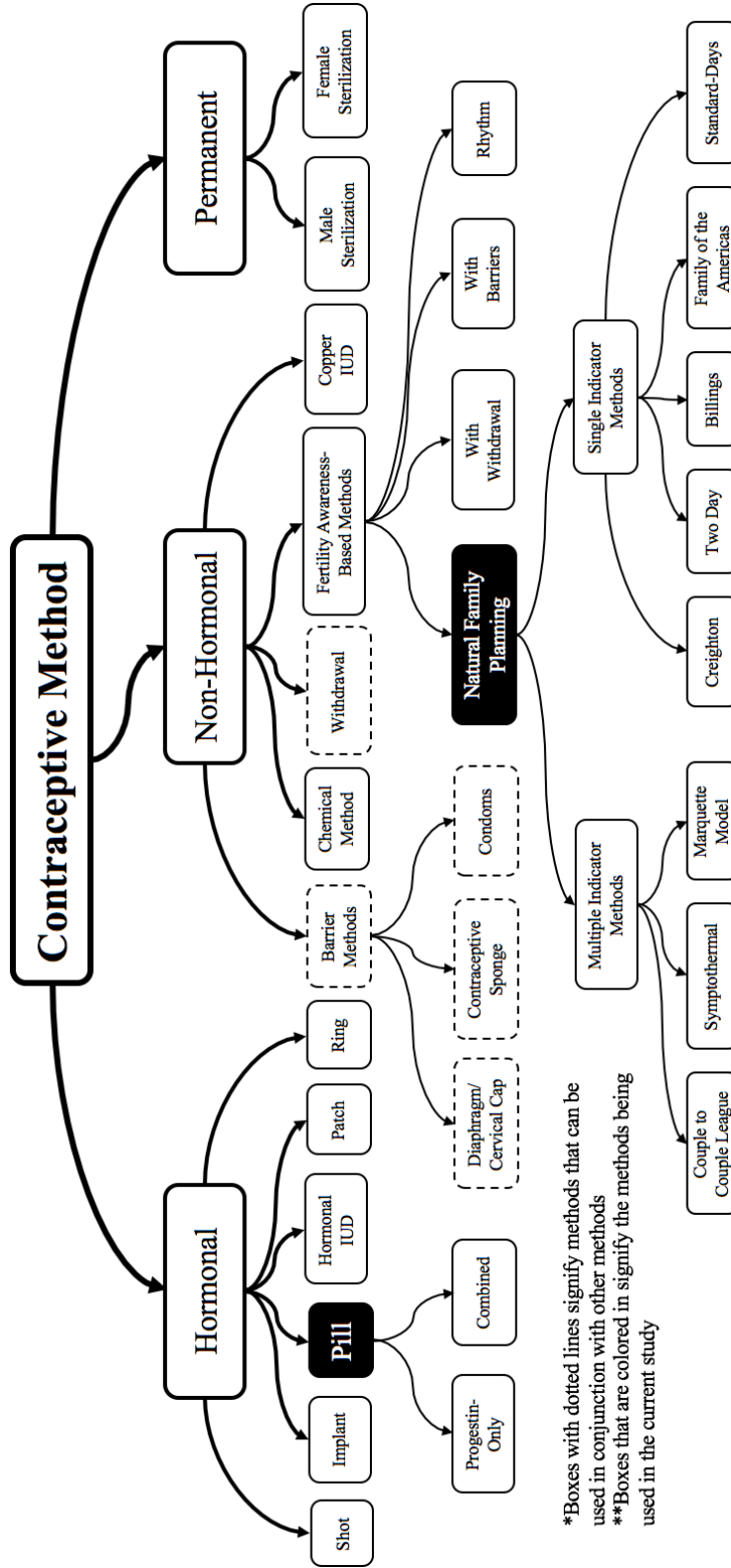


Figure 1. Contraceptive Method Options

Some methods can be, and often are, used in conjunction with others. Demarcated in Figure 1 with a dotted box, barrier and withdrawal methods can be used as an additional protective factor with other methods (such as the pill) or they may be used on their own. This choice is highlighted under fertility awareness-based methods (FABMs) because FABM users will often include which combination they use when sharing their method choice with others. For example, women may share that they use FABM with barriers. This means that they track their menstrual cycle and use condoms (or another barrier method) during the fertile window to avoid pregnancy.

As shown in Figure 1, there are a great number of methods to choose from. Furthermore, the figure does not include all the intricacies of method choices available to women. Beneath the pill, for example, is a vast number of different brands to choose from. The present study does not attempt to study every method available. Instead, two methods have been selected to compare. These methods are the shadowed in boxes in Figure 1: natural family planning and the pill (and all the individual methods that fall beneath them). The pill was selected to represent hormonal methods in the present study because it is the most commonly used hormonal method in the United States (NSFG, 2019). Natural family planning (NFP), was selected to represent FABMs because it is the most researched form of FABM.

Hormonal Birth Control

Hormonal Birth Control (HBC) is a general term used to describe methods that fall under the hormonal branch of contraceptive methods shown in Figure 1. The options for HBC are enormous and continuously growing. Each type of hormonal method varies in its strategies to prevent pregnancy. Regardless, the idea is the same: to prevent conception, primarily through thickening cervical mucus, suppressing ovulation, and/or preventing implantation eggs. (Institute for Quality and Effectiveness in Health Care, 2017). Each hormonal method comes with its own advantages and disadvantages.

One way to examine types of HBC is to distinguish between combined hormonal methods and progestin-only methods. Combined methods are those that blend hormones to suppress ovulation, reduce cervical mucus, and thin the endometrium in order to prevent sperm from reaching the ovum (Carroll, 2019). These methods include the ring (aka, NuvaRing), the patch (aka, Ortho Evra patch) and combination oral contraceptives (aka, the pill). Combination

oral contraceptives (COCs) contain synthetic estrogen and progestin. They typically come in packs and are designed to mimic the average menstrual cycle. The woman takes one pill daily and, usually, has one week off monthly for her to start a medically induced period. Common side effects of combined COCs are an increased risk for breast cancer, weight gain, high blood pressure, depression, changes in libido, blood clotting, strokes, ectopic pregnancies, and more (Hatcher et al., 2011).

Progestin-only methods include progestin-only pills (i.e. minipills), subdermal implants (i.e. Norplant and Nexplanon), injectables (i.e. the shot, Depo-Provera), and hormonal intrauterine devices (IUDs; Carroll, 2019). Minipills function in very similar ways to COCs. They are still taken daily like COCs; however, they do not contain estrogen and they have lower levels of progestin. Also, unlike COCs, they are no hormone free days, which means the women taking them often have no period at all. They are less popular than COCs, however, they have a variety of health advantages. Because they do not contain estrogen and have lower level of progestin, they can more safely be used by most women, include those who are over 35, overweight, smoke, have high blood pressure, have a history with blood clots, or are breastfeeding (Hatcher et al., 2011). Still, they carry their own series of disadvantages, including the necessity of obsessive regularity in pill-taking because of the lower doses of hormones. Also there is still a chance for similar side effects seen with COCs to occur (i.e. increased risk for ectopic pregnancy, changes in libido, ovarian cysts, loss of bone density).

While minipills and COCs have some key differences, the overarching processes are the same on the part of the user. They both require a prescription and daily intake at a similar time of day. Also, they are both quite popular in the US (NSFG, 2019). Because of this, users of both minipills and COCs will be included in the present study. Together, COCs and minipills will be referred to as oral contraceptives (OCs). The reason OCs are being used exclusively for this study is because of the distinct behavioral requirement of OCs in comparison to other HBCs. For example, the hormonal IUD is inserted into the cervix to deliver doses of progestin automatically, without any daily requirement placed on the user (Carroll, 2019). The amount of effort placed on OC users, primarily the female member of the partnership, such as doctor visits and timing intake of the pill, is unique to this method. Including other HBC methods would add another that would complicate the results of the study. Instead, using OCs exclusively streamlines the research.

Population

It is important to note what populations choose these methods. Women in the United States (US) of all backgrounds and religious beliefs use a variety of types of HBC. Among US women between the ages of 15-44, the most common is the pill, with 13.9% of women citing it as their current method (NSFG, 2019). However, a much higher percentage (79.3%) of women state that they have used the pill at some point in their lives. The pill is the second most common contraceptive method of any kind in the US (following female sterilization; Guttmacher Institute, 2018). Other popular hormonal methods currently being used by US women include the intrauterine device (IUD) (8.6%), and the injectable Depo-ProveraTM (2.3%) (NSFG, 2019). Overall, among women at risk of pregnancy, 36% are using some form of HBC (Guttmacher Institute, 2018). Clearly, this is not a unique choice, as many women find use of an HBC to be a suitable option for them.

Effectiveness

One of the most important considerations of a couple when selecting a method of contraception is its effectiveness. Although there are many different kinds of hormonal contraception, they are seen as relatively effective in general (Carroll, 2019). The biggest difference in effectiveness is that between long-acting reversible contraception (i.e., hormonal/copper IUDs and implants) and other commonly prescribed contraceptive methods (oral contraceptive pills, the vaginal ring, or depot medroxyprogesterone [DMPA] injection). Long-acting reversible contraception has much higher rates of effectiveness because it does not require patients' accurate use. The exact failure rates are the following: .27 per 100 participant-years for IUDs and implants, .22 for those who used DMPA, and 4.55 for the patch, pills, or ring. Also, younger age groups experience lower success using the pill, patch, or ring. This is likely due to less diligence in use (Winner et al., 2012); "Participants younger than 21 years of age who used pills, patch or ring had almost twice the risk of unintended pregnancy as older women using the same methods" (p. 2004). This shows the recognizable difference that will take place due to the human error of the users with any kind of contraceptive method. That being said, OCs require great dependence on user reliability. Because of this, effectiveness of typical use (including user

error) for OCs is 92% (possibly lower in overweight women) whereas perfect use is 99.7% (Carroll, 2019).

Relational Implications

Much of literature regarding the relational implications of using HBC is in regards to OCs. First, there is some research claiming that OCs affect the woman using it by altering her mate choice. Researchers Alvergne and Lumma take an evolutionary theoretical lens when they explain that mate preference varies across the menstrual cycle such that "women prefer cues of mate non-genetic material benefits and assistance during less fertile periods and cues reflecting mate genetic quality or compatibility during more fertile periods" (2009, p. 171). Non-genetic material benefits are aspects of a mate that deem them to be a good father or life partner, such as empathy or attentiveness. Genetic compatibility is made up of aspects of the man that would produce healthier offspring, such as dissimilar immune systems or competitiveness. This is important to note because the oral contraceptive pill works by suppressing fertility. In doing so, the natural cycle is altered.

When applying this knowledge to the research on mate preference during specific phases of the cycle, researchers theorize that women are no longer searching for the same qualities in partner that they normally would when naturally cycling (Alvergne & Lumma, 2009). For example, women taking the pill have been seen to prefer men whose immune systems are similar to theirs, rather than the evolutionarily beneficial choice of dissimilar genes (Wedekind, et al. 1995). Also, men are show greater attraction to more fertile women so women using HBCs may be at a disadvantage to compete to attract a mate that they would have if they were cycling normally (Alvergne & Lumma, 2009). Alvergne and Lumma (2009) ask the imperative question: What implications does this have for married couples since they may have chosen an otherwise less-preferred partner? It may "...influence satisfaction and stability of long-term relationships" (p. 176). However, these studies are preliminary and mostly speculative. It shouldn't be assumed that women who found their spouse while using HBC chose wrongly, for instance. This type of terminology is common with evolutionary theory, but it can be dangerously interpreted. Instead, these studies can bring a beginning awareness to the potential relational implications of using OCs.

The influences hormonal contraception can have on those who use them continues once couples are in a committed relationship. For example, HBC has been connected with relationship jealousy. A study by Cobey et al. (2010) examined this by looking at how amounts of estrogen in OCs change the self-reported rates of jealousy in young women aged 17-35. They found that the more estrogen a hormonal contraceptive possessed, the higher the participant rankings of jealousy. The researchers assert that it is important to look into psychodynamic effects of pill use, rather than exclusively the physiological side effects. However, this study recognized the role age played in the results of their study. Many of the participants were college aged. This is an age group that may naturally experience more jealousy than others, which highlights the importance of including age as a control factor for research addressing relationship dynamics.

Men, too, show greater guarding of their regularly cycling female partners when the women are at peak fertility (Haselton & Gangestad, 2006). However, they also take into consideration that guarding also increases based on perceived attractiveness of their partners and level of perceived flirtation the women exhibit during fertile times. Further studies find that, on a neurological level, oral contraceptives (OC) suppress the reward circuit in the brain so that OC users are less stimulated when looking at their partner's face (Scheele et al., 2016) than non-users. Another study finds a significant decrease in sexual satisfaction of women who met their partner while using OCs. Interestingly, this study also noticed an increase in satisfaction of the *non-sexual* aspects of their relationships (Roberts et al., 2011). This is likely due to the cyclical differences in women using oral contraception, in which women exhibit different relational desires with they are in different stages of their menstrual cycle, as stated previously.

A study done by Montoya and Bos (2017) provides an excellent comprehensive review of these psychosocial concerns. They surveyed the recent literature that studies effects of OCs main ingredients (estriadol and progesterone) on the social-emotional regions of the brain. Their study overviews the notion in the field that there are risks of oral contraceptives affecting areas such as dysregulation of fear- and stress-related mechanisms of the brain. They categorize the areas of research on this topic, including a section devoted to partner preference and relationship satisfaction. For example, as stated above, OCs decrease activity in the reward circuit of the OC user's brains (Scheele et al., 2016). Montoya and Bos (2017) hypothesize that the suppression of the cyclical nature of mate preference may be one of the mechanisms for OC's impact on relationship satisfaction that Cobey et al. (2010), and Roberts et al. (2011) find in their studies.

Montoya and Bos (2017) also cover the concern that OCs may alter emotional regulating abilities and empathy neurologically by dampening the connection for the executive network of the brain, which regulates emotion and behavior (Peterson, 2014). Montoya and Bos (2017) claim that these findings have important implications for the maintenance of romantic relationships because emotional regulation is important for the quality of those relationships. However, the research studies they overview are new and preliminary. Studies exploring the connection between HBC use and relationship dynamics are scarce, so more research is needed examining the implications of HBC use.

Studies examining HBC highlight its behavioral changes in women that can, in turn, affect the romantic relationships they're involved in. In fact, Alvergne and Lumma (2009, p. 176) raise this question: "If the effect of the pill is strong enough to modify actual mate choice, what are the consequences for marital stability?" The current study will attempt to assist in answering their question by examining how HBC and FABM use affects relational dynamics. Previous research has held an evolutionary lens, focused on biological 'rights' and 'wrongs' and failed to examine the issues using interpersonal theories. There are a wide variety of hormonal contraceptive options, with a full range of side effects, effectiveness levels, and implications for relationships. Oral contraceptives, or 'the pill', is the focus of this study because it is the most commonly used method hormonal method in the United States at the time (NSFG, 2019).

Fertility Awareness-Based Methods

Fertility awareness-based methods (FABMs) is an overarching term used to describe all family planning methods that are based on tracking of a woman's menstrual cycle to identify fertile and infertile days (Frank-Hermann et al., 2007). These methods rely on two key practices. First, users learn to accurately track their menstrual cycle. They use a variety of methods to identify these dates, including but not limited to: daily charting basal body temperature, checking menstrual fluids, and measuring reproductive hormone levels (i.e. estrogen, LH, and progesterone) using a monitor and/or urine test strips. The second key practice to FABM is the modification of sexual activity to either avoid or achieve pregnancy.

When seeking to avoid pregnancy, the three strategies—abstinence, barrier, or withdrawal—distinguish the types of FABM. If the couple practices periodic abstinence during the fertile time, this is called natural family planning (NFP). If they use a type of barrier method

(i.e. condoms, cervical caps, diaphragm, etc.) during fertile times, this is called FABM with barriers (Frank-Hermann et al., 2007). If they practice withdrawal, known informally as the 'pull-out method,' during fertile times, this is called FABM with withdrawal. This study selects NFP as the subcategory of FABM with which to focus on for two reasons. First, virtually all of the research on FABM and relationships examines a form of NFP specifically. Secondly, there are key behavioral differences in practicing NFP as compared to other forms of FABM, such as practicing abstinence and participating in trainings that instill specific values on the users.

To understand the breakdown of different types of NFP, it must first be understood what bodily indicators women use to track their fertility. There are two main signs: cervical fluid and basal body temperature (Smoley & Robinson, 2012). Cervical fluids change in consistency and appearance throughout the menstrual cycle. If checked daily, fertility can be track through awareness of its changes. Basal body temperature rises approximately half a degree (Fahrenheit) after ovulation. If a woman checks her temperature directly after waking, she can confirm ovulation. Other indicators of fertility include tracking changes in the cervix, using a monitor that measures hormone level in the urine, and tracking the calendar count of cycle length (Leyva, n.d.).

Methods of NFP either utilize a single indicator or combine indicators for increased awareness. In this way, types of NFP could be broken down into single indicator methods or multiple indicator methods. Single indicator methods that teach couples to track cervical fluid only are called *ovulation methods* (Leyva, n.d.). Common types of ovulation methods include Billings, Creighton, Family of the Americas, and Two Day methods. Finally, another single indicator method is called the Standard Days method (Arévalo et al., 2002), in which the only indicator used is count of calendar days. However, it can only be used by women with a very regular cycle length to be used accurately. There are three common methods of NFP that use multiple indicators (Leyva, n.d). The first two, Couple to the Couple League method and the Symptothermal method, track both cervical fluids, and basal body temperature. The final method, the Marquette Model (Fehring & Schneider, 2017) teaches couples to use an electronic fertility monitor in combination with other indicators to assess the level of the two female hormones throughout the cycle.

As previously mentioned, NFP methods differ from other forms of FABM. First, and most prevalent is the unique practice of abstinence during infertile times. In addition, NFP

methods are highly structured. In order to learn the methods, couples attend trainings (often held at or referred by Christian, especially Catholic, churches) that instill specific goals and values on the couple aimed at increasing intimacy in the couples. Sometimes, couples are even provided workbooks that provide the information. For example, the Creighton method teaches couples to practice a model for holistic sexuality created by Hilgers et al. (1982) called SPICE (spiritual, physical, intellectual, communicative, and emotional). During periods of abstinence, couples are encouraged to develop their sexuality which incorporates all the components of SPICE. The workbooks they are given provide strategies for practicing this. Another distinct value that differs NFP from other contraceptive methods is their encouragement for the male partner's involvement in the practice of tracking. However, couples do not necessarily practice these additional techniques, despite the encouragement.

Other methods of FABM are not so regimented and do not incorporate specific values designed at benefitting relationship dynamics. Also, they do not typically attend trainings to learn the method. Instead, they may use smartphone applications that attempt to explain the indicators or simply track the cycle using calendars or beads without specialized training. For these reasons, other forms of FABM were not included in the participant pool of the current study, which chose to only include Natural Family Planning methods (as illustrated in Figure 1).

Population

Religious belief plays a large factor in a woman's choice to use FABMs. The Catholic Church warns against detrimental impacts of hormonal birth control on relationships (*Catechism of the Catholic Church*, n.d.). Therefore, devout followers of the Catholic Church may turn to FABMs, especially NFP, to prevent pregnancy. Of people using FABMs, many are Catholic. However, of Catholics, very few use FABMs. According to a study by Fehring and Manhart (2020), only 0.1-0.2% of Catholics rely on FABMs. However, people who belong to other religious orientations use this method. According to the National Survey of Family Growth (NSFG, 2019), which was conducted by the National Center for Health Statistics, Protestants utilize the Symptothermal method more than Catholics. Of the 130 women who reported having ever used the method, approximately 25% identified as Catholic, and 56% identified as Protestant (NSFG, 2019).

Beyond religious affiliation, many women turn to FABMs as a way to avoid the adverse side effects of hormonal birth control (HBC). In fact, 16% of women who have ever used the Symptothermal method report no religious affiliation (NSFG, 2019). One study found that 22.5% of women, religious or not, would be interested or very interested in practicing FABM in the future (Stanford et al., 1998). Despite this, only 1-2% of U.S. women have ever used some form of FABM (NCHS, 2019). This may be due to the lack of recommendation by physicians and nurses to use FABM as a means of preventing pregnancy (Fehring, 1995; Fehring et al., 2001). Although FABM users are a small percentage of the U.S. population, it is critical to be aware that religion is not the only reason women select it as an option.

Effectiveness

There is a commonly held myth that FABMs are not effective. This is likely because many studies still include the traditional rhythm method when examining FABM, which is outdated and should no longer be considered a type of modern contraception. The rhythm method, also called the Knaus-Ogino method, was an older form of fertility tracking, used in the early 1900s, that did not benefit from current scientific advancements about how to track the menstrual cycle. Instead of using helpful tactics such as measuring basal-body temperature or checking menstrual fluid, they practiced under the assumption that every woman has a predictable 28-day cycle (Singer, 2004). However, each woman fluctuates in length of the phases of the menstrual cycle throughout her lifespan (Fehring et al., 2006). Because of this, the calendar method is not reliable for women with a cycle that varies more than seven days or during the postpartum transition to fertility.

For these reasons, calendar methods can show lower effectiveness rates. For example, one study that includes rhythm in its calculations found the effectiveness of FABM to be 86% (Medina, 1980). However, updated studies that exclude the rhythm method from analysis find different results. For example, a study performed by Fehring and Schneider (2017) tracked 663 non-breastfeeding women using cervical mucus monitoring, and/or electronic hormonal fertility monitoring (also known as the Marquette Model or MM). Any unintended pregnancies were validated by professional nurses. After 24 cycles, 2% experienced unintended pregnancy with correct use and 15% with typical use. However, when the results are divided into two categories of method type it becomes clear that women using the hormonal fertility monitor have much

lower rates of unintended pregnancy. Typical use pregnancy rates drop to 2.8% for the hormonal fertility monitor, as opposed to 16% for women using cervical mucus monitoring. However, a systematic review of studies on FABM effectiveness asserts that the results vary across studies based on differing populations and quality of the study (Urrutia et al., 2018).

These unintended pregnancy rates are not so far off from those of the pill, which has effectiveness rates of 92% for typical use and 99.7% with perfect use (Carroll, 2019). These results give evidence that FABM can be as effective as HBC to prevent pregnancy. Although it cannot be concluded that the efficiencies are completely equal between all HBC and FABMs, they are not as different as one may initially assume.

Relational Implications

As stated previously, FABMs are less commonly used than other methods in the United States. Because of a lack of widespread use, there is less research including FABMs when examining contraceptive use and relationship dynamics. As mentioned by Skocovsky (2008), most studies regarding FABMs and relationships are descriptive, including case studies and explaining the methods. They explain that this is due to the lack of an overarching theoretical model of FABM use. Skocovsky (2008) states “A large part of the statements on the effect of NFP so far remain on the level of personal experience, indirect evidence and working hypothesis, and lack the support of theoretically based empirical research of a high standard” (p. 102). Despite these challenges, some empirical work has been done.

Starting in the mid-60s, the Catholic Church’s Papal Birth Control Commission contracted a group of researchers to examine the effects the rhythm method had on couples who were using it. These researchers, Crowley and Crowley (1966), found themes such as difficulty with abstinence, loss of spontaneity, arguments, and fear of pregnancy. They were not alone in their findings. In 1970, Marshal and Rowe surveyed couples using basal body temperature and found that 48% of their respondents reported experiencing strain in their relationship due to the abstinence required in the method. Yet another study in the 1970s asserts the possible undesirable effects of FAM (Bardwick, 1973). This method requires daily attention to one’s bodily secretions and ovulatory signs. Because it takes so much consistent devotion, constant motivation must be maintained. Failure while using this method is attributable only to the patient’s error, which leads to feelings of guilt. Bardwick (1973) states “It is subject to mutual

cooperation and also mutual blame” (p. 195). Also, most participants feel insecure about the effectiveness of using this method. The anxiety that existed over possible pregnancy with these older models might have reduced satisfactory sexual relationships.

Later, Borkman and Shivanandan (1984) speculated about the benefits of the increased communication needed for successful utilization of FABMs. They conducted qualitative coding of interviews of 50 satisfied, married NFP users. After using content analysis to code the interviews, they noticed couples were crediting NFP’s prescription to chart the menstrual cycle together for strengthening the communication skills in their relationship. Participants shared that this communication led to significant increases in openness to intimate aspects of their relationship, especially from the husbands, that would otherwise be avoided. It also increased understanding of the woman's moods across the cycle, which helped the couple adapt with understanding, rather than frustration. This led to couple unification rather than causing tension between them. Important to note about this study is that their participant pool is made up of entirely satisfied and experienced NFP users. This means that they have no control group to prove that these ratings are due singularly to the participants' use of NFP.

In 1989, a study by Fehring and colleagues improved on this limitation in Borkman and Shivanandan’s study by comparing HBC and FABMs. They compared 22 couples using oral contraception (OC) and 22 participants using one type of NFP, Creighton. They surveyed both members of the couple, collected mean scores of the two groups, and compared couple’s scores on intimacy, spiritual well-being, and self-esteem using t-tests. They found that couples practicing NFP have significantly higher ratings than those using OC in all three categories (Fehring et al., 1989). They pulled from the systemic theory that, although basic self-esteem levels are typically established early on in life, it is still changeable from ongoing interactions with others, especially dyadic and familial relationships (Crouch & Straub, 1983). They theorize that, because NFP requires constant communication and feedback between partners, self-esteem is likely to rise. They express that success and self-control are characteristic of self-esteem and these two characteristics must be in place for NFP to be effective. However, the results of this study must be interpreted with some caution, considering there were no control variables in the study. The differences between groups could be attributed to other variables, because couples using NFP tended to have higher levels of education and income.

Later, Fehring and Lawrence (1994) provided an update to this study when they surveyed 40 couples. Exactly half of the couples were currently using Creighton for at least one year and the other half were using some form of ‘artificial contraception’ (i.e. oral contraception, condoms, diaphragm, contraceptive sponge, sterilization). While the study (Fehring & Lawrence, 1994) still assessed the same concepts as the previous study (Fehring et al., 1989)—spiritual well-being, intimacy, and self-esteem—this study included a qualitative analysis as well as quantitative. This time, a t-test showed no significant difference between groups except in the area of spiritual well-being. However, they found noteworthy qualitative differences in all areas. Namely, the NFP couples felt that their method helped them increase communication, self-control and confidence, but decreased spontaneity in their relationship. Alternatively, the artificial contraceptive group felt that their method helped decrease their worry over pregnancy and relationship with God, but increased their sense of control and confidence in family planning. Fehring and Lawrence (1994) speculated that the lack of significant quantitative difference in this study as compared to 1989 was due to the change in demographics of the artificial contraceptive group. In the previous study (Fehring et al., 1989), non-NFP group was exclusively practicing OCs. In the present study (Fehring & Lawrence, 1994), they practiced a variety of artificial contraceptive methods.

Another study asked 1466 German women about every contraceptive method she had ever used (den Tonkelaar & Oddens, 2001). For each method, they were asked to report their satisfaction with the method, concerns about getting pregnant, concerns about health risks during use, ease of use, changes in sexual relationship, relationship with their partner, and mood. Participants included women who had used OCs, condoms, IUDs, NFP, and sterilizations. Their results show the influence method choice satisfaction has on the answers to the above questions. For example, thirty percent of satisfied NFP users believed that the method improved their relationship and 66% did not believe the method had changed their relationship for better or for worse. However, of the unsatisfied users, 45% believe NFP changed their relationship *negatively* and 45% didn’t see a change in their relationship while using NFP (den Tonkelaar & Oddens, 2001). These results inform the need to include method satisfaction as a control variable when studying these populations.

A study by VandeVusse and colleagues (2004) sought to update the research of NFP out of a belief that contemporary NFP had evolved dramatically in the 40 years following the

research performed by Crowley and Crowley (1966). They conducted a qualitative content analysis of open-ended responses from 334 couples. Two-thirds of the participant's comments included ways in which their relationship had experienced enhancements like improved communication, shared responsibility, respect for their partner, and appreciation for sexuality. Participants share that this is because of the requirement of the method to be more aware of the female reproductive cycle and to communicate that awareness through daily conversation. The couples expressed a greater appreciation for each other's sexuality due to these frequent conversations. In particular, couples feel that choosing to abstain from intercourse during fertile times increases their appreciation for sex when they are able to engage in it.

More recently, the Institute for Natural Regulation of Conception conducted a survey of NFP users in Germany, Austria, Switzerland, and Italy (Rhombert et al., 2013). Sixty-one percent of participants perceived NFP to have enriched their relationship. Another multi-country surveying NFP users in the US and Europe found that 74% of men and 64% of women felt NFP has enriched their relationship, and the overwhelming majority of respondents believe the method either improved their sex life or did not affect it (Unsel et al., 2017). Only 1% of women and 11% of men did not agree with the statement "Since using NFP, I have found my sex life more joyful and enjoyable." This critical study speaks to the difference in experience of contraceptive methods between genders, which the literature generally fails to address. Unsel et al. does not speculate as to why more women than men find NFP to increase the enjoyment of their sex life. However, it could be due to the fact that a man's sexual libido is stable across the month, whereas a woman's libido fluctuates across her cycle, peaking when she is most fertile (Carroll, 2019). As the participants in the study by VandeVusse et al. addressed, the abstinence required in the fertile period of the cycle generated more sexual excitement during infertile times. Therefore, it could be that women notice more of a change in her sexual experience than the man is aware of.

Finally, two recent studies worked to directly compare the difference between NFP and other contraceptive methods and their impacts on marital dynamics. First, a study conducted in Chile (Barroilhet et al., 2018) used the Dyadic Adjustment Scale (DAS; Spanier, 1976) to assess for marital functioning between couples using either NFP or some artificial method of contraception (AMC; defined loosely as any method that blocks fertility). In this study, the NFP group had a 47% greater chance of having a DAS score above the distress cutoff as compared to

the AMC group. A second study conducted by Fehring and Manhart (2020) examined results from the 2015-2017 National Survey of Family Growth (NSFG). They noted a difference in divorce and separation rates across contraceptive method groups. Results from a stepwise logistic regression showed that ever-users of NFP had 58% lower odds for divorce or separation than those who had never used NFP. Fehring and Manhart (2020) note that this difference may be a result of the higher religiosity of NFP users.

Overall, the more recent literature examining FABM effects on romantic relationships appears to cite benefits of the method on relationships, rather than disadvantages. According to the recent research above, users see FABM as impacting their relationship positively, or at least not negatively. This change from negative to positive over time is believed to be because of changes in the method that have decreased anxiety about the possibility of conception. In this research, the methods have become more effective and adaptable, increasing partner communication, respect, and understanding, as well as shortening the window of required abstinence (if users are practicing NFP). However, there are still gaps in the research and more studies are required. Namely, more studies need to compare FABMs directly with other methods for avoiding pregnancy. It should be assessed how it compares to one of the most commonly used contraceptive methods in the US today: hormonal birth control (NSFG, 2019).

Similar to HBC, there are numerous forms of FABMs and a variety of differing strategies to track fertility and avoid pregnancy. Because these separate models vary so greatly in their strategies of preventing conception, it would be a mistake to lump them into one overarching group in analyses. For example, couples practicing FABM with condoms during the fertile window will have a vastly different experience of using the method than couple using periodic abstinence. In order to ensure that these important differences are not overshadowed by the intricacies of each model, Natural Family Planning is selected as the method of FABM to compare directly with the pill for the purposes of this study because NFP has the most previous research studying its impacts on relationship dynamics. Further study is need on this model of FABM specifically, to ascertain its role in the power dynamics of its users.

Liberal Feminist Theory

The relationship between contraception and feminism is a longstanding one. In the mid-1900s, feminists advocated for the widespread use of hormonal contraception. They were faced

with much opposition on the topic, but feminist ideology for the liberation of women coincided with sexual liberation and the advent of birth control (Carroll, 2019). Early feminists promoted hormonal birth control as an empowering device that allotted women more autonomy of choice, especially choice over their reproductive life.

Liberal feminist theory originated with the desire to acquire, for women, the same rights men possess politically (Enns, 1997). It focuses on gender and power. Liberal feminists have a strong faith in the power of rationality, as opposed to non-rational experiences like emotion, spirituality, and morality (Donovan, 1992). Essentially, liberal feminists believe that power and respect come from a being's ability to rationalize.

Liberal feminists hold the belief that men and women share the same basic rational qualities (Donovan, 1992). They argue that men and women are born as equally rational beings, but women are conditioned to demonstrate less rationality than men through education/socialization. For example, Mary Wollstonecraft (1792), as cited by Schneir (1972), describes the message young girls receive from their mothers that they ought to be docile and should look for a man to protect them, as they cannot help themselves. Women absorb this message, believing it to be true. In this way, women give away their rationality, before they knew they had it to give. Liberal feminist theory examines how imbalanced power based on perceived level of rationality is ingrained in society and continues to oppress women.

This study took a liberal feminist perspective on examining the relational implications of contraceptive methods. Liberal feminist theory would examine the topic of contraceptive method choice by questioning how different methods could be influencing power balance in the romantic relationship. In the same way, this study examined how couples using FABMs differ from couples using HBC in regards to the balance of power in their relationships.

While the feminist movement of the 1960s held the assumption that hormonal birth control is a more liberating option for women, 60 years have now passed. It cannot be assumed that couples utilizing hormonal methods have more equal relationships with their partners. Feminists succeeded in creating a space for women to discuss what contraceptive method is right for them. However, the wisdom of liberal feminism calls for a deeper look at how balances of power may be impacted by the method choice feminists fought to obtain. For example, recent feminists have spoken out about the societal pressure for women to take on all the responsibility of reproductive care, including in the selection and maintenance of contraceptive use. Feminists

advocate for men to be as involved in the selection and maintenance of contraceptive use as their female partners. While this study focused on the female experience, it also recognized the need for balance of power between partners.

Relationship Satisfaction

Another variable that is essential to the present discussion is relationship satisfaction. As seen in the research previously discussed, literature on contraceptive method often emphasizes its implications on relationship satisfaction. The literature on relationship satisfaction is expansive and the definition for 'satisfaction' is fluid. The term 'relationship satisfaction' is typically used to label scales that are used to assess the health of the relationship, according to participants' self-reports. Koski and Shaver (1997) explain that the word 'satisfaction' implies that a need has been fulfilled and that satisfactory relationships are typically "...those labeled 'non-distressed,' to distinguish them from relationships that are troubled, 'distressed,' and perhaps headed for divorce or breakup" (pp. 28-29). Because of its connection to relationship stability, research is highly concerned with connecting common variables in relationships with relationship satisfaction. For example, number of children is negatively correlated with relationship satisfaction across cultures (Wendorf et al., 2010). This informs the need to include number of children as a control variable when studying relationships.

The literature has also drawn connections between power balances and relationship satisfaction. As a result, several therapeutic models have been built around addressing power to aid in couples counseling (Gottman et al., 1998; Knudson-Martin & Mahoney, 2009). Amato (2003) found that equal decision-making power across partners plays a critical role in their relationship quality. Maybe this is why the risk of divorce is shown to be lower in couples with more equal power (Cooke, 2006; Frisco & Williams, 2003). So, if prior research on contraception and relationships is concerned with relationship satisfaction, it follows that power is a dynamic that should be addressed in contemporary research on the topic.

In sum, assessing for relationship satisfaction in the current study satisfies two needs in the literature on contraceptive methods and intimate relationships. First, it serves as a necessary update to the literature directly comparing HBC and FABM user's level of relationship satisfaction. Second, it serves as a connection between the previous literature and the present

study's desire to address power dynamics in the relationships of contraceptive users. Clearly, relationship satisfaction is an essential part of the discussion.

Power

Power is a concept not easily defined. It is ethereal, abstract, and hard to grasp. Even still power is omnipresent and unavoidable in everyday interactions. In order to examine its impacts on couple relationship, a singular definition must be outlined. Early frameworks of power, originated from Marx and Engels' *conflict theory*, which explains that power imbalances develop from conflict over resources (White et al., 2008). Imbalances of power, in this sense, could be narrowed down to who has more monetary freedom. However, a feminist framework, which informs this study, places much more emphasis on the social context of gender as a source of power and inequity (White et al., 2008) which goes beyond economic factors alone. For the purposes of this study, power is viewed as either 'power-to' or 'power-over.' As described by Goodrich (1991), power-to is an individual's ability to be autonomous. The more power-to an individual has, the more ability they have to obtain resources and operate freely. Power-over is an individual's ability to exert control over and dominate others. Those with greater power-to, then have more power-over. They have the capacity to influence others, which, in cyclical fashion, increases their power-to all the more.

Power in Relationships

This study holds a systemic conceptualization of power, in recognition that both partners influence each other and co-organize the dynamics of the relationship (White et al., 2008). In intimate relationships, both of the distinct types of power find importance in this organization. Stephenson and colleagues (2012) define power in sexually active relationships as "a combination of 'power to' and 'power over,' and refers to the ability of one partner to control actions within a relationship, in terms of their ability to dominate decision-making, control their partner, engage in actions against their partner's wishes and to effectively act independently of the relationship" (p. 619).

Present-day relationships in the industrialized world are, more than ever, built with egalitarian ideals in mind (Sullivan, 2006). Marriages hold a desire for intimacy. Equal power

opens the door for intimacy, as defined as mutual openness and vulnerability (Horst & Doherty, 1995), to prosper in an intimate relationship. Essentially, equal power and relationship stability are intertwined, as seen in lower risk of divorce among couples with more equal power (Cooke 2006; Frisco & Williams, 2003). A study by Amato (2003) found that equal decision making is a critical factor in explaining relationship quality and stability.

There are several theories explaining why equal power influences relationship stability. John Gottman describes the importance of partners' willingness to accept influence from the other (Gottman et al., 1998). During Gottman's long-term research on married couples, he notices a prevalence of men being unwilling to accept their wives' influence in conflict interactions, whereas women were more likely to engage in their husband's concerns. He found that husbands who were unwilling to accept influence from their wives had an 81% risk for divorce (Gottman et al., 1998). Coontz (2005) theorizes that women's disinterest in investing in an unbalanced relationship may explain the fact that most divorces today are initiated by women (Rosenfeld, 2018). It can be theorized that women today place greater value on egalitarian gender roles and if they don't experience *power-over* in their relationship, they now have the *power-to* leave the relationship. For relationship survival today, it is of utmost importance that balance of power be nurtured to foster to desired intimacy.

Knudson-Martin and Mahoney (2009) offer a model of relationship equality to help address these trends. The model consists of four dimensions that effectively bridge the gap between research and therapeutic application: *relative status*, *attention to the other*, *accommodation patterns*, and *well-being*. First, *relative status* has to do with each partners' ability to "...define the agenda of the relationship" (p. 11) and have their needs addressed. *Attention to the other* addresses the egalitarian goal that both partners are attuned to and emotionally supportive of the other. *Accommodation patterns* are defined as the phenomenon in which one partner may be more likely to organize their life around the needs of the other. In a healthily balanced relationship, both partners would do this relatively equally across time. The fourth and final dimension, *well-being*, addresses the need for both partners to be equally invested in the well-being of the other. In unbalanced relationships, you may see one partner being better off socially, emotionally, or physically than the other without a team effort to address the disparity.

Knudson-Martin and Mahoney's (2009) work helps give mental health practitioners a streamlined approach to address dimensions of relational power with couples in a therapeutic context. Knudson-Martin (2013) used a grounded theory analysis to identify patterns in couples who maintain high levels of mutuality, a trait connected to equality. These identified patterns had a shared sense of relationship responsibility, mutual vulnerability, mutual attunement, and mutual influence. Attunement, especially, is connected to a whole host of beneficial practices in intimate relationships including continual communication, mutual understanding, and joint decision-making. In conclusion, the dimensions of power are expansive. The benefits of equity of power intimate relationships are essential.

Power and Contraceptive Methods

Although some of the studies on FABM hint at power in the form of mutual respect, shared responsibility, increased communication and mutual blame (Bardwick, 1973; VandeVusse et al., 2004), which all play a role in the intricacies of power, they do not directly assess for balance of power. Bardwick (1973) simply notes that NFP creates an environment of mutual cooperation and mutual blame in a sector that is typically placed solely on the woman: reproduction. While VandeVusse et al. (2004) do not specifically ask questions about power in their interviews, some power-related responses still emerged. Specifically, a small percentage of participants in their studies include themes of enhanced respect for partner (4%), shared responsibility (3%) and improved communication (9%). This could be a hint towards a powerful interaction between contraceptive use and power imbalances that ought to be studied directly.

Currently, when the literature examines the relationship between power and contraceptive use through a feminist lens, power is seen as a decision-making ability for the woman to freely choose the contraceptive method of her preference. It holds the assumption that greater equity of power in heterosexual relationships gives women greater control over her choice of which method to use. First, Crissman et al. (2012) studied women's sexual empowerment and contraceptive use in Ghana by examining the 2008 Ghana Demographic Health Survey. The participants were 2,129 women who were married or cohabiting with their partner, not pregnant, and not desiring to conceive within the next three months. They assessed for sexual empowerment by examining questions in the dataset related to self-determination, equity in the relationship, and ability to express sexual decision-making, such as "Can you say no to your

husband/partner if you do not want to have sexual intercourse?” They saw a positive relationship between sexual empowerment scores and contraceptive use.

Secondly, Bogale et al. (2011) surveyed 699 married Ethiopian women to assess for factors that increase decision-making power for the women to use ‘modern’ contraception. For the purposes of their study, ‘modern’ methods consisted of anything that was not ‘natural.’ They found that a gender equitable attitude, better involvement in decisions related to children, and fear of partner’s opposition were statistically significant factors for increased decision-making power on the use of modern contraceptive methods.

Finally, Stokes et al. (2016) analyzed power in several subcategories to assess its association with consistent condom use with young adult Latinos. They found different association based on gender. For men, feeling an increased level of control in the relationship was found to be associated with *less* consistent condom use. For women, increased medical mistrust (seen by the researchers as a structural measure of power) was associated with more consistent condom use. Finally, across both men and women, sexual decision-making and self-efficacy (seen by the researchers as an individual measure of power) was associated with more consistent condom use.

These three studies speak to the assumption that great balance of power in decision-making leads to a greater likelihood that couples select more ‘modern methods.’ There is an underlying assumption that fertility awareness-based methods are outdated and empowered women would be less likely to select them. However, there is a missing piece in these studies. The association flows from increased power to contraceptive decision-making. This study seeks to flip the direction of the association. *After* the decision of contraceptive method has been made, how is power balance in the relationship impacted? In other words, what impact does contraception have in the power dynamics of relationships?

Hypotheses

This study sought to fill the gaps in the literature around the relational implications of contraceptive method choice in regards to power and equity. Research today is focused primarily on the effect power has on the ability for women to be involved in the decision-making process of which choice she would prefer to use. This study approached the topic from a different angle. How does a woman’s contraceptive method choice impact the power dynamics in the couple

relationship? Additionally, there is a need for updated research on contraceptive method use and relationship satisfaction. Because of the lack of knowledge about relational implications of method choice and abundant need for informed contraceptive method selection, this study sought to answer the following questions and corresponding hypotheses.

Question 1. How do contraceptive methods impact a woman's self-reported relationship satisfaction?

Hypothesis 1. Women in opposite-sex married relationships who use natural family planning will report higher levels of relationship satisfaction in their marital relationship as compared to women who use oral contraceptives.

Question 2. How do contraceptive methods impact how much power a woman perceives to have in marital relationships?

Hypothesis 2. Women in opposite-sex married relationships who use natural family planning will perceive a greater balance of power in their marital relationship as compared to women who use oral contraceptives.

CHAPTER 3: METHODS

Sample

Participants needed to meet certain requirements to be included in the sample. They needed to be women who are currently in an opposite-sex marriage, actively avoiding pregnancy, and between the ages of 18 and 49. First, participants had to currently be in a sexually active, opposite-sex marriage. For the purpose of this study, sexually active was defined as engaging in vaginal intercourse; it was defined this way for this study because sexual penetration prompts the need for contraceptive use.

Second, the participants had to be currently avoiding pregnancy. This was necessary to ask for because FABMs can also be used to achieve pregnancy. This impacts how participants using fertility awareness-based methods would be practicing the method. Instead of abstaining from intercourse, they may be having more intentional intercourse. This can impact relational dynamics and could, in turn, impact balances of power. Furthermore, some women may be using hormonal birth control but not for the intent of preventing pregnancy. Instead, they could be using it to lighten their menstruation or prevent acne. It was important to specify that they are using their contraceptive method to prevent pregnancy, because if they had less concern about a potential pregnancy, this could have altered the level of relationship stress and impact relationship dynamics.

Finally, participants were required to be of reproductive age. The World Health Organization (2006) defines reproductive age as 15 to 49. However, out of a desire to exclude minors, participants for this study must have been between 18 and 49 years of age. Participants were classified into two different groups by contraceptive method type: natural family planning or oral contraceptives. To ensure adequate statistical power, a minimum of 52 participants from each of the above groups needed to be collected (Cohen, 1992) for a total of 104 participants.

Procedure

Using convenience sampling, the participants were collected in two primary ways: Amazon Mechanical Turk (MTurk) and Facebook interest groups. MTurk is a crowdsourcing marketplace that offers workers a small payment in exchange for completing tasks (Paolacci et

al., 2010). After approval from the Institutional Review Board (IRB) at Purdue University, participants using either method were given an informed consent and a survey to complete through the website. They were offered a small payment (\$1) for participation. Payments for MTurk workers typically range between \$0.01 and \$1 (Paolacci et al., 2010). Participants collected via interest groups on Facebook were also offered an informed consent that was approved by the IRB. However, their incentive came in the form of a potential to win a \$50 amazon gift card for participation. Also, they were directed to a separate website that led them to a Qualtrics questionnaire. Qualtrics is a free-to-use, web-based survey tool to conduct research.

There are benefits and drawbacks to using this procedure for collecting participants. The advantage of using Mturk is that it helped increase sample size. Mturk is well established and has the resources to quickly and affordably collect a large sample size that is more representative of the US population than university pools (Paolacci et al., 2010). Additionally, recruiting participants through Facebook interest groups (“Clearblue Monitor Methods (MM) NFP,” “NFP Support: Billings Ovulation Method,” “Marquette Method NFP,” “NFP: CCL’s STM Public Group,” and “Fertility Care Creighton & NaPro User Support Group”) helped to collect enough participants to represent NFP. These groups have 12k, 1.8k, 3.1k, 1.7k, and 9.3k members, respectively.

There are various biases involved in utilizing these methods for collecting samples. First, to take a survey through Mturk, workers must have a verified account. This creates an obstacle to those who do not already have an account. This could have prevented certain demographic groups from being in my sample. Sampling bias could have caused my sample to look much different than my target population due to the intricacies of Mturk. Also, those who participate in Facebook interest groups are more likely to be passionate about the topic and promote what they believe to be ‘positive’ responses to the questionnaire. NFP users were the only ones marketed to through Facebook interest groups focusing on NFP, which could have caused additional sampling bias. Finally, conducting online surveys excludes those who are unlikely to use the internet. This begins to narrow the types of people in my sample. In effect, I could not generalize the data to my target population due to sampling bias.

Instrumentation

A variety of information was collected from the participants in order to answer the research questions. There were three parts to this data collection: a demographic questionnaire, the Relationship Balance Assessment (RBA), and the Couple Satisfaction Inventory (CSI-4). These three components are detailed below.

First, a comprehensive demographic questionnaire asked a variety of questions aimed at (a) ensuring that the individual meets the qualifications to participate in the study, (b) collecting information about their contraceptive method choice, which served as the independent variable in the analysis, and (c) supplying information for the control variables. To meet the needs for the first goal, participants were asked their sex, age, whether they were attempting to avoid or achieve pregnancy, and if they were currently in an opposite-sex marriage. In order to answer the second goal of the demographic questionnaire, participants were asked which specific OC or NFP applies to them and whether or not they used condoms and/or withdrawal. Finally, to meet the needs of the third goal, they were asked to identify their reason for method choice, and number of children. A variety of other information was also collected, including reported religious affiliation, importance of religion, education level, income level, length of method use, intention to have children in the future, and length of relationship.

Relationship Balance Assessment

To assess for women's assessment of the balance of power in the relationship, the Relationship Balance Assessment (RBA) was used. Created by Luttrell et al. (2018), the RBA takes a contemporary look at power in relationships. Developed by interviewing both male and female members of couples, it was developed through a systemic lens. While the scale was developed to be given dyadically, it is appropriate to use with one partner, especially women, because they were found to be greater attuned to power balances (T. Luttrell, personal communication, February 17, 2020) in their study. The RBA is a 35-item scale that contains 12 subscales (time discretion, relational power, emotional expression, sexual dominance, rational, spending, financial needs, accommodation, emotional avoidance, status, social status, and children). It asks questions about their current relationship in the last year, such as "Who had more time to pursue their interests?" and "Who expressed their sexual needs more?" Participants

answer between 1-9 where '1' signifies 'mostly him' and '9' signifying 'mostly her.' Healthy scores fall within in a healthy middle range 159-182 to signify greater balance. The mean score for women is 160 and a score between 140-155 for women is typical for clinically distressed couples. Therefore, for the purposes of this study, a lower score on the RBA denoted the woman feeling less power in her marriage. The items under each subscale were chosen based on factor analysis. The overall scale tested to have a Cronbach's alpha of 0.85 on the individual level. For each subscale, Cronbach's alpha ranged from 0.627 to 0.837 on the individual level, showing high levels of consistency and reliability. This study used the entire scale except for the subscale on children. The RBA is included in Appendix A.

Couple Satisfaction Inventory

Finally, to assess for overall relationship satisfaction, the 4-question format of the Couple Satisfaction Inventory (CSI-4) was used (Funk & Rogge, 2007). The CSI is a well-known scale for the assessment of couple satisfaction, with a Cronbach's alpha of 0.94. It was developed to be able to assess satisfaction validly without the same great length of other scales measuring the same satisfaction. The CSI-4 used item-response theory of 180 commonly used items to measure relationship satisfaction to narrow to the most valid and powerful items. The first question asks respondents to rate the degree of happiness within their relationship from 0-6 (0 being extremely unhappy and 6 being perfect). The rest of the items ask respondents to rate answers on a scale of 0-5. Responses are then summed to score their reported relationship satisfaction. Scores can range from 0-21, with a mean score of 16 and a distressed cutoff score of 13.5 or below. The CSI-4 is included in Appendix A.

Data Analysis

In order to answer both hypotheses, two multiple linear regressions were conducted. For the first regression the independent variable was contraceptive method choice, either oral contraceptives or natural family planning. In order to allow for the regression to process the categorical independent variable, dummy coding was implemented. The dependent variable was relationship satisfaction, as measured by the CSI-4. Analysis controlled for self-reported importance of religion, reason for method choice (i.e. religious beliefs, physical reactions to

hormonal methods, etc.), method satisfaction, age, and number of children. A second multiple linear regression was conducted with the same independent and control variables. However, balance of power in the relationship, as measured by the RBA served as the dependent variable. A standard screening analysis was performed, looking for outliers, missing data, unusual means, and any unmet assumptions.

CHAPTER 4: RESULTS

Participants were acquired through two different settings: Mturk and Facebook interest groups. In both settings, they were provided a link to complete the survey through Qualtrics and offered a monetary reward for survey completion. A second round of Mturk was conducted because of an initially low percentage of respondents reporting that they use oral contraceptives. In total, the survey was accessed by 1,207 subjects. Participants collected via Facebook made up 331 of the respondents, whereas 876 of the respondents were recruited through Mturk. Out of the 1,207 initial respondents, 658 participants agreed to the consent form, met the requirements, and completed the survey in its entirety. An additional 206 participants were excluded for one or more of the following reasons 1) inconsistent patterns to answering questions; 2) answering yes to using condoms with the use of Natural Family planning; or 3) answering yes to using withdrawal with the use of Natural Family Planning. For the purposes of this study, withdrawal and condoms do not fit under the definition of NFP and therefore these participants did not meet the requirements for inclusion in the study. Finally, during the data screening process detailed below, 12 more cases were dropped from the data set. In the final analysis 440 participants were included, 192 in the OC group and 248 in the NFP group. This was 36.5% of those who originally accessed the survey.

The participants who identified as “American Indian/Alaska Native” or “Asian” were combined with the participants who identified as “Other” for the purpose of analysis, due to low number of participants identifying as such. There were no participants who identified as “Pacific Islander/Native Hawaiian.” Similarly, in the religious importance variable, those who identified religion/spirituality as being “very important” or “moderately important” were grouped together. Additionally, those who identified religion/spirituality as being “slightly important” or “not important at all” were grouped together in an effort to consolidate numbers.

Participants who selected “avoidance of physical side effects,” “benefit of desired physical effects,” “avoidance of hormones,” or “healthcare provider recommendation” for their reason for method choice were combined into a “health reasons” category. Those who selected “religious/spiritual beliefs” as well as one of the health reasons as their reason for method choice were combined into a “both” category. Finally, those who selected “peer recommendation” were

combined with the participants who selected “other.” This was for the purpose of simplifying the use of this variable as a control variable in the regression analysis.

Due to the responses to the open-ended answer to the question “Which form of Natural Family Planning do you use?” a “more than one method” option was created. Participants who answered “The Two-Day Method,” “Family of the Americas,” and “The Standard-Days Method” were combined with the participants who identified as “Other” for the purpose of analysis, due to low number of participants identifying as using those methods.

Demographics

Because of this study’s emphasis on comparing two groups, each demographic is categorized by which contraceptive method group they fell under. Then, the demographics of a sample as a whole are listed. This is done in an effort to compare and contrast the differences between the two groups.

Although the minimum age to participate in the study was 18 years old, the survey participants’ ages ranged from 20 to 49 years old. The average age was about 31 years old. This average held true between contraceptive method groups. An overwhelming majority (84.3%) of the participants identified as white, followed by Hispanic (4.8%), Black/African American (4.5%), then multiracial (3.4%). The ‘other’ category consisted of those identifying as either Asian, American Indian, or Alaska Native (3.0%). This information can be found in Tables 1 and 2, below.

Table 1. Age

	N	Minimum	Maximum	Mean	SD
Age (OC)	192	20	49	31.53	6.06
Age (NFP)	248	21	48	31.38	5.35
Age (Total)	440	20	49	31.46	5.71

Table 2. Race

OC - Race (N = 192)	Frequency	Percent
White	154	80.2
Black/African American	16	8.3
Hispanic	11	5.7
OC - Race (N = 192)	Frequency	Percent
Other	7	3.6
Multiracial	4	2.1
NFP - Race (N = 248)	Frequency	Percent
White	217	87.5
Black/African American	4	1.6
Hispanic	10	4.0
Other	6	2.4
Multiracial	11	4.4
Total - Race (N = 440)	Frequency	Percent
White	371	84.3
Black/African American	20	4.5
Hispanic	21	4.8
Other	13	3.0
Multiracial	15	3.4

The survey participants were highly educated with the majority of participants (55.9%) reported having a Bachelor's degree as their highest level of education. The NFP group had more cases of participants reaching doctoral level or beyond. As for income, the participants varied greatly in their annual household income. The largest frequency of participants reported an annual income of \$100,000-\$149,000 (16.1%). However, the NFP group had almost 20% more participants reporting an annual income of \$100,000 to \$149,999 than the OC group. This information is detailed in Table 3.

Table 3. Education Level and Annual Household Income

OC - Education Level (N = 192)	Frequency	Percent
High School/GED	7	3.6
Some College	8	4.2
Associate's Degree	16	8.3
Bachelor's Degree	113	58.9
Master's Degree	45	23.4
Doctoral Degree	2	1.0
Professional Degree	1	0.5
NFP - Education Level (N = 248)	Frequency	Percent
High School/GED	1	0.4
Some College	16	6.5
Associate's Degree	14	5.6
Bachelor's Degree	133	53.6
Master's Degree	70	28.2
Doctoral Degree	7	2.8
Professional Degree	7	2.8
Total - Education Level (N = 440)	Frequency	Percent
High School/GED	8	1.8
Some College	25	5.7
Associate's Degree	30	6.8
Bachelor's Degree	246	55.8
Master's Degree	115	26.1
Doctoral Degree	9	2.0
Professional Degree	8	1.8
OC - Income (N = 192)	Frequency	Percent
Less than \$10,000	3	1.6
\$10,000 to \$19,999	7	3.6
\$20,000 to \$29,999	21	10.9
\$30,000 to \$39,999	15	7.8
\$40,000 to \$49,999	25	13
\$50,000 to \$59,999	34	17.7
\$60,000 to \$69,999	23	12
\$70,000 to \$79,999	25	13
\$80,000 to \$89,999	7	3.6
\$90,000 to \$99,999	14	7.3
\$100,000 to \$149,999	11	5.7
\$150,000 or more	7	3.6

Table 3 continued

NFP - Income (N = 248)	Frequency	Percent
Less than \$10,000	1	0.4
\$10,000 to \$19,999	6	2.4
\$20,000 to \$29,999	4	1.6
\$30,000 to \$39,999	12	4.8
\$40,000 to \$49,999	18	7.3
\$50,000 to \$59,999	18	7.3
\$60,000 to \$69,999	18	7.3
\$70,000 to \$79,999	36	14.5
\$80,000 to \$89,999	26	10.5
\$90,000 to \$99,999	20	8.1
\$100,000 to \$149,999	60	24.2
\$150,000 or more	24	9.7
Missing	5	2.0
Total - Income (N = 440)	Frequency	Percent
Less than \$10,000	4	.9
\$10,000 to \$19,999	13	3.0
\$20,000 to \$29,999	25	5.7
\$30,000 to \$39,999	27	6.1
\$40,000 to \$49,999	43	9.8
\$50,000 to \$59,999	52	11.8
\$60,000 to \$69,999	41	9.3
\$70,000 to \$79,999	61	13.9
\$80,000 to \$89,999	33	7.5
\$90,000 to \$99,999	34	7.7
\$100,000 to \$149,999	71	16.1
\$150,000 or more	31	7.0
Missing	5	1.1

Participants were also asked about their religious identity. Participants came from a variety of denominations, but the overwhelming majority of them identified as Catholic (84.3%). This was especially true for the NFP group, with only 4% of them identifying as anything other than Catholic. The next highest category shared that they did not have a religious affiliation (8.6%). This percentage derives primarily from the OC group, who had 15% more participants than the NFP group answer that they did not have a religious affiliation.

When asked how important their religion/spirituality was to them, over half (52.6%) of the participants answered that it was 'extremely important' to them. Next, 37.5% of participants answered either that it was very or moderately important, 10% said that it was either slightly important or not important at all to them. Here, the two groups differ greatly. The majority

(74.6%) of NFP users reported religion being extremely important to them. However, the majority (55.2%) of OC users reported religion being moderately or very important to them. Additionally, the OC group had over 19% more participants say that religion was slightly or not at all important to them. Only 1.6% of NFP users reported this. This information can be found in Table 4, below.

Table 4. Religion

OC - Religious Affiliation (N = 192)	Frequency	Percent
None	33	17.2
Catholic	132	68.8
Protestant	19	9.9
Orthodox	1	.5
Muslim	3	1.6
Jewish	2	1
Other	2	1
NFP - Religious Affiliation (N = 248)	Frequency	Percent
None	5	2.0
Catholic	239	96.4
Protestant	3	1.2
Orthodox	0	0
Muslim	1	0.4
Jewish	0	0.4
Other	0	0
Total - Religious Affiliation (N = 440)	Frequency	Percent
None	38	8.6
Catholic	371	84.3
Protestant	22	5
Orthodox	1	0.2
Muslim	4	0.9
Jewish	2	0.5
Other	2	0.5
OC - Importance of Religion/Spirituality (N = 192)	Frequency	Percent
Extremely Important	46	24
Very/Moderately Important	106	55.2
Slightly/Not at all Important	40	20.8
NFP - Importance of Religion/Spirituality (N = 248)	Frequency	Percent
Extremely Important	185	74.6
Very/Moderately Important	59	23.8
Slightly/Not at all Important	4	1.6
Total - Importance of Religion/Spirituality Total (N = 440)	Frequency	Percent
Extremely Important	231	52.5
Very/Moderately Important	165	37.5
Slightly/Not at all Important	44	10.0

The participants were married as long as 36 years and as short as less than a year. On average, they were married for 7.1 years. This average did not vary greatly between contraceptive method groups. Their total time together as a couple, including dating before marriage, ranged from 1.5 years to over 38 years. On average, the total time the participants were with their current partners was 10 years and 5 months. Participants using natural family planning had similar frequencies of sexual intercourse as those using hormonal birth control. However, the frequency of intercourse scores were more centralized around 3-4 times per month for the NFP group, whereas the OC group showed more widespread responses. In total, the largest group reported having sexual intercourse 3-4 times a month (34.5%), closely followed by 1-2 times per week (29.5%). This information is detailed in Tables 5 and 6, below.

While the range in number of children of participants was between 0 and 7, the majority of the participants had one child or less (55.5%). Only 15.1% of the participants had more than 3 children. This is another stark contrast between contraceptive method groups. Only 3.1% of the OC users report having more than two children, whereas almost half (42.2%) of the NFP users had more than two children. In total, more than half (52.7%) of the participants stated that they intend to have children in the future. The other half either stated that they do not intend to have children in the future (27.5%) or that they are unsure (19.8%). The OC group had over 20% more participants report that they do not intend to have children in the future. This information can be found in Table 7.

Table 5. Length of Relationship

	N	Minimum	Maximum	Mean	SD
Years Married (OC)	192	1	36	6.31	4.62
Total Time Together (OC)	192	1 year, 6 months	38 years, 3 months	9 years, 11.3 months	5 years, 9.3 months
Years Married (NFP)	248	0	24	7.63	5.01
Total Time Together (NFP)	248	2 year, 2 months	33 years, 5 months	10 years, 9.5 months	5 years, 5.9 months
Years Married (Total)	440	0	36	7.1	4.9
Total Time Together (Total)	440	1 year, 6 months	38 years, 3 months	10 years, 5 months	5 years, 7.4 months

Table 6. Frequency of Sexual Intercourse

OC - Frequency of Sexual Intercourse (N = 192)	Frequency	Percent
Less than once a month	4	2.1
1-2 times/month	46	24
3-4 times/month	52	27.1
1-2 times/week	49	25.5
3-4 times/week	34	17.7
Daily	7	3.6
NFP - Frequency of Sexual Intercourse (N = 248)	Frequency	Percent
Less than once a month	5	2.0
1-2 times/month	34	13.7
3-4 times/month	100	40.3
1-2 times/week	80	32.3
3-4 times/week	27	10.9
Daily	2	0.8
Total - Frequency of Sexual Intercourse (N = 440)	Frequency	Percent
Less than once a month	9	2.0
1-2 times/month	80	18.1
3-4 times/month	152	34.5
1-2 times/week	129	29.3
3-4 times/week	61	13.9
Daily	9	2.0

Table 7. Children

OC - Number of Children (N = 192)	Frequency	Percentage
0	84	43.8
1	69	35.9
2	33	17.2
3	3	1.6
4	2	1
5	0	0
6	1	0.5
7	0	0
NFP - Number of Children (N = 248)	Frequency	Percentage
0	47	19.0
1	44	17.7
2	52	21.0
3	42	16.9
4	34	13.7
5	14	5.6
6	9	3.6
7	6	2.4
Total - Number of Children (N = 440)	Frequency	Percentage
0	131	29.8
1	113	25.7
2	85	19.3
3	45	10.2
4	36	8.2
5	14	3.2
6	10	2.3
7	6	1.4
OC - Intention for Future Children? (Y/N) (N = 192)	Frequency	Percent
Yes	90	46.9
No	76	39.6
Unsure	26	13.5
NFP - Intention for Future Children? (Y/N) (N = 248)	Frequency	Percent
Yes	142	57.3
No	45	18.1
Unsure	61	24.6
Total - Intention for Future Children? (Y/N) (N = 440)	Frequency	Percent
Yes	232	52.7
No	121	27.5
Unsure	87	19.8

Finally, in regards to the participants' contraceptive method use, there were slightly more participants using NFP (56.4%) than using HBC (43.6%). They reported having used their chosen method for anywhere between less than one year to over 20 years. On average, they used their current method for 3.84 years. This information is located in Table 8. Of the OC users in the sample, the majority used the combination pill (72.8%) rather than the progestin-only pill (27.2%), also known as the minipill. About half (50.8%) of the NFP users were using the Marquette Model specifically. The second most commonly used NFP method was Symptothermal (12.1%). The least commonly used method by the participants was Creighton (5.6%). Some of the participants reported using more than one NFP method (4%) in tandem and 8.9% reported using some other method than those listed in Table 9.

It was of interest to know whether the participants were using their chosen method for religious reasons, health reasons, or both. The OC users were much more likely to have chosen their method for health reasons (58.9%) exclusively. Only 7.7% of NFP users reported having chosen their method for health reasons alone. It was more likely that they chose their method for both health and religious reasons (50.4%). In total, the most commonly reported was health reasons (30%) followed by an even split of 17.7% for religious reason and both. Finally, 34.5% of participants' answers to the open-ended questioning about reason for method choice could not be classified into any of these distinct groups and were listed as 'other' reasons. This information can be found in Table 9, below.

Table 8. Years using Current Contraceptive Method

	N	Minimum	Maximum	Mean	SD
# of Years (OC)	192	Less than 1	18	3.94	3.1
# of Years (NFP)	248	Less than 1	20+	3.78	4.1
# of Years (Total)	440	Less than 1	20+	3.84	3.7

Table 9. Contraceptive Method Demographics

Contraceptive Method Choice (N = 440)	Frequency	Percent
Oral Contraceptives	192	43.6
Natural Family Planning	248	56.4
Form of OC (N = 184)	Frequency	Percent
Combination Pill	134	72.8
Progestin-Only Pill	50	27.2
Form of NFP (N = 248)	Frequency	Percent
Creighton	14	5.6
Billings-Ovulation	23	9.3
Symptothermal	30	12.1
The Marquette Model	126	50.8
The Couple to Couple League	23	9.3
More than one	10	4.0
Other	22	8.9
OC - Reason for Method Choice (N = 192)	Frequency	Percent
Health	113	58.9
Religion	13	13
Both	27	14.1
Other	27	14.1
NFP - Reason for Method Choice (N = 248)	Frequency	Percent
Health	19	7.7
Religion	53	21.4
Both	125	50.4
Other	51	20.6
Total - Reason for Method Choice (N = 440)	Frequency	Percent
Health	132	30.0
Religion	78	17.7
Both	78	17.7
Other	152	34.5

Instrumentation

The instruments used in this study were the Relationship Balance Assessment and the Couple Satisfaction Inventory. The mean, standard deviation and Cronbach's alpha of each scale are listed in Table 10, below. The scores in the "Cronbach's Alpha" column is from the reported Cronbach's alpha in the respective scale's original formation.

Table 10. Instruments and Descriptive Statistics

Scale	# of items	Possible Range	Observed Range	N	Mean	Standard Deviation	Cronbach's Alpha	Cronbach's Alpha from this Study
Relationship Balance Assessment (RBA)	33	33-297	113-197	440	158.45	16.67	0.85	0.59
Couple Satisfaction Inventory (CSI-4)	4	0-21	6-21	440	15.74	3.73	0.94	0.88

Data Screening

All data analyses and screening were conducted using the Statistical Package for the Social Sciences (SPSS 26). Before conducting the analyses, all data were screened for statistical assumptions, outliers, and normality. There were no out of bounds or missing data. There were eight cases of univariate outliers (two for total RBA score, five for number of children, and one for relationship satisfaction). These eight cases were dropped from the data set for this reason. An analysis of the pairwise plots indicated linearity and homoscedasticity of the continuous variables. There was no significant kurtosis found. Significant skewness was found in several variables. Total CSI score had a skewness of -0.50 (SE = 0.12), number of children had a skewness of 1.08 (SE = 0.12), and age had a skewness of .77 (SE = 0.12). It was not necessary to transform the data because the central limit theorem protects the results from being misleading with the large sample size (N = 440) of this data set (Field, 2017).

In order to check for multicollinearity and singularity of the variables, a bivariate correlations test was run. Based on the Pearson's correlations, neither multicollinearity nor singularity were present in the variables. When screening for influence, the Mahalanobis test revealed three cases above the critical value (13.82) with a maximum score of 22.0. Additionally, 39 cases were found to be about the critical Leverage value (0.018) with a maximum score of 0.05. One case was dropped for this reason, when it was discovered that it did not match the

population in the rest of the data set. The remaining 38 cases were kept and may have undue influence on the analysis. Finally, three univariate outliers were found and were dropped from the analysis.

Hypothesis One

Hypothesis one stated that women in heterosexual married relationships who use natural family planning will report higher levels of relationship satisfaction in their marital relationship as compared to women who use oral contraceptives. To explore this hypothesis, one multiple regression analysis was conducted. The sample size for the regression analysis included all 440 participants in the dataset. The independent variable of contraceptive method choice was included in the regression analyses, with relationship satisfaction as the dependent variable. Control variables included age, number of children, reason for method choice, and importance of religion. The regression indicated that the model was significant, $F(8, 431) = 10.056, p < .01$. this suggests that contraceptive method and the control variables reliably predict relationship satisfaction. The correlation coefficient between the predictors and the outcome variable was $R^2 = .157$, adjusted $R^2 = .142$. This reveals that contraceptive method choice, combined with the control variables, account for 14.2% of the variance in relationship satisfaction.

Statistical significance was not found for the independent variable of contraceptive method choice ($t = 1.334, p > .05$). This suggests that contraceptive method choice was not significantly associated with reports of couple relationship satisfaction. Statistical significance was found for the control variable of age ($t = -2.485, p < .05$), suggesting that age is negatively associated with relationship satisfaction. Dummy coding was used to analyze the statistical significance of importance of religion/spirituality and reason for method choice. These dummy code variables are listed in the last five rows of Table 11. The referent category for importance of spirituality was ‘extremely important.’ The last two rows of Table 11 report the other categories of importance of religion as compared to that referent category. The group that reported that religion/spirituality was ‘very/moderately important’ was shown to have significantly lower ($t = -5.283, p < .001$) relationship satisfaction scores as compared to the ‘extremely important’ group. This regression is illustrated in Table 11. In Table 11, ‘both’ refers to choosing the method for *both* religious and health reasons. The referent category for reason for method choice was ‘both.’

Table 11. Multiple Regression Analysis Examining Contraceptive Method and Relationship Satisfaction

	B	Std. Error	Beta	T	Sig.
Constant	19.328	1.067		18.115	0.000
Contraceptive Method	0.607	0.455	0.081	1.334	0.183
Age	-0.081	0.032	-0.123	-2.485	0.013*
Number of Children	-0.069	0.125	-0.031	-0.554	0.580
Health Reasons (as compared to Both)	-0.981	0.509	-0.121	-1.926	0.055
Religious Reasons (as compared to Both)	-0.710	0.485	-0.073	-1.463	0.144
Other Reasons (as compared to Both)	0.204	0.493	0.021	0.413	0.680
Religion Moderately/Very Important (as compared to Extremely)	-2.145	0.406	-0.279	-5.283	.000**
Religion slightly/not at all Important (as compared to Extremely)	-0.229	0.656	-0.018	-0.348	0.728

* $p < .05$; ** $p < .01$

Hypothesis Two

Hypothesis two stated that women in heterosexual married relationships who use natural family planning will perceive a greater balance of power in their marital relationship as compared to women who use oral contraceptives. To explore this hypothesis, one multiple regression analysis was conducted. The sample size for the regression analysis included all 440 participants in the dataset. The independent variable of contraceptive method choice was included in the regression analyses, with total relationship balance as the dependent variable. Control variables included age, number of children, reason for method choice, and importance of religion. The regression indicated that the model was significant, $F(8, 431) = 10.515$, $p < .01$.

this suggests that contraceptive method and the control variables reliably predict relationship balance of power. The correlation coefficient between the predictors and the outcome variable was $R^2 = .163$, adjusted $R^2 = .148$. This reveals that contraceptive method choice, combined with the control variables, account for 14.8% of the variance in relationship balance of power.

Statistical significance was found for the independent variable of contraceptive method choice ($t = -4.534, p < .001$). Participants using oral contraceptive had a significantly higher score for relationship balance than those using natural family planning. Statistical significance was also found for the control variable of number of children ($t = -3.269, p < .001$), suggesting that the number of children was significantly negatively associated with relationship balance. Dummy coding was used to analyze the statistical significance of importance of religion/spirituality. The group that reported that religion/spirituality was ‘very/moderately important’ was shown to have significantly higher ($t = 2.44, p < .05$) relationship balance scores as compared to the ‘extremely important’ group. Additionally, ‘slightly/not at all important’ was shown to have significantly lower ($t = -2.142, p < .05$) relationship balance scores as compared to the ‘extremely important’ group. This regression is illustrated in Table 12.

Table 12. Multiple Regression Analysis Examining Contraceptive Method and Relationship Balance

	B	Std. Error	Beta	T	Sig.
Constant	165.667	4.758		34.820	0.000
Contraceptive Method	-9.196	2.028	-0.274	-4.534	0.000**
Age	0.110	0.145	0.037	0.762	0.447
Number of Children	-1.826	0.559	-0.182	-3.269	0.001**
Health Reasons (as compared to Both)	-3.524	2.271	-0.097	-1.552	0.121
Religious Reasons (as compared to Both)	-0.150	2.165	-0.003	-0.069	0.945
Other Reasons (as compared to Both)	-2.803	2.199	-0.064	-1.275	0.203
Religion Moderately/Very Important (as compared to Extremely)	4.425	1.810	0.129	2.444	0.015*
Religion slightly/not at all Important (as compared to Extremely)	-6.267	2.926	-0.113	-2.142	0.033*

*p < .05; **p < .01

Results Conclusion

In summary, neither hypothesis was statistically supported. However, the relationship in hypothesis two was significant, but the relationship was in the opposite direction as was hypothesized. Specifically, women using NFP reported significantly lower relationship balance scores as compared to women using OCs. This means NFP users in this study perceived their male partners to have more power than the OC users perceived their male partners to have in

their relationships. In addition, number of children and importance of religion, as controls, were shown to be significantly correlated with relationship balance. The more children the participants had, the more they perceived the power of the relationship to be in the hands of their male partner. In regards to religious importance, participants to whom religion was very/moderately important showed higher relationship balance scores (more power for the female partner) than those who said religion was extremely important. Finally, those who reported religion as slightly/not at all important to them had significantly lower balance of power scores (more power for the male partner) than those who said religion was extremely important.

The analyses for hypothesis one showed no significant difference in relationship satisfaction based on contraceptive method choice. Both groups showed healthy levels of relationship satisfaction. In addition, the control variable age was shown to be negatively correlated with relationship satisfaction. This means that the older the participants were, the lower relationship satisfaction scores they reported, in general. Finally, those who reported religion to be very/moderately important to them, as compared to extremely important, had significantly lower relationship satisfaction scores. In conclusion, these results suggest that contraceptive method choice is not linked with relationship satisfaction; however, there is some evidence that contraceptive method may be linked with levels of perceived relationship balance.

CHAPTER 5. DISCUSSION

The purpose of this study was to further the research on the relational implications of contraceptive method used. Liberal feminist theory was used as a framework to direct the hypotheses for the study. Based on liberal feminist theory's desire to explore power dynamics in relationships (White et al., 2008), this study examined how contraceptive method use may be connected with the balance of power in relationships. In addition, relationship satisfaction has previously been shown to have an association with contraceptive method use (Cobey et al., 2010; Roberts et al., 2011). Also, more egalitarian relationships today seem to be connected with higher relationship satisfaction. Therefore, it followed that this study should include relationship satisfaction in the analyses. Specifically, the questions were asked: (1) Does a woman's contraceptive method choice impact her relationship satisfaction? And (2) Does a woman's contraceptive method choice impact how much power a woman perceives to have in her relationship?

It was hypothesized that women using NFP would perceive more power in their relationships than women using OCs. This was based on previous research that mutual respect and shared responsibility among couples using NFP (Bardwick, 1973; VandeVusse et al., 2004) and the recognition that these relationship qualities tie into power dynamics. It was also hypothesized that women using NFP would experience greater relationship satisfaction as compared to women using OCs due to previous connecting hormonal birth control with decreased relationship satisfaction (Cobey et al., 2010; Roberts et al., 2011) as well as the connection between balance of power and relationship satisfaction (Amato, 2003; Cooke, 2006). Essentially, if we are to expect that couples using NFP have greater balance of power in their relationship, then we would also expect them to be more satisfied, since balance of power is associated with relationship satisfaction.

In order to test these hypotheses, this study aimed to compare these two groups on their levels of satisfaction and balance. The data were collected all via an online survey which provided the women the confidentiality and privacy to answer openly and honestly. A sizable sample was collected. This assists in attempting to collect a sample that more closely matched the population being studied. Also, control variables of age, number of children, importance of religion, and reason for method choice were used to ensure that the variation shown in the two

groups was not attributed to them, rather than the independent variable being studied: contraceptive method.

Neither hypothesis was supported when analyzed through respective multiple regressions. However, the second hypothesis, regarding balance of power, was found to be significant in the opposite direction as hypothesized. The remainder of this discussion is devoted to understanding the potential reasons for the results shown. This is done by exploring each hypothesis separately, as well as the control variables that were also shown to be significant contributors to the scores of each contraceptive method group. Then, limitations, clinical implications, and considerations for future research will be addressed.

Relationship Satisfaction

Previous research regarding the romantic relationships of NFP users find positive implications such as increased communication and understanding (Borkman & Shivanandan 1984; VandeVusse et al., 2004), intimacy (Fehring et al, 1994; VandeVusse et al., 2004), shared responsibility and respect (VandeVusse et al., 2004), and overall relationship enrichment (Rhomborg et al., 2013). However, some research regarding the romantic relationship of OC users find more negative implications such as increased jealousy (Cobey, 2010) and lowered satisfaction (Roberts et al., 2011). In order to reassess for relationship satisfaction and provide an update to potentially outdated research, hypothesis one posited that women using NFP would experience higher relationship satisfaction than women using OCs. Interestingly, this was not the case. The results saw no significant difference between the two contraceptive method groups in regards to relationship satisfaction.

Specifically, the NFP users had an average relationship satisfaction score of 16.48 and the OC users had a score of 14.79. Higher scores signify greater satisfaction. The CSI-4 (Funk & Rogge, 2007) was used to calculate these scores. The clinical cutoff for ‘distress’ using the CSI-4 is any score below 13.5 and the mean score for their normed sample is 16. Following these guidelines, the NFP group was much closer to the average level of satisfaction and the OC group found themselves below that average. Instead, they were closer to the clinical cutoff of distress. Still, these scores were not significantly different, according to the results of the regression.

These findings provide an important update to the previous research which has found negative implications for relationship satisfaction in OC users and positive ones for NFP. Over

40 years have passed since the publication of some of the previous studies (Bardwick, 1973; Borkman & Shivanandan, 1984; Marshal & Rowe, 1970). As time has passed, it is possible that relationships have adjusted to the popularity of the pill and do not experience the same negative implications previously purported from OC use. Additionally, the previous studies that found lowered relationship satisfaction for OC users were somewhat speculative, commenting on the effect of OCs main ingredients (estriadol and progesterone) on the social-emotional regions of the brain (Montoya & Bos, 2017). It is possible that these side effects are not as impactful as previously hypothesized when measuring overall relationship satisfaction.

Significant Controls

Two of the five control variables were found to have a significant correlation with relationship satisfaction: age and religious importance. Age was found to be negatively correlated with relationship satisfaction; the older the participants were, the lower their relationship satisfaction scores were, in general. This is contrary to the literature finding increases in relationship quality later in life (Levenson et al., 1993; Orbuch et al., 1996). However, it must be considered that the population in this study does not contain anyone older than 49. Therefore, the oldest women of this study are still facing the stressors of middle age and have not likely begun the life stage of ‘launching’ their children and benefiting from the decreased stressors of later life (i.e. retirement and the end of child-rearing). It is this relief from the stressors of middle age that previous research (Levenson et al., 1993; Orbuch et al., 1996) find so beneficial to relationship satisfaction in older couples.

There was a significant relationship between religious importance and relationship satisfaction. Specifically, participants who said religion was moderately/very important to them had significantly lower satisfaction scores than those who said religion was extremely important to them. This is unsurprising, considering previous research that finds a positive relationship between religiosity and relationship satisfaction (Allgood et al., 2009; Reiter & Gee, 2008; Stafford, 2016). This sample from this study appears to be no exception.

Relationship Balance of Power

The second hypothesis posited that women using NFP would experience greater balance of power than women using OCs. Balance of power was measured through the Relationship Balance Assessment (RBA) as created by Luttrell et al. (2018). The hypothesis was not supported. Instead, women using OCs, as opposed to NFP, reported significantly greater balance of power in their relationship. Specifically, the NFP group had an average RBA score of 153.94 whereas the OC group has an average score of 164.46. To fully interpret these scores, the median score and clinically significant range for the RBA are discussed below. In addition, a discussion on why this may have occurred will follow.

The possible score range for the RBA (Luttrell et al., 2018) is between 33-297. The average range for women is 159-182. The median score (to represent exact relationship balance, in theory) is 182. However, this is not the average score for 'healthy' couples, according to Luttrell et al. (2018). Instead, a normal range for women is anywhere between 159-182, with an average score of 160. A score of 159 or below signifies that the woman believes her partner has more power. Even further, a score between 140-155 is typical for clinically distressed couples. This demonstrates the phenomenon liberal feminism explains, that women typically possess less power in their relationships than their male counterparts (Donovan, 1992).

Following the RBA's (Luttrell et al., 2018) definition of 'distressed' and 'normal' scores of balance, the women in this study that were using NFP had, on average, a 'clinically distressing' lack of power (153.94). The OC users, however, fall into the 'normal' range, with an average score of 164.46. This, interpreted, means that the NFP group believes their male partners had more power in the relationship than they, and the OC group believed that the power in their relationship was generally balanced.

If these results were to be interpreted through a liberal feminist lens, the social institutions (i.e. family, health care, religion) that these two groups belong to become important to examine, consistent with a liberal feminist assumption that it is through these institutions that women are socialized to expect to hold less power in their relationships (Donovan, 1992). This is the very reason controls like, age, number of children, importance of religion, and reason for method choice, become crucial to understanding the full picture of the results. Therefore, control variable that were also found to have a significant contribution to the participant's RBA scores are explored below.

Significant Controls

The relationship balance scores for the sample were not solely explained by their contraceptive method choice. Of the five control variables included in the analysis, two were shown to have a statistically significant correlation with the RBA scores: religious importance and number of children.

Importance of Religion

Participants were asked how important religion was to them (not at all, slightly, moderately, very, or extremely). Because ‘extremely’ was reported by the majority of the participants (52.5%), this became the referent category in the analysis. Also, ‘moderately’ and ‘very’ were lumped together, as well as ‘slightly’ and ‘not at all.’ The ‘very/moderately’ group had significantly higher relationship balance scores than those that said religion was extremely important to them. This means that women to whom religion was ‘very/moderately’ important, reported greater balance of power in their relationship than the ‘extremely’ group. On the contrary, those to whom religion was ‘slightly/not at all’ important, had significantly lower relationship balance scores than the ‘extremely’ group, meaning they experienced their male partner as having more of the power.

Research shows a connection between religious ideologies and conservative viewpoints around gender roles in relationships (Siordia, 2016). Liberal feminism would purport that traditional general roles afford more power to men and more responsibility to women (Enns, 1997). Although there is evidence that this is declining (Peterson & Donnenworth, 1998) due to the influence of the egalitarian values of the general public, perhaps women who find religion to be extremely important will be more likely not to be influenced by cultural values outside of their own religious identification. It follows that the woman in the study who stated that religion was extremely important to them would have lower relationship balance scores than women who found religion to be only moderately or very important. Perhaps these women were more comfortable incorporating modern day ideals of egalitarian roles into their religious beliefs, than the women who identify ‘extremely’ with their religion.

This does not account for why the women to whom religion was extremely important actually had significantly *higher* relationship balance score than the women to whom religion

was slightly or not at all important. Instead, perhaps they benefitted from a mutual belief system with their partners. Having a shared value system is a great foundation for building mutuality, which Knudson-Martin (2013) connects with equality in relationships. In addition, of 97.8% those that said religion was extremely important to them identified as Christian. There is a Christian value of altruism and service to others, especially romantic partners (Van Dierendonck & Patterson, 2010). If used well, this value may assist the participants in ‘accepting influence’ from one another, which has been connected with relationship balance and equality (Gottman et al., 1998; Knudson-Martin, 2013), assuming their male partners are also practicing accepting influence. Perhaps these value systems are what gave the ‘extremely important’ group, higher relationship balance scores than those to whom religion was slightly or not at all important.

This study had a desire to be able to separate religion and contraceptive method choice when studying balance of power and relationships. However, in the sample collected, religion was so highly intertwined with method choice that this goal was impossible. As shown in Table 4, the vast majority (74.6%) of NFP users reported that their religion was extremely important to them. On the contrary, the majority of OC users (55.2%) said that religion was moderately or very important to them. This difference in level of religious importance between groups makes it difficult to separate the participants scores solely based on method choice. While religion was controlled for, because of the makeup of the sample, it can’t be determined what balance of power in NFP users looks like when they are not also highly religious.

Number of Children

Number of children was found to be negatively correlated with relationship balance scores, meaning that the more children the participants had, the less power they experienced having in their relationship. Research has demonstrated this experience of women before; even relationships with the most egalitarian roles often struggle to maintain these ideals after having children because of the cross-cultural assumption that childrearing is an instinctually feminine task and strength (Knudson-Martin & Mahoney, 2009). It follows that the more children a couple has, the heavier the emphasis on the woman to take over these ‘feminine’ roles exclusively. This, if unaddressed, can form a lack of shared responsibility in regards to household work and child care, which factor heavily into the balance of power in relationships (Knudson-Martin & Mahoney, 2009).

Because of the composition of this sample, it is difficult to separate number of children from contraceptive method as it relates to balance of power. As shown in Table 7, the OC users and NFP users differ greatly in their number of children. Almost half of the NFP users (42.2%) had three or more children, whereas only 3.1% of the OC users had three or more children. In addition, the NFP users were more open to having children in the future than the OC users. This information can also be found in Table 7. Siordia (2016) shares that gender egalitarianism is lower in people who express a strong family orientation. There was a greater emphasis on child-rearing in the lives of the women using NFP in this sample.

Also, the average number of children differs in this study's sample as compared to the sample used in the creation of the RBA (Luttrell et al., 2018). The sample in Luttrell et al. (2018) had an average of 1.6 children ($SD = 1.6$) whereas the current study's sample had an average of 2.7 children ($SD = 1.6$). It is unknown how much the difference in number of children might affect the score range for 'normal' and 'distressed,' but it is something to consider.

Overall, importance of religion and number of children are significantly correlated with the perceived balance of power for the women in this study. Women who were using NFP experienced less power in their relationships than the women using OCs. This is contrary to the original hypothesis. However, it is understandable, with the considerations listed above.

Clinical Implications

This study explored the importance of power balances in marital relationship by using a liberal feminist lens when questioning how contraceptive method use relates to balance of power in relationships. Equality in a marriage is widely believed to be beneficial for relationship quality and stability (Amato, 2003; Coontz, 2005; Knudson-Martin & Mahoney, 2009). Therefore, liberal feminist therapists ensure that they address any power imbalances in treatment. To do this, liberal feminist therapists encourage the client to consider how they may have been socialized to believe certain gendered things about themselves and/or to accept differing degrees of power in their relationship (Enns, 1997). The results of this study offer some insight into how to adapt feminist therapy treatments to the unique population seen in this study: users of NFP. Additionally, it provides an approach for utilizing the Relationship Balance Assessment (RBA) in couple therapy in a culturally sensitive way.

This study found that women using NFP experienced significantly less power in their relationships than women using OCs. So much so that they scored, on average, below the clinical cut-off for 'distressed' couples. However, both groups reported being relatively satisfied in their relationships. It is possible that the high importance of religion in the NFP group altered the way in which they expect egalitarianism in their relationships.

In order to assess for balance of power in a couple therapy case, therapists can utilize the RBA (Luttrell et al., 2018) with their clients at the beginning of treatment. While the RBA is designed to be used in clinical settings, the cultural expectations of the relationship should be considered as a buffer for satisfaction. Therapists should be cautious before labeling a couple as distressed or unsatisfied solely based on their RBA score. Knowledge that the couple is using NFP may help guide liberal feminist therapist's questioning about social institutions (i.e. religion and family) that may have impacted their beliefs about power in relationships. This information, in turn, can help with interpretation of the scores on the RBA.

Another benefit of using the RBA in treatment is its ability to scale attunement in the couple. When the RBA is taken by both members of the dyad, the scores are able to be crosschecked to build a measure of attunement. The smaller the difference between their scores, the more attuned they are. Attunement scores were not collected in this study, but attunement is seen to be one of the most beneficial qualities in a relationship and is highly connected with mutuality and equality (Knudson-Martin & Mahoney, 2013). This is because attunement is connected with healthy communication, mutual understanding, and joint decision making. Attunement is so beneficial that it may have been the missing piece in discovering why the NFP users of this study had lower RBA scores, but were still satisfied in their relationship. Perhaps they still experienced high attunement in their marriages. Without measuring attunement, the picture of the relationship is incomplete. Therapists should place a high importance on collecting this score.

After assessment, Knudson-Martin and Mahoney (2009) offer a model of relationship equality to use in couple therapy that includes four key dimensions: relative status, attention to the other, accommodation patterns, and well-being. Therapists can use these tenants to explore ways in which couples maintain these dimensions in their relationship. In addition, therapist can use the findings from the study to inform their questioning around how contraceptive method use may influence their experience of power and if they are comfortable with the amount of equality

in their relationship. Liberal feminist therapists always address power, but they also recognize freedom of choice for women from different cultural backgrounds and do not push treatment goals that the client does not agree with (Enns, 1997). They should practice respect of cultural differences when nudging clients to consider how they have been socialized whether or not to expect egalitarianism in their relationship.

Strengths and Limitations

This study presents interesting findings on an area of research that is lacking: contraceptive method's relation to power dynamics and relationship satisfaction. First, it provided an extremely important update and revision to previous research that found negative relationship implications for OC users (Cobey, 2010; Roberts et al., 2011) and positive implications for NFP users (Borkman & Shivanandan, 1984; Fehring et al., 1994; Rhomberg et al., 2013; VandeVusse et al., 2004). The previous research on the topic has grown increasingly outdated. This study ensured that the research be revisited. This proved to be important, as it did not find the same results previously discussed in the research. Instead, it saw no difference between groups in relationship satisfaction. In addition, previous research rarely asked about self-reported relationship satisfaction directly. Certainly, it did not compare satisfaction directly between NFP and OC groups, as this study has. By using a peer-reviewed scale to measure satisfaction, the Couple Satisfaction Inventory (Funk & Rogge, 2007), the variable could be measured validly and directly compared between groups. This provided a much-needed revision to previous research which was often speculative or exploratory.

In addition, this study provided the first look at the relationship between contraceptive methods and balance of power. Previous research has made connections between female empowerment and freedom to choose more 'modern' methods (i.e. hormonal methods and condoms; Bogale et al., 2011; Crissman et al., 2012). However, no research has explored how using these methods may, in turn, impact the balance of power in the relationships of the women that use them. While this study could not assess for causation because it was not longitudinal, it did find an association between contraceptive method and balance of power in marital relationships. It may be that women who already experienced more power in their relationship were more likely to select oral contraceptives and that this choice did not alter the already solidified power balance between herself and her partner.

Finally, with a sample size of 440, this study was able to lower the chance of inaccurately significant findings. It is more likely that this sample was able to represent the experiences of the population it wished to study and conduct powerful analyses from it. Still, readers should use caution when interpreting the results of the study. The design of the study created several limitations. First, it prevented causation from being assumed. Using multiple linear regression, a correlation was drawn between contraceptive method and balance of power. However, because this study was cross-sectional, rather than longitudinal, causation cannot be derived from the connection seen between contraceptive method and power differentials in the couples that use them.

Third, this study's intent was to examine, exclusively, contraceptive method's impacts on power. However, because this was not an experimental study, participants could not be separated from their world views. In particular, the hope was to know if NFP, outside of a religious context, benefited power dynamics. Unfortunately, the high percentage of highly religious users in the NFP population prevented these two variables from being separated. It is unknown how much importance of religion was a confounding variable in this study.

Finally, this study utilized online surveys as a means of data collection. This causes a potential bias to be placed on the data. Participants would have had to access to a computer and some interest in establishing an MTurk account or participating in a social group on Facebook. There is the potential that the population was not perfectly represented in the sample collected due to this. Also, MTurk participants were given a higher than average reward (\$1) for participating in the survey which increases the chance that they were dishonest in their report that they qualified for the study. Even so, they may not have given adequate thought to the questions out of a desire to finish the survey quickly and earn their reward. Additionally, the majority of the women using NFP in this study were collected using Facebook interest groups, whereas, the majority of OC user were recruited through MTurk. This may have led to unique differences between groups based on recruitment source.

The scale used to measure balance of power, the RBA (Luttrell et al., 2018), also had limitations. First, in this study, it had a low internal reliability ($\alpha = 0.59$) despite its good level of reliability in the original study ($\alpha = 0.85$). There is the potential that it was not measuring what it intended to measure for this dataset. The RBA is a relatively new scale and it is possible that their definition of power does not apply to contraceptive use, especially the niche population

using NFP to avoid pregnancy. Specific demographics about the population used in the creation of the RBA (Luttrell et al., 2018) are unknown. This makes it difficult to determine if demographic differences led to this disparity in reliability scores. However, it is likely that the population from the current study places more emphasis on religion in their lives and may hold a different definition of power than the one being measured by the RBA. Additionally, the RBA was designed to be used by both members of an intimate dyad. Since this study did not collect the RBA scores from the husbands of the women being surveyed, a piece of the assessment was missing: partner attunement. Without this measure, the full picture of power in the relationship could not be drawn. It may be that the NFP users had much higher attunement than the OC users, or vice versa. This could radically change the results of the study.

The final limitation to the study involved human error. The intention to use degree of method satisfaction as a control variable was unsuccessful because it was mistakenly not included in the survey for data collection. Previous research shows a connection between users being satisfied in their contraceptive method and their report that the method was beneficial to their relationship (den Tonkelaar & Oddens, 2001). This may have been a significant factor in the results of this study, but cannot be ascertained because the necessary data was not collected from the participants.

Future Directions

This study sought to explore the association between contraceptive method use and relationship balance of power and satisfaction. The results of the study pointed to a potential disconnection between egalitarian relationship roles and relationship satisfaction for highly religious populations. It is possible that religiosity serves as a protective factor against the negative implications of poor relationship balance in the NFP users. Future research should look more directly at this connection. Specifically, researchers could examine the connection between balance of power and relationship satisfaction with religiosity as a moderator. In addition, previous expectations about power balances may have had an impact on the results of this study. Future research on power in relationships should address prior gender role expectations of the participants.

Additionally, this study was limited by only surveying the women in the relationships; the results of the RBA (Luttrell et al., 2018) are best interpreted when the scores from both

members of the dyad are able to be compared in order to measure attunement. Future studies would benefit from surveying both members of the intimate dyad and obtaining their attunement scores, as it is an important aspect of power dynamics in relationships (Knudson-Martin & Mahoney, 2013).

Finally, future research should be sure to include method satisfaction as a control variable when examining relational implications of method satisfaction. Previous studies show evidence of participant bias based on whether or not they were satisfied with the method they were using (den Tonkelaar & Oddens, 2001). Essentially, if participants were satisfied with the contraceptive method, they would report extensive benefits of the method on their relationship. If they were unsatisfied, however, they would report extensive negative impacts on their relationship. There is the potential that participants generalize their distaste or excitement for a specific method to more areas of their lives than are accurate. This study failed to collect the information on participants' degree of satisfaction on their contraceptive method. Future studies should improve on this limitation.

Conclusion

Power and relationships have important implications for relationship satisfaction and stability (Amato, 2003; Cooke, 2006). This study used liberal feminist theory to inform an exploration of how contraceptive methods may have an impact on the power balances and relationship satisfaction in married women using them. It hypothesized that women using natural family planning (NFP) would experience greater balance of power and relationship satisfaction than women using oral contraceptives (OCs). However, results showed no significant difference in relationship satisfaction between groups and greater balance of power in women using OCs than women using NFP. Additionally, age, importance of religion, and number of children were seen to have significant effects on the results of the study. It is suggested that feminist therapists use the results of this study to inform their exploration of power balances in the couples they see. In particular, they should practice cultural awareness when they challenge the social institutions that have led women using NFP to still be satisfied in their relationships, despite experiencing less power than their male counterparts.

REFERENCES

- Allgood, S., Sharon H., Linda S., & Thomas R. L. (2009). Marital commitment and religiosity in a religiously homogenous population. *Marriage & Family Review*, 45(1), 52–67.
<https://doi.org/10.1080/01494920802537472>
- Alvergne, A., & Lumma, V. (2009). Does the contraceptive pill alter mate choice in humans? *Trends in Ecology & Evolution*, 25(3), 171-179.
<https://doi.org/10.1016/j.tree.2009.08.003>
- Amato, P. R., Johnson, D. R., Booth, A., & Rogers, S. (2003). Continuity and change in marital quality between 1980 and 2000. *Journal of Marriage and Family Therapy*, 65, 1-22.
<https://doi.org/10.1111/j.1741-3737.2003.00001.x>
- Arévalo, M., Jennings, V., & Sinai, I. (2002). Efficacy of a new method of family planning: The Standard Days Method. *Contraception*, 65(5), 333-338. [https://doi.org/10.1016/S0010-7824\(02\)00288-3](https://doi.org/10.1016/S0010-7824(02)00288-3)
- Bardwick, J. M. (1973). Psychodynamics of contraception with particular reference to rhythm. In W. A. Uricchio (Ed.), *Proceedings of a research conference on natural family planning* (pp. 195-207). Human Life Foundation.
- Barroilhet, S., Seïoret, C., Mallea, X., Fritsch, R., Vöhringer, P., & Arraztoa, J. A. (2018). Marital functioning in couples practicing periodic abstinence for family planning. *The Linacre Quarterly*, 85(2), 155-166.
- Bergus, G., & Pallone, S. (2009). Fertility awareness-based methods: Another option for family planning. *The Journal of the American Board of Family Medicine*, 22(2), 147-157.
<https://doi.org/10.3122/jabfm.2009.02.080038>
- Bogale, B., Wondafrash, M., Tilahun, T., & Girma, E. (2011). Married women's decision making power on modern contraceptive use in urban and rural southern Ethiopia. *BMC Public Health*, 11(1), 342. <https://doi.org/10.1186/1471-2458-11-342>
- Borkman, T., & Shivanandan, M. (1984). The impact of natural family planning on selected aspects of the couples' relationship. *International Review of Natural Family Planning*, 8(4), 58-66. <https://www.usccb.org/issues-and-action/marriage-and-family/natural-family-planning/what-is-nfp/science/upload/intl-review-nfp-1984-borkman-and-shivanandan-the-impact-of-nfp-on-couple-relationship.pdf>

- Carroll, J. L. (2019). *Sexuality now: Embracing diversity*. Cengage Learning.
- Catechism of the Catholic Church. (n.d.). *The love of husband and wife*.
http://www.vatican.va/archive/ENG0015/___P86.HTM
- Cobey, K. D., Pollet, T. V., Roberts, S. C., & Buunk, A. P. (2011). Hormonal birth control use and relationship jealousy: Evidence for estrogen dosage effects. *Personality and Individual Differences*, 50(2), 315-317. <https://doi.org/10.1016/j.paid.2010.09.012>
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112, 155-159.
<https://doi.org/10.1037/0033-2909.112.1.155>
- Cooke, L. P. (2006). “Doing” gender in context: Household bargaining and risk of divorce in Germany and the United States. *American Journal of Sociology*, 112(2), 442-472.
<https://doi.org/10.1086/506417>
- Coontz, S. (2005). *Marriage, a history: From obedience to intimacy, or how love conquered marriage*. Viking.
- Crissman, H. P., Adanu, R. M., & Harlow, S. D. (2012). Women's sexual empowerment and contraceptive use in Ghana. *Studies in Family Planning*, 43(3), 201-212.
<https://doi.org/10.1111/j.1728-4465.2012.00318.x>
- Crouch, M. A., & Straub, V. (1983). Enhancement of self-esteem in adults. *Family and Community Health*, 6(2), 76-78. <https://doi.org/10.1097/00003727-198306020-00008>
- Crowley, P., & Crowley, P. (1966). *Report to the Papal Birth Control Commission*. University of Notre Dame, Archives.
- den Tonkelaar, I., & Oddens, B. J. (2001). Factors influencing women's satisfaction with birth control methods. *The European Journal of Contraception & Reproductive Health Care*, 6(3), 153-158. <https://doi.org/10.1080/ejc.6.3.153.158>
- Donovan, J. (1992). *Feminist theory*, (expanded ed.). Continuum Publishing Company.
- Enns, C. Z. (1997). *Feminist theories and feminist psychotherapies: Origins, themes, and variations*. The Harrington Park Press.
- Fehring, R. J. (1995). Physician and nurses' knowledge and use of natural family planning. *The Linacre Quarterly*, 62(4), 22-28. <https://doi.org/10.1080/20508549.1995.11878322>
- Fehring, R. J. (2018). Contraception and natural family planning: The impact on the sexual lives of couples? *Anthropotes*, 34(1), 101-126.

- Fehring, R. J., Hanson, L., & Stanford, J. B. (2001). Nurse-midwives' knowledge and promotion of lactational amenorrhea and other natural family-planning methods for child spacing. *Journal of Midwifery and Women's Health*, 46(2), 68-73. [https://doi.org/10.1016/S1526-9523\(01\)00094-0](https://doi.org/10.1016/S1526-9523(01)00094-0)
- Fehring, R., & Lawrence, D. M. (1994). Spiritual well-being, self-esteem, and intimacy among couples using natural family planning. *The Linacre Quarterly*, 61(3), 18-29. <https://doi.org/10.1080/20508549.1999.11878261>
- Fehring, R., Lawrence, D. M., & Sauvage, C. M. (1989). Self-esteem, spiritual well-being, and intimacy: A comparison among couples using NFP and oral contraceptives. *International review*, 13(3-4), 227-236. https://epublications.marquette.edu/cgi/viewcontent.cgi?article=1338&context=nursing_fac
- Fehring, R. J., & Manhart, M. D. (2020). Natural family planning and marital chastity: The effects of periodic abstinence on marital relationships. *The Linacre Quarterly*, <https://doi.org/10.1177/0024363920930875>.
- Fehring, R. J., & Schneider, M. (2017). Effectiveness of a natural family planning service program. *MCN: The American Journal of Maternal/Child Nursing*, 42(1), 43-49. <https://doi.org/10.1097/NMC.0000000000000296>
- Fehring, R. J., Schneider, M., & Raviele, K. (2006). Variability in the phases of the menstrual cycle. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, 35(3), 376-384. <https://doi.org/10.1111/j.1552-6909.2006.00051.x>
- Field, A. (2017). *Discovering statistics using IBM SPSS* (5th ed.). Sage.
- Finer, L. B., & Zolna, M. R. (2016). Declines in unintended pregnancy in the United States, 2008-2011. *The New England Journal of Medicine*, 374(9), 843-852. <https://doi.org/10.1056/NEJMs1506575>
- Frank-Herrmann, P., Heil, J., Gnoth, C., Toledo, E., Baur, S., Pyper, C., Jenetzky, E., Strowitzki, T., & Freundl, G. (2007). The effectiveness of a fertility awareness based method to avoid pregnancy in relation to a couple's sexual behavior during the fertile time: A prospective longitudinal study. *Human Reproduction*, 22(5), 1310-1319. <https://doi.org/10.1093/humrep/dem003>

- Frisco, M. L., & Williams, K. (2003). Perceived housework equity, marital happiness, and divorce in dual-earner households. *Journal of Family Issues*, 24(1), 51-73.
<https://doi.org/10.1177/0192513X02238520>
- Funk, J. L., & Rogge, R. D. (2007). Testing the ruler with item response theory: Increasing precision of measurement for relationship satisfaction with the Couples Satisfaction Index. *Journal of Family Psychology*, 21(4), 572–583. <https://doi.org/10.1037/0893-3200.21.4.572>
- Goodrich, T. J. (1991). Women, power, and family therapy: What's wrong with this picture? In T. J. Goodrich (Ed.), *Women and power* (pp. 3-35). Norton.
- Gottman, J. M., Coan, J., Carrere, S., & Swanson, C. (1998). Predicting marital happiness and stability from newlywed interactions. *Journal of Marriage and the Family*, 60, 5-22.
<https://doi.org/10.2307/353438>
- Guttmacher Institute. (2018, July). *Contraceptive method use in the United States*. Guttmacher.
<https://www.guttmacher.org/fact-sheet/contraceptive-use-united-states>
- Haselton, M. G., & Gangestad, S. W. (2006). Conditional expression of women's desires and men's mate guarding across the ovulatory cycle. *Hormones and Behavior*, 49(4), 509-518. <https://doi.org/10.1016/j.yhbeh.2005.10.006>
- Hatcher, R. A., Trussell, J., Nelson, A., Cates, W., Kowal, D., & Policar, M. (2011). *Contraceptive technology* (20th ed.). Ardent Media.
- Higgins, J. A., & Smith, N. K. (2016). The sexual acceptability of contraception: Reviewing the literature and building a new concept. *The Journal of Sex Research*, 53(4-5), 417-456.
<https://doi.org/10.1080/00224499.2015.1134425>
- Hilgers, T. Daly, D., Hilgers, S. & Prebil, A. (1982). *The ovulation method of natural family planning: A standardized case management approach to teaching*. Creighton University Natural Family Planning Education and Research Center.
- Horst, E., & Doherty, W. (1995). Gender, power, and intimacy. *Journal of Feminist Family Therapy*, 6, 63-85. https://doi.org/10.1300/J086v06n04_05
- Institute for Quality and Efficiency in Health Care. (2017). *Contraception: Hormonal contraceptives*. <https://www.ncbi.nlm.nih.gov/books/NBK441576/>
- Jaramillo-Gomez, M., & Londono, J. B. (1968). Rhythm: A hazardous contraceptive method. *Demography*, 5(1), 433-438. <https://doi.org/10.1007/BF03208586>

- Jones, R. K., & Dreweke, J. (2011). Countering conventional wisdom: New evidence on religion and contraceptive use. *Guttmacher Institute*.
<https://www.thestranger.com/images/blogimages/2011/04/14/1302811453-religion-and-contraceptive-use.pdf>
- Knudson-Martin, C., (2013). Why power matters: Creating a foundation of mutual support in couple relationships. *Family Process*, 52(1), 5-18. <https://doi.org/10.1111/famp.12011>
- Knudson-Martin, C., & Mahoney, A. R. (2009). *Couples, gender, and power: Creating change in intimate relationships*. Springer.
- Koski, L. R., & Shaver, P. R. (1997). Attachment and relationship satisfaction across the lifespan. In R. B. Sternberg, & M. Hojjat (Eds.), *Satisfaction in close relationships* (pp. 26-55). The Guilford Press.
- Lakatos, A. C., & Martos, T. (2019). The role of religiosity in intimate relationships. *European Journal of Mental Health*, 14(2), 260-279.
- Lawrence, E., Nylen, K., & Cobb, R. J. (2007). Prenatal expectations and marital satisfaction over the transition to parenthood. *Journal of Family Psychology*, 21(2), 155-164.
<https://doi.org/10.1037/0893-3200.21.2.155>
- Levenson, R. W., Carstensen, L. L., & Gottman, J. M. (1993). Long-term marriage: Age, gender, and satisfaction. *Psychology and Aging*, 8(2), 301–313. <https://doi.org/10.1037/0882-7974.8.2.301>
- Leyva, D. (n.d.). *Different methods of natural family planning*. Diocese of Sacramento.
<https://www.scd.org/family-and-faith-formation/different-methods-natural-family-planning>
- Luttrell, T. B., Distelberg, B., Wilson, C., Knudson-Martin, C., & Moline, M. (2018). Exploring the relationship balance assessment. *Contemporary Family Therapy*, 40(1), 10-27.
<https://doi.org/10.1007/s10591-017-9421-2>
- Marshall, J., & Rowe, B. (1970). Psychological aspects of the basal body temperature method of regulating births. *Fertility and Sterility*, 21, 14-19. [https://doi.org/10.1016/S0015-0282\(16\)37261-2](https://doi.org/10.1016/S0015-0282(16)37261-2)

- Medina, J. E., Cifuentes, A., Abernathy, J. R., Spieler, J. M., & Wade, M. E. (1980). Comparative evaluation of two methods of natural family planning in Colombia. *American Journal of Obstetrics and Gynecology*, 138(8), 1142-1147. [https://doi.org/10.1016/S0002-9378\(16\)32781-8](https://doi.org/10.1016/S0002-9378(16)32781-8)
- Montoya, E. R., & Bos, P. A. (2017). Review: How oral contraceptives impact social-emotional behavior and brain function. *Trends in Cognitive Sciences*, 21, 125-136. <https://doi.org/10.1016/j.tics.2016.11.005>
- Moreau, C., Cleland, K., & Trussell, J. (2007). Contraceptive discontinuation attributed to method dissatisfaction in the United States. *Contraception*, 76(4), 267-272. <https://doi.org/10.1016/j.contraception.2007.06.008>
- National Center for Health Statistics. (2019). [Table of women ages 15-44 having ever used contraception]. *National Survey of Family Growth*. https://www.cdc.gov/nchs/nsfg/key_statistics/c.htm#contraception
- Orbuch, T. L., House, J. S., Mero, R. P., & Webster, P. S. (1996). Marital quality over the life course. *Social Psychology Quarterly*, 59(2), 162-171. <https://doi.org/10.2307/2787050>
- Paolacci, G., Chandler, J., & Ipeirotis, P. G. (2010). Running experiments on Amazon Mechanical Turk. *Judgment and Decision Making*, 5(5), 411-419.
- Peterson, L. R. & Donnerwerth, G. V. (1998). Religion and declining support for traditional beliefs about gender roles and homosexual rights. *Sociology of Religion*, 59(4), 353-371. <https://doi.org/10.2307/3712122>
- Reiter, M. J., & Gee, C. B. (2008). Open communication and partner support in intercultural and interfaith romantic relationships: A relational maintenance approach. *Journal of Social and Personal Relationships*, 25(4), 539-559. <https://doi.org/10.1177/0265407508090872>
- Rhomberg, W., Rhomberg, M., & Weissenbach, H. (2013). Natural family planning as a family binding tool: A survey report. *Catholic Social Science Review*, 18, 63-70. <https://doi.org/10.5840/cssr2013186>
- Robakis, T., Williams, K. E., Nutkiewicz, L., & Rasgon, N. L. (2019). Hormonal contraceptives and mood: Review of the literature and implications for future research. *Current Psychiatry Reports*, 21(7), 57. <https://doi.org/10.1007/s11920-019-1034-z>

- Roberts, S. C., Klapilová, K., Little, A. C., Burriss, R. P., Jones, B. C., DeBruine, L. M., Petrie, M., & Havlíček, J. (2011). Relationship satisfaction and outcome in women who meet their partner while using oral contraception. *Proceedings of the Royal Society B: Biological Sciences*, 279(1732), 1430-1436. <https://doi.org/10.1098/rspb.2011.1647>
- Rosenfeld, M. J. (2018). Who wants the breakup? Gender and breakup in heterosexual couples. In D. Alwin, D. Felmlee, & D. Kreager (Eds.), *Social networks and the life course: Frontiers in sociology and social research* (2nd ed., pp. 221-243). Springer.
- Scheele, D., Plota, J., Stoffel-Wagner, B., Maier, W., & Hurlmann, R. (2016). Hormonal contraceptives suppress oxytocin-induced brain reward responses to the partner's face. *Social Cognitive and Affective Neuroscience*, 11(5), 767-774. <https://doi.org/10.1093/scan/nsv157>
- Singer, K. (2004). *The garden of fertility*. Avery.
- Siordia, C. (2016). On the relationship between gender roles attitudes, religious ideology and familism in a sample of adults in the United States. *Journal of International Women's Studies*, 17(4), 229-244. <https://vc.bridgew.edu/jiws/vol17/iss4/16>
- Skocovsky, K. D. (2008). *Fertility awareness-based methods of conception regulation: Determinants of choice and acceptability*. Masaryk University.
- Skovlund, C. W., Mørch, L. S., Kessing, L. V., & Lidegaard, Ø. (2016). Association of hormonal contraception with depression. *JAMA Psychiatry*, 73(11), 1154-1162. <https://doi.org/10.1001/jamapsychiatry.2016.2387>
- Smoley, B. A., & Robinson, C. M. (2012). Natural family planning. *American Family Physician*, 86(10), 924-928. <https://www.aafp.org/afp/2012/1115/p924.html>
- Spanier, G. (1976). Measuring dyadic adjustment: New scales for assessing the quality of marriage and similar dyads. *Journal of Marriage and the Family*, 38(1), 15-25.
- Spilka, B., & Ladd, K. L. (2012). *The psychology of prayer: A scientific approach*. Guilford Press.
- Stafford, L. (2016). Marital sanctity, relationship maintenance, and marital quality. *Journal of Family Issues*, 37(1), 119-131. <https://doi.org/10.1177/0192513X13515884>

- Stanford, J. B., Lemaire, J. C., & Thurman, P. B. (1998). Women's interest in natural family planning. *Journal of Family Practice*, 46(1), 65-71.
https://www.researchgate.net/profile/Joseph_Stanford/publication/13780098_Women's_interest_in_natural_family_planning/links/02e7e5244a4f1939a1000000.pdf
- Stephenson R., Bartel, D., & Rubardt, M. (2012) Constructs of power and equity and their association with contraceptive use among men and women in rural Ethiopia and Kenya. *Global Public Health*, 7(6), 618-634. <https://doi.org/10.1080/17441692.2012.672581>
- Stokes, L. R., Harvey, S. M., & Warren, J. T. (2016). Individual, interpersonal, and structural power: Associations with condom use in a sample of young adult Latinos. *Health Care for Women International*, 37(2), 216-236.
<https://doi.org/10.1080/07399332.2015.1038345>
- Sullivan, B. F., & Schwebel, A. I. (1995). Relationship beliefs and expectations of satisfaction in marital relationships: Implications for family practitioners. *The Family Journal*, 3(4), 298-305. <https://doi.org/10.1177/1066480795034003>
- Sullivan, O. (2006). *Changing gender relations, changing families: Tracing the pace of change over time*. Rowman & Littlefield.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Allyn and Bacon.
- Unsel, M., Rötzer, E., Weigl, R., Masel, E. K., & Manhart, M. D. (2017). Use of natural family planning (NFP) and its effect on couple relationships and sexual satisfaction: A multi-country survey of NFP users from US and Europe. *Frontiers in Public Health*, 5, 42.
<https://doi.org/10.3389/fpubh.2017.00042>
- Urrutia, R. P., Polis, C. B., Jensen, E. T., Greene, M. E., Kennedy, E., & Stanford, J. B. (2018). Effectiveness of fertility awareness-based methods for pregnancy prevention: A systematic review. *Obstetrics & Gynecology*, 132(3), 591-604.
<https://doi.org/10.1097/aog.0000000000002784>
- Van Dierendonck, D., & Patterson, K. (2010). *Servant leadership: Developments in theory and research*. Springer.
- VandeVusse, L., Hanson, L., Fehring, R. J., Newman, A., & Fox, J. (2004). Couples' views of the effects of natural family planning on marital dynamics. *Journal of Nursing Scholarship*, 35(2), 171-176. <https://doi.org/10.1111/j.1547-5069.2003.00171.x>

- Wedekind, C., Seebeck, T., Bettens, F., & Paepke, A. J. (1995). MHC-dependent mate preferences in humans. *Proceedings of the Royal Society of London. Series B: Biological Sciences*, 260(1359), 245-249. <https://doi.org/10.1098/rspb.1995.0087>
- White, J. M., Klein, D. M., & Martin, T. D. (2008). *Family theories* (3rd ed.). Sage.
- Wollstonecraft, M. (1972). A vindication of the rights of women. In M. Schneir (Ed.), *Feminism: The essential historical writings* (pp. 6-16). Vantage Books.
- World Health Organization. (2006). *Reproductive health indicators: Guidelines for their generation, interpretation, and analysis for global monitoring*. WHO Press.

APPENDIX A. SOCIAL MEDIA INFORMED CONSENT

RESEARCH PARTICIPANT CONSENT FORM

Impacts of Contraceptive Method Choice on Balance of Power in Marital Relationships

Anne Edwards, PhD & Mary Kate Shannon, BA

Department of Behavior Sciences

Purdue University

Key Information

Please take time to review this information carefully. This is a research study. Your participation in this study is voluntary which means that you may choose not to participate at any time without penalty or loss of benefits to which you are otherwise entitled. You may ask questions to the researchers about the study whenever you would like. If you decide to take part in the study, you will be asked to sign this form, be sure you understand what you will do and any possible risks or benefits.

What is the purpose of this study?

This study looks at the role different contraceptive methods may have in the power balance of married couples. It also examines how contraceptive method relates to relationship satisfaction. The data for the research will be collected until October or until the number of participants needed have completed the survey.

You are being asked to participate in a study designed by Dr. Anne B. Edwards and Mary Kate Shannon of Purdue University. We would like to enroll 300 people in this study. You have been invited because you are a woman in an opposite-sex marriage that is currently avoiding pregnancy and using either oral contraception or natural family planning to do so.

What will I do if I choose to be in this study?

If you choose to participate, you acknowledge that you are female, between the ages of 18-49, live in the United States, currently avoiding pregnancy, in an opposite-sex marriage, and using either oral contraception or natural family planning.

You will be asked to complete a survey asking about your contraceptive method use, relationship satisfaction and who you believe has more power in your relationship in different areas (e.g. finances, emotional support, etc.) You are free to withdraw from participation at any time.

How long will I be in the study?

The survey should take 5-10 minutes to complete.

What are the possible risks or discomforts?

There are no greater risks present during the completion of the survey than you would encounter in daily life or during the performance of routine physical or psychological exams or tests. Breach of confidentiality is always a risk with data, but we will take precautions to minimize this risk as described in the confidentiality section.

The questions may also make you feel uncomfortable and may result in emotional distress. If you experience distress, you can go to aamft.org or therapists.psychologytoday.com to find someone to speak to about any distress that may come of participating in this survey. Additionally, you may choose not to answer particular questions if they make you uncomfortable, or withdraw from participation at any time without penalty.

Are there any potential benefits?

You will not directly benefit from this study. You will have a chance to take part in research, and your participation may, thus, contribute to the scientific understanding about contraceptive use and relationship dynamics.

Will I receive payment or other incentive?

If you meet the study inclusion criteria and complete the survey in its entirety, you will be invited to enter into a prize drawing for a \$50 gift card for amazon.com. After completing the survey, a link will be given to you. You may follow this link if you choose to enter in the drawing. You will be asked to enter your email address. This email address will not be able to be connected to your survey responses. Therefore, your answers will remain anonymous.

Virtual gift cards will be randomly selected in October 2020 or after all participants have been obtained, whichever comes first. The goal number of participants is 150 and there are a total of 20 gift card that will be rewarded. Therefore, there is about a 13% chance that you will receive a \$50 gift card.

Are there costs to me for participation?

There are no anticipated costs to participate in this research.

Will information about me and my participation be kept confidential?

There is no personally identifying information on this survey; all responses will remain anonymous and will be used only in combination with the responses of other participants in this study. Additionally, you may choose not to answer particular questions or to withdraw your participation at any time, without penalty. All data gathered in this study will be accessed by the researchers. The data file will be used for preparation of research reports related to this study and kept for a period of three years and destroyed thereafter. The project's research records may be reviewed by departments at Purdue University responsible for regulatory and research oversight. In addition, IP addresses will not be linked to identifying information.

What are my rights if I take part in this study?

You do not have to participate in this research project. If you agree to participate, you may withdraw your participation at any time without penalty.

Who can I contact if I have questions about the study?

If you have questions, comments or concerns about this research project, you can talk to one of the researchers. Please contact Dr. Anne Edwards at abedward@pnw.edu or Mary Kate Shannon at shanno23@pnw.edu

To report anonymously via Purdue's Hotline see www.purdue.edu/hotline

If you have questions about your rights while taking part in the study or have concerns about the treatment of research participants, please call the Human Research Protection Program at (765) 494-5942, email (irb@purdue.edu) or write to:

Human Research Protection Program - Purdue University
Ernest C. Young Hall, Room 1032
155 S. Grant St.
West Lafayette, IN 47907-2114

Documentation of Informed Consent

I have had the opportunity to read this consent form and have the research study explained. I have had the opportunity to ask questions about the research study, and my questions have been answered. I am prepared to participate in the research study described above. I will be offered a copy of this consent form after I sign it.

APPENDIX B. MTURK INFORMED CONSENT

RESEARCH PARTICIPANT CONSENT FORM

Impacts of Contraceptive Method Choice on Balance of Power in Marital Relationships

Anne Edwards, PhD & Mary Kate Shannon, BA

Department of Behavior Sciences

Purdue University

Key Information

Please take time to review this information carefully. This is a research study. Your participation in this study is voluntary which means that you may choose not to participate at any time without penalty or loss of benefits to which you are otherwise entitled. You may ask questions to the researchers about the study whenever you would like. If you decide to take part in the study, you will be asked to sign this form, be sure you understand what you will do and any possible risks or benefits.

What is the purpose of this study?

This study looks at the role different contraceptive methods may have in the power balance of married couples. It also examines how contraceptive method relates to relationship satisfaction. The data for the research will be collected until October or until the number of participants needed have completed the survey.

You are being asked to participate in a study designed by Dr. Anne B. Edwards and Mary Kate Shannon of Purdue University. We would like to enroll 300 people in this study. You have been invited because you are a woman in an opposite-sex marriage that is currently avoiding pregnancy and using either oral contraception or natural family planning to do so.

What will I do if I choose to be in this study?

If you choose to participate, you acknowledge that you are female, between the ages of 18-49, live in the United States, currently avoiding pregnancy, in an opposite-sex marriage, and using either oral contraception or natural family planning.

You will be asked to complete a survey asking about your contraceptive method use, relationship satisfaction and who you believe has more power in your relationship in different areas (e.g. finances, emotional support, etc.) You are free to withdraw from participation at any time.

How long will I be in the study?

The survey should take 5-10 minutes to complete.

What are the possible risks or discomforts?

There are no greater risks present during the completion of the survey than you would encounter in daily life or during the performance of routine physical or psychological exams or tests. Breach of confidentiality is always a risk with data, but we will take precautions to minimize this risk as described in the confidentiality section.

The questions may also make you feel uncomfortable and may result in emotional distress. If you experience distress, you can go to aamft.org or therapists.psychologytoday.com to find someone to speak to about any distress that may come of participating in this survey. Additionally, you may choose not to answer particular questions if they make you uncomfortable, or withdraw from participation at any time without penalty.

Are there any potential benefits?

You will not directly benefit from this study. You will have a chance to take part in research, and your participation may, thus, contribute to the scientific understanding about contraceptive use and relationship dynamics.

Will I receive payment or other incentive?

You will receive a payment of \$1 for participating in this research project, so long as you meet the study inclusion criteria and complete all relevant questions in the survey. According to the rules of the Internal Revenue Service (IRS), payments that are made to you as a result of your participation in a study may be considered taxable income.

Are there costs to me for participation?

There are no anticipated costs to participate in this research.

Will information about me and my participation be kept confidential?

There is no personally identifying information on this survey; all responses will remain anonymous and will be used only in combination with the responses of other participants in this study. Additionally, you may choose not to answer particular questions or to withdraw your participation at any time, without penalty. All data gathered in this study will be accessed by the researchers. The data file will be used for preparation of research reports related to this study and kept for a period of three years and destroyed thereafter. The project's research records may be reviewed by departments at Purdue University responsible for regulatory and research oversight. In addition, IP addresses will not be linked to identifying information.

What are my rights if I take part in this study?

You do not have to participate in this research project. If you agree to participate, you may withdraw your participation at any time without penalty.

Who can I contact if I have questions about the study?

If you have questions, comments or concerns about this research project, you can talk to one of the researchers. Please contact Dr. Anne Edwards at abedward@pnw.edu or Mary Kate Shannon at shanno23@pnw.edu

To report anonymously via Purdue's Hotline see www.purdue.edu/hotline

If you have questions about your rights while taking part in the study or have concerns about the treatment of research participants, please call the Human Research Protection Program at (765) 494-5942, email (irb@purdue.edu) or write to:

Human Research Protection Program - Purdue University
Ernest C. Young Hall, Room 1032
155 S. Grant St.
West Lafayette, IN 47907-2114

Documentation of Informed Consent

I have had the opportunity to read this consent form and have the research study explained. I have had the opportunity to ask questions about the research study, and my questions have been answered. I am prepared to participate in the research study described above. I will be offered a copy of this consent form after I sign it.

APPENDIX C. QUALTRICS SURVEY

What is your sex?

- ☐ Male (1)
- ☐ Female (2)

What is your age?

▼ Under 18 (1) ... 50 or older (33)

Are you currently in a heterosexual marriage?

- ☐ Yes (1)
- ☐ No (2)

I am currently attempting to...

- ☐ Avoid Pregnancy (1)
- ☐ Achieve Pregnancy (2)

Which type of contraceptive method do you currently use?

- ☐ Oral Contraceptives (aka the pill) (1)
- ☐ Natural Family Planning (fertility tracking with periodic abstinence) (2)
- ☐ Other Fertility Awareness Based Method (with use of condoms or withdrawal) (3)
- ☐ No Method (4)
- ☐ Other Method: (5) _____

Years married:

▼ Less than 6 months (1) ... more than 35 years (37)

How long were you together before you were married?

☐ Years (1) _____

☐ Months (2) _____

How frequently do you engage in sexual intercourse?

▼ Less than once a month (1) ... Daily (6)

How many children do you have?

▼ 0 (1) ... 10+ (11)

Do you intend on having children in the future?

☐ Yes (1)

☐ No (2)

☐ I'm not sure (3)

What is your religious affiliation?

☐ None (1)

☐ Catholic (2)

☐ Protestant (3)

☐ Orthodox (4)

☐ Muslim (5)

☐ Jewish (6)

☐ Other (7) _____

How important is religion/spirituality in your life?

- ☐ Extremely important (1)
- ☐ Very important (2)
- ☐ Moderately important (3)
- ☐ Slightly important (4)
- ☐ Not at all important (5)

Choose one or more races that you identify as:

- ☐ White
- ☐ Black or African American
- ☐ Hispanic or Latin-x
- ☐ American Indian or Alaska Native
- ☐ Asian
- ☐ Native Hawaiian or Pacific Islander
- ☐ Other _____

What is the highest level of education you have received?

▼ Less than high school degree (1) ... Professional degree (JD, MD) (8)

What was your annual household income in the previous year?

▼ Less than \$10,000 (1) ... \$150,000 or more (12)

Display This Question:

If Which type of contraceptive method do you currently use? = Natural Family Planning (fertility tracking with periodic abstinence)

Which form of Natural Family Planning do you use?

- ☐ Creighton (1)
- ☐ Billings-Ovulation (2)
- ☐ Symptothermal (3)
- ☐ The Marquette Model (4)
- ☐ The Couple to Couple League (5)
- ☐ The Two-Day Method (6)
- ☐ Family of the Americas (7)
- ☐ The Standard-Days Method (8)
- ☐ I Don't Know (9)

Display This Question:

If Which type of contraceptive method do you currently use? = Oral Contraceptives (aka the pill)

Which type of oral contraceptive do you use?

- ☐ Combination Pill (1)
- ☐ Progestin-Only Pill (2)

Do you use condoms?

- ☐ Yes (1)
- ☐ No (2)

Do you practice withdrawal (aka the 'pull-out' method)?

☐ Yes (1)

☐ No (2)

What reason(s) led you to select your current method choice? (select any)

☐ Religious/Spiritual Beliefs (1)

☐ Avoidance of Physical Side Effects (2)

☐ Benefit of Desired Physical Side Effects (i.e. reducing acne) (3)

☐ Avoidance of Hormones (4)

☐ Healthcare Provider Recommendation (5)

☐ Peer Recommendation (6)

☐ Other (please explain): (7) _____

How many years have you been using your current method?

▼ less than 1 year (1) ... 20 years or more (21)

Think about your current relationship over the past year. Decide who the questions below apply to more, on a scale of 1-9, with 5 being equal or neutral.

	Mostly Him - 1 (1)	2 (2)	Somewhat Him - 3 (3)	4 (4)	Equal or Neutral - 5 (5)	6 (6)	Somewhat Her - 7 (7)	8 (8)	Mostly Her - 9 (9)
Who made active efforts to maintain connection? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who has given more time to the relationship in general? (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who asserted their needs about friends more? (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who was willing to negotiate when disagreeing more? (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who listened more to the other's needs? (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who proactively asked questions to understand the other? (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who was more aware of the other's feelings? (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who cared more about the other's health and well-being? (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Mostly Him (1)	(2)	Somewhat Him (3)	(4)	Equal or Neutral (5)	(6)	Somewhat Her (7)	(8)	Mostly Her (9)
Who expressed their sexual needs more? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who influenced the other sexually? (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who took the dominant role in sex? (or sexually?) (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Mostly Him (1)	(2)	Somewhat Him (3)	(4)	Equal or Neutral (5)	(6)	Somewhat Her (7)	(8)	Mostly Her (9)
Who admitted their personal weaknesses to the other? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who talked about their struggles related to friends? (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who expressed their feelings more? (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who emotionally needed the other person more? (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Mostly Him (1)	(2)	Somewhat Him (3)	(4)	Equal or Neutral (5)	(6)	Somewhat Her (7)	(8)	Mostly Her (9)
Who was considered more "rational" and less emotional? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who used "rationality" to justify their viewpoint? (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Mostly Him (1)	(2)	Somewhat Him (3)	(4)	Equal or Neutral (5)	(6)	Somewhat Her (7)	(8)	Mostly Her (9)
Who distributed or decided how the money was spent? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who had the final say about spending money? (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Mostly Him (1)	(2)	Somewhat Him (3)	(4)	Equal or Neutral (5)	(6)	Somewhat Her (7)	(8)	Mostly Her (9)
Who talked about their financial concerns? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who asserted their needs about money more? (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Mostly Him (1)	(2)	Somewhat Him (3)	(4)	Equal or Neutral (5)	(6)	Somewhat Her (7)	(8)	Mostly Her (9)
Who had more time to pursue their interests? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who got to use their time the way he/she wanted to? (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Mostly Him (1)	(2)	Somewhat Him (3)	(4)	Equal or Neutral (5)	(6)	Somewhat Her (7)	(8)	Mostly Her (9)
Who altered their habits and ways of doing things more to assist or please the other? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who was more likely to give in to the other's wishes when one of you wanted to do something that the other did not want to do? (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Mostly Him (1)	(2)	Somewhat Him (3)	(4)	Equal or Neutral (5)	(6)	Somewhat Her (7)	(8)	Mostly Her (9)
Who was more likely to shut down and not listen? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who kept silent more in a disagreement? (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who withheld emotions or avoided conflict more? (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Mostly Him (1)	(2)	Somewhat Him (3)	(4)	Equal or Neutral (5)	(6)	Somewhat Her (7)	(8)	Mostly Her (9)
Whose occupation is considered higher in status? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who has higher education? (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Mostly Him (1)	(2)	Somewhat Him (3)	(4)	Equal or Neutral (5)	(6)	Somewhat Her (7)	(8)	Mostly Her (9)
Who generally decided whose friends to go out with? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who generally decided when to see family or relatives? (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who influenced the other about which friends to spend time with? (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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

▼ Extremely Unhappy (1) ... Perfect (7)

Please indicate the selection that you most agree with.

	Not at all TRUE (1)	A little TRUE (2)	Somewhat TRUE (3)	Mostly TRUE (4)	Almost completely TRUE (5)	Completely TRUE (6)
I have a warm and comfortable relationship with my partner (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How rewarding is your relationship with your partner?

▼ Not at all (1) ... Completely (6)

In general, how satisfied are you with your relationship?

▼ Not at all (1) ... Completely (6)