# Cis-men's Perspectives on Male Birth Control

by

Kara Diane Gardner

A Thesis Presented in Partial Fulfillment
of the Requirements for the Degree
Master of Science

Approved November 2022 by the
Graduate Supervisory Committee:

Ben Hurlbut, Co-Chair
Jennifer Brian, Co-Chair
Rachel Gur-Arie

ARIZONA STATE UNIVERSITY

December 2022

ABSTRACT

Birth control promised to curb growing human populations while liberating women individually and socially. Instead, these technologies reinforce a feedback loop associating only women's bodies with family-planning responsibilities. As a result, many diverse female contraceptives have reached markets while few male contraceptives have. Cis-men's attitudes are commonly offered as explanation for why novel male contraceptives have not reached markets at the same pace, but little research has investigated this. I address this gap through thematic analysis of focus group interviews exploring cis-men's attitudes on existing and novel male contraceptives. Focus group findings suggest cis-men experience less urgency to contracept due to differences in physiological burdens of pregnancy and childbirth. Decreased urgency does not mean that cis-men are uninterested in contracepting or in novel contraception options, but that cis-men express boundaries to what they will endure when contracepting. Knowing men's articulated boundaries can help male contraceptive research and development (R&D) efforts moving forward. Additionally, these findings call into question current clinical risk assessment systems wherein risk of the medication is compared to how the individual experiences (unintended) pregnancy in a purely physical sense. Lastly, these data crucially demonstrate cis-men's interest in contracepting and having a complete clinical risk assessment system for developing, novel male contraceptives is still not enough. Systemic changes must occur for male contraceptive technologies to be accessible and utilized by cis-male populations. Because interviews were conducted before the Supreme Court's landmark 2022 decision that overturned federal abortion

protections, I expanded my research to include a follow-up survey gauging how participants' attitudes from the focus groups were impacted, if at all. The follow-up survey demonstrated increased urgency for novel male contraceptives as a result of the Dobbs decision, for example, can increase cis-men's urgency/interest in trying the interventions regardless of their lack of familiarity with the method or its potential side effects. Follow-up survey findings also demonstrate how cis-men's urgency/interest for novel male contraceptives is highly influenced by the current socio-political context surrounding reproductive justice issues. This finding affirms that the focus group data finding that the current FDA (Food and Drug Administration) clinical risk assessment is incomplete.

DEDICATION

I would first like to acknowledge my committee members for their guidance and mentorship throughout this project. Also, my accountability partners and their unwavering dedication throughout this process have been instrumental to me crossing the finish line. I could not have survived without my amazing support system of friends and family. I also want to thank the two organizations that funded this project and made it a reality, namely the Next Edison Foundation and the Graduate and Professional Student Association at Arizona State University. Lastly, I thank my participants for offering their time and insight to make this research possible.

TABLE OF CONTENTS

Page

LIST OF FIGURES

Figure Page

# CHAPTER 1

# INTRODUCTION

Not only a feat of scientific ingenuity, “the pill” promised technological solutions to many socio-cultural problems, including uncontrolled explosions in global human populations fueled by high unintended pregnancy rates and gendered notions of sex. However, entrusting birth control technologies to address unintended pregnancy rates and gendered notions of sex seems paradoxical when we consider the current contraceptive landscape.

While it is true that the invention and dissemination of contraceptives over the past 60 years has undoubtedly altered social climates around the world, delivery on these promises has fallen short. In the United States, the unintended pregnancy rate remains high at approximately 51%, which compares poorly to other industrialized nations and especially poorly to the 40% estimated unintended pregnancy rate for unindustrialized nations globally (Ross & Solinger, 2017, p. 149). Meanwhile the pill has been credited for closing a good amount of the gender wage gap (Ross & Solinger, 2017, p. 152), but, as of 2020, women in the United States still make an estimated 83 cents to a man’s dollar (United States Census Bureau, 2022). Most notably, though, the current contraceptive landscape is researched, developed, and marketed in ways that actually reinforce gendered notions of sex the technologies are credited with challenging.

Birth control technologies are—by and large—developed for and consumed by women. There are at least 14 western contraception methods and at least 5 indigenous contraception methods available to women. In comparison, at least 2 western and 3

indigenous contraception methods exist for men **(Appendix A)**. Of those (western) male contraceptive methods that are available today (i.e. condoms, vasectomies), vasectomies are the only novel method innovated in the past 400+ years (Oudshoorn, 2003). The availability of more than 3.5 times as many female contraceptive options demonstrates a gendered disparity in contraception research and development (R&D) and commercialization.

As one might expect when companies focus on diversifying female contraceptive products they also focus on marketing to a wider consumer base so their newly developed products find new, compatible users. This wide-scale effort to capitalize on as wide a female consumer base is captured in global and national birth control use statistics. A female-dominated user base within the contraception market is affirmed by global and national numbers on contraception use. It is estimated that about 70% of global contraception users are women and 30% are male (Amory, 2020; U.N. Department of Economic and Social Affairs, 2019). A 2019 United Nations (U.N.) report estimates that global male contraception use breaks down to about 21% male condom use, 5% withdrawal, and 2% male sterilization/vasectomy (U.N. Department of Economic and Social Affairs, 2019). In the United States, contraception use statistics are similar. A National Center for Health Statistics 2015-2017 survey of contraception use reports about 71.5% is female contraception use and the remaining approximate 28.5% is male contraception use (Daniels & Abma, 2018). With R&D efforts so intently focused on female consumers and such a wide female consumer base, it comes as no surprise that the

burden of contracepting and pregnancy prevention is placed, almost exclusively, on women.

Ignoring men's indisputable contribution to pregnancy and responsibility in pregnancy prevention has a profound impact on the individual and on society. It creates a feedback loop between conceptions of individual bodies and sex/reproduction that preclude associating these topics with male bodies. Almeling summarizes this feedback loop in her thesis statement for her 2020 book, *GUYnecology*, by explaining "[her] argument centers on how a feedback loop producing an association between a particular kind of knowledge and a particular kind of body--reproductive knowledge and women's bodies--*precludes* [sic] the association of reproductive knowledge and men's bodies." (p. 20). Since female bodies become the *only* bodies associated with 'reproduction,' they come to be recognized as the 'reproductive body.' Almeling (2020) explains this feedback loop came to be because "beliefs about women's reproductivity continually edged out a full investigation of men's contributions to reproductive outcomes" (p. 140). This social conception of women's bodies as the reproductive bodies impacts how science and technologies studies focus on reproduction and product development; how welfare programs allocate funds for reproductive health and family planning; how insurances decide to (not) cover reproductive medicines and interventions, etc.

Ignoring men's indisputable contribution to pregnancy and responsibility in pregnancy prevention also writes men out of making decisions about their own reproductive autonomy. The topic of men's reproductive autonomy creates an interesting tension in the feminist movement as some branches of feminism argue for men's access

to male contraceptives, even insofar as to ease the burden that is placed on women. Yet other branches of feminism actively challenge men's ability to exercise reproductive self-determination as it undermines women's ability to ability to exercise their reproductive self-determination in full.

Ignoring men's indisputable contribution to pregnancy and responsibility in pregnancy prevention also problematically relegates social justice issues surrounding sex and reproduction to the classification of "women's rights issues." This is a pressing reality in the United States as reproductive rights come under attack with the overturning of federal abortion protections via the Supreme Court's *Dobbs v. Jackson Women's Health Organization* decision. Ensuing backlash has overwhelming framed this decision as a "women's rights issue." At the moment men are recognized, at best, as potential allies for women's reproductive justice. Their position as stakeholders in matters concerning reproductive justice is all too often ignored. This is particularly harmful because it ignores that men are *necessary allies* in dismantling hetero-normative patriarchy and the unique ways in which men themselves are harmed by the system they so generously benefit from. Rene Almeling is one scholar critical of how most reproductive justice advocates solely focus on women. She reminds us to "move beyond the focus on individual women [by also including men and men's reproductive lives] to spotlight the importance of healthy communities" as a whole (Almeling, 2020, p. 179). Advocates must include men and men's reproductive lives in discussions pertaining to reproductive justice to truly embody the global human rights framework that reproductive

justice is purportedly built on (Ross & Solinger, 2017, p. 79; Silliman, et al., 2004, pp. 17 & 42; SisterSong, 2022).

In an effort to do just that, this research interrogates one aspect of cis-men's reproductive lives—male contraceptives[1]. As mentioned, men have access to and ultimately use contraceptives at lower rates than women. This observation led me to wonder whether women are using contraception at such disparate rates because they have a higher interest and demand for the technology, or because they have more access to and options within that category of technologies. To begin exploring this question, an inquiry into what factors (socio legal cultural scientific) have impeded male contraception development and commercialization in the United States ensued. This inquiry led me to compile a historical summary of male contraceptive R&D, which became chapter two of this thesis. In doing so, I noticed men's presumed attitudes about novel contraceptives remained one frequently mentioned reason that novel male contraceptives haven't yet reached markets. And yet, little research has been dedicated to uncovering what men's attitudes about contracepting and the possibility of novel male contraceptives actually are. Chapter three and four of this thesis discuss a study capturing men's attitudes on the matter.

This study used focus group interviews to explore men's attitudes on existing and novel male birth control technologies. Participants also discussed 1) how they navigate contracepting in such a limited male birth control market, and 2) how they conceptualize and articulate the perceived impact of pregnancy and children on their own lives, and 3)

[1] Cis-heterosexual men were the target population for this study because they are the target consumer population for novel male birth control technologies.

factors or actors they presume might be involved in novel male contraceptives' lack of coming to fruition.

These focus group findings were collected before the Supreme Court's decision to overturn federal abortion protections in their landmark *Dobbs v. Jackson Women's Health Organization (2022)* decision. Because of this, I then conducted a follow-up study to gauge how, if at all, the landmark *Dobbs* decision impacted participants' attitudes discussed in the focus groups. Chapter five of this paper addresses the follow-up survey and its results.

# CHAPTER 2

# HISTORICAL BACKGROUND

There are only a few birth control options available for men (5) as compared to the many kinds of contraception available to women (at least 18). Such limited availability of male contraceptive methods might infer the historical breadth of male contraceptive R&D is relatively short. And yet initial research into modern male contraceptives dates back to the 1950s and 1960s. With an R&D history as long as female contraceptives, the question of why the male contraceptive market has not advanced at the same rate follows. This chapter offers an overview of the history male contraception and the state of novel male contraception R&D today.

## History of Male Birth Control R&D

To answer this question, this part of the thesis is divided into three sections. The first section discusses how little interest from potential participants and industry (i.e., big pharma) have disrupted male contraception R&D and commercialization; the second section covers ethical concerns with the R&D process; and the third section explores how FDA regulations have stunted R&D and commercialization.

### Little interest in male contraception

Clinical trials for male contraception were first met with little interest from potential research subjects and little interest from industry (i.e., big pharma) resulting in restricted access to subjects and minimal-to-non-existent R&D infrastructure support.

Currently, some issues preventing access to research subjects are in the process of changing or have been circumvented. Whereas the lack of interest in male contraception from big pharma has not improved.

***Little interest from potential subjects***

At the very beginning of male contraception clinical testing, participants were not hard to find. This is because early trials relied upon men experiencing institutionalization, including those in psychotic wards and prisons (Kean, 2021). In fact, doctors interested in clinical research also used patients, sometimes their own, as test subjects for male contraceptives into the 1980s (Oudshoorn, 2003), distorting the patient-physician relationship. However, after the Belmont report in 1979, some human subjects research regulations were established, like the classification of vulnerable populations typically off-limits for research including those who are experiencing institutionalization, are socio-economically disadvantaged, under-age, pregnant, and marginalized (The Commission, 1979-b). The Belmont Report also drew distinctions between medical practice and clinical research to address the distorted patient-physician relationship (The Commission, 1979-a). Federal policies established under The Belmont Report significantly reduced the number of men available for contraception research. Those who weren't off-limits faced strict sociocultural gender scripts surrounding masculinity that did not accept male contraceptive use since contraception limits fertility.

Contracepting to prevent pregnancy has also historically been delegated as a "woman's responsibility," which has significantly altered the trajectory of male versus

female contraceptives. The novelty of male contraception clinical trials made potential participants weary as well.

**Male contraception field gains reputation.**

Men were disinterested in participating because clinical trials for male contraception were an emerging occurrence and the products and chemicals being tested were new. Essentially, the idea of undergoing clinical trials for contraception was foreign and unenticing to men at first (Oudshoorn, 2003, p. 78). As male contraception research and development has established its reputation within the biomedical realm, however, more and more men have offered their participation in clinical trials.

**Transnational collaboration to pool resources (including research subjects).**

Transnational collaboration has also played a major role in increasing subject participation. This collaboration is necessary to pool resources, including potential participants, infrastructure, and materials. Pooling of resources first occurred in the 70s or 80s when the World Health Organization (WHO) started "collaborating centers" (Oudshoorn, 2003, p. 80). These centers represent one unique way in which actors invested in male contraception create partnerships to address issues, including low interest in potential clinical trial participants and low interest in big pharma. Notably, these unique partnerships still exist through organizations like the International Consortium of Male Contraception and The Male Contraceptive Initiative.

***Little interest from industry***

Accessing potential clinical trial participants can still be difficult, but recent innovations in male contraceptives show it is no longer the issue it once was. One factor

that continues to threaten male contraception R&D, however, is the pharmaceutical industry (big pharma). Big pharma has essentially withheld its support from the male contraception market due to historical experiences with contraception, because stringent FDA regulations decrease profitability, and, perhaps most centrally, because the pharmaceutical industry does not want to introduce a competing market that might interfere with its booming female (and male) contraception market(s).

**Historical experiences dissuade participation.**

Early experiences with contraception have left their mark on the pharmaceutical industry. Significant health complications surrounding the initial release of female contraceptives (like the Dalkon Shield IUD and female oral contraceptives) sparked an eruption of liability lawsuits. As a result, liability insurance for contraceptive producers skyrocketed and has remained high (Oudshoorn, 2003). Liability is also high because contraceptives are used within a healthy population, unlike most pharmaceuticals (Callahan, et al., 2020). Concerns over liability discourages big pharma from manufacturing and supporting male (and sometimes female) contraception development and commercialization.

Other historical events outside of liability lawsuits discourage pharmaceutical involvement in male contraception, like social backlash. For example, American Pharmaceutical Company Upjohn received intense social backlash from feminist groups and the "ban the jab" movement after investing in contraceptive injectables (Oudshoorn, 2003, p. 54). Especially in the era of "cancel culture," fears about investing in a

controversial product push the pharmaceutical industry to seek less controversial, more stable markets.

**Decreased profitability.**

Another point of discouragement for big pharma occurred after health complications with pharmaceuticals created public pressure for more stringent R&D guidelines. These guidelines place temporal and methodological specifications on contraceptive development and its developers. Not only is the process of developing contraceptives more time-consuming and financially costly, but extended R&D time required to satisfy regulations then cuts into the effective patent life (Oudshoorn, 2003). Already losing money and time, a shorter patent life means a weaker return on investment for that product.

Plus, in order to fulfill FDA regulations for emerging contraception efficacy and meet the needs of future users, the majority of novel male contraceptives are being developed as long-acting, reversible contraceptives (LARCs). But this presents another problem in that long-acting interventions can often conflict with capitalistic tendencies to maximize all profits. Long-acting interventions require consumers to use less product (pills, shots, cream, etc.) over the lifespan of the intervention. Less product usage equates to a much lower return on investment. It is true that prices for long-acting reversible contraceptives could just be increased to recover some profit lost. However, hiking novel long-acting contraceptive prices can only recover so much of the anticipated lost profit. In the end, more stringent regulations and less return on investment restricts profitability thereby discouraging big pharma's support.

**Male contraception threatens big pharma profits.**

Not only does big pharma question novel male contraceptives' profitability, these innovations present a major threat to big pharma's current profits in the female contraceptive realm. The pharmaceutical industry, including but not limited to "pharmaceutical giants" like Bayer AG, Pfizer Inc. and Merck & Co., has estimated up to half of the female contraceptive market (valued around $10 billion globally) and a portion of the condom market (valued around $3.2 billion in annual sales) would vanish as a result of a novel male contraceptive method gaining licensure (Altstedter, 2017). These calculations conflict with studies showing most women would continue taking their birth control even with male contraceptives on the market, thereby increasing rather than shrinking big pharma profits. One study of heterosexual individuals reported 60.9% of women would remain on their current contraceptive even if their partner was on birth control too; 14.8% said they would switch to another contraceptive method, meaning less than 25% of the female contraceptive market reported they would stop using their products (SingleCare Team, 2018). It is important to note that even while sustaining a 25% (SingleCare Team, 2018) to 50% (Altstedter, 2017) loss in the female contraceptive market, big pharma could capture an estimated 40% (Friedman, et al., 2019) to 75% (Lamb, 2015) of the global male population with novel male contraceptive methods. Although studies show women's intention to continue using female contraceptives and profitability valuations lie in favor of big pharma, the pharmaceutical companies remain in opposition to male contraception R&D. The potential loss is too big of a risk, compared to what uncertain gains might be had.

Because big pharma views male contraception as threatening, these mega corporations also lobby against it. Reports show pharmaceutical corporations dramatize the health risks and side effects associated with male contraception (Oudshoorn, 2003). This discourages participation in clinical trials and, if the contraceptive still makes it to clinical testing, significantly decreases the likelihood that the contraceptive method will be approved for market. Confirming Oudshoorn's words still ring true today, a recent (2019) interview with Dr. Guha, credited with the invention of long-acting RISUG (Reverse Inhibition of Sperm Under Guidance) which is the first male contraceptive to make it to Phase III clinical testing, shared that the biggest challenger to RISUG's development is the international pharmaceutical lobbyists and interest groups (C., 2019). RISUG is particularly threatening to big pharma because it is a long-acting reversible contraceptive (LARC) and is predicted that the cost of the procedure could reach as little as $10 (Altstedter, 2017), requiring little repetitive use and making it extremely accessible. Because novel male contraceptive methods represent such a significant threat to the current profits of pharmaceutical companies, these corporations spend significant amounts of time and money lobbying against them. Big pharma's lobbying power and influence over the FDA makes this industry's opposition particularly challenging.

While interest from potential subjects and interest from industry were both major problems for male contraception R&D at the beginning of its journey, the former seems to be improving while the latter remains problematic. Interest from potential subjects has been improving as the reputation of the male contraception field continues to grow and transnational collaborations results in the pooling of resources. However, interest from

industry, specifically big pharma, is still problematic. To this day, the "virtual withdrawal of the U.S. pharmaceutical industry from contraceptive R&D" (Oudshoorn, 2003, p. 29) is still in effect (Allen, 2020). Conversations focused on the present slow development of emerging male birth control (such as that of COSO, another long-acting, promising innovation) continue to name pharmaceutical companies' hesitancies to invest in male contraceptives as impediments to R&D efforts (Cost, 2021). Big pharma continues to withhold its support from the male contraceptive market due to historical experiences with contraceptives, because stringent FDA regulations decrease profitability, and, perhaps most centrally, because the pharmaceutical industry refuses to support anything that might interfere with its existing multi-billion dollar female and male contraception markets.

**Ethical concerns along the way**

Another source of contention for male contraception arose around ethical concerns pertaining to the clinical trials themselves. Ethical concerns around the risk of pregnancy associated with male contraceptive clinical trials, particularly within the World Health Organization (WHO), halted progress for nearly a decade. Until anti-abortion policies of major countries, like the United States, were reversed, WHO withheld approval for a large-scale male contraception clinical trial. Then, after a few large-scale clinical trials failed to induce azoospermia in participants, scientists within the field argued (successfully) to change the goal for male contraception from zero sperm count, azoospermia, to low sperm count, oligospermia. This sparked ethical concerns and

shifted a greater burden of risk onto non-users (i.e., the female sex partners) rather than the men using the contraception.

***Risk of pregnancy/abortion politics***

Early-stage testing for male contraceptives often track sperm count as indirect measurements of the product's efficacy. But efficacy needs to be tested in practice eventually, which carries the risk of pregnancy if the method proves ineffective for any number of reasons. This may not seem like a novel issue given female contraception clinical trials carry the same risk. However, in female clinical trials the subject agreeing to participate in the study is the same person who bears the physical burden of pregnancy if the contraceptive method fails. In male clinical trials, the subject agreeing to participate in the study is <u>not</u> the person who will bear the physical burden of pregnancy upon product failure. Thus, measuring male contraception efficacy through pregnancy rate, rather than sperm count, presented a major ethical concern to the WHO, who withheld approval of large-scale (Phase II) male contraception trials for nearly a decade.

It should be added that a major reason the WHO withheld approval is because the organization wanted to avoid political hot-water regarding abortion politics which were highly contentious at the time (Oudshoorn, 2003). Performing clinical trials under these parameters meant accepting responsibility to minimize risk and harm, and pregnancy was a potential risk and harm. This meant performing male contraceptive clinical trials required the WHO to cover medical expenses to minimize risk and harm of pregnancy, including abortion. It wasn't until some major member states, namely the United States beginning with the Clinton era (Devroy, 1993), reversed their anti-abortion policies in the

late 1980s that the WHO approved two seminal, large-scale male contraceptive clinical trials. These internationally collaborative studies set the tone for relying on innovative partnerships and resource-sharing as methods for problem-solving within the male contraception field. But given the recent Supreme Court decision to overturn federal abortion protections in the United States, we are once again left wondering how matters pertaining to abortion politics will influence novel male contraceptives' R&D trajectory.

***Changing standards***

After some large-scale male contraceptive clinical trials were attempted, a troubling pattern emerged. Scientists couldn't induce azoospermia (complete reduction of the sperm count to zero) in all participants despite their best efforts and modification of the methods. This persistent issue drove some actors within the male contraception R&D realm, including one of its biggest supporters, the Population Council, to cease their research efforts. Responding to fading support, scientists within the field argued that criteria for hormonal infertility should no longer be azoospermia, but severe oligospermia (Oudshoorn, 2003). Standards are important for homogenization of research. However it is arguably more important to analyze how standards are determined to be necessary, what rationale is used to argue their necessity, and who gets to decide, rather than analyze the black-and-white standard itself. In this case, this suggestion sparked ethical concerns over how decisions were made to market a product for contraception without ensuring total infertility in the user, particularly when the consequences of failure (namely pregnancy) do not fall on the user themselves, because men don't bear the physiological burdens of pregnancy.

Suggesting oligospermia as the standard also required specification as to what degree of oligospermia must be induced to be "effectively sterile." To set this standard, clinical "dosage" trials were conducted to determine what degree of sperm reduction would be considered acceptable. Men's sperm concentration was reduced to different levels to determine sperm concentration's effect on pregnancy rates. With the average male ejaculation containing tens to hundreds of millions of sperm per milliliter, trials were conducted to measure pregnancy rate if oligospermia was induced to 5 million sperm per milliliter, 3 million sperm per milliliter, or 1 million sperm per milliliter. Eventually, studies showed severe oligospermia at or under 1 million sperm per milliliter was nearly equivalent to 99% efficacy (Page, Amory, & Bremner, 2008). One million sperm or less per milliliter then became the goal to match female contraceptives (LARCs, specifically) reported efficacy rates of 99% (Chao, Page, & Anderson, 2014). Thus, the oligospermia standard for "effective sterility" in male contraception was necessitated on the basis of scientific shortcomings in inducing azoospermia. Importantly, this approach allocated decision-making authority to a particular group of people, namely scientists. This allocation concentrated authority in the very same hands as those people designing the experiments and sitting on review boards approving proposed research designs. These "experts" were allowed to set industry standards addressing a major technical impediment to their own research (namely, the inability to induce azoospermia), which raises additional concerns about ethical integrity.

Currently, the oligospermia standard for "effective sterility" in male contraception remains. Ethical concerns still exist regarding how and by whom this standard was

decided. It is worth noting that the referent for establishing a standard of acceptable fallibility of novel male contraceptive technologies developed from the socially accepted standard for existing (fallible) female contraceptives. More is said about how contraceptive efficacy standards impact male contraceptive R&D in the next section discussing FDA regulations. Also worth noting is that, once again, abortion politics looms as one of the most contentious and divisive topics in American society. Given the recent Supreme Court decision to overturn federal abortion protections in the United States, we are once again left wondering how matters pertaining to abortion politics will influence novel male contraceptives' R&D trajectory.

**FDA regulations**

Even after gaining enough research subject interest to meet FDA clinical testing requirements, novel male contraception methods have yet to gain FDA licensure. There are two main reasons for this. First, emerging drugs are required to meet or exceed the efficacy of existing drugs to receive approval for commercialization. The catch here is that male contraceptives are considered as part of the overall contraceptive market, which also includes female contraceptives. This means emerging male contraceptives must meet or exceed efficacy rates for vasectomies (which are hardly accessible) and highly effective approved female contraceptives. And second, the current risk framework for assessing side effects from birth control leads to more stringent FDA regulation of side effects resulting from male contraceptive use as compared to female contraceptive use. However, this risk assessment is incomplete.

***Drug efficacy standards***

FDA regulations require novel drugs meet or exceed the efficacy of drugs in that existing market to be approved for commercialization. Because male contraception is considered to fall within the same market as female contraception, this means any male contraceptive method entering markets must match or surpass the efficacy of existing male contraceptives (condoms and vasectomies) and existing female contraceptives. Matching efficacy levels of these existing birth control options each presents their own issues. Many male contraceptive research studies have been blocked from moving to the next phase of clinical testing because they could not meet the efficacy levels of these existing contraceptive options, which can reach 99%.

To begin, condoms' efficacy rates are questionable. Companies manufacturing condoms advertise 98% efficacy levels, but external estimates rate this closer to 85-87% in-practice (Planned Parenthood, 2022-a; Stokes & Pappas, 2012). This discrepancy raises questions about which standard novel male contraceptives should held to. Is a product with a *potential* efficacy level of 98% the standard to which emerging male birth control products should be held? Or, should emerging products be compared to in-practice efficacy levels of existing products, which can be demonstrably lower than advertised efficacy rates in some cases? These discrepancies often decrease user interest by breeding consumer distrust in the company and its advertised products.

Vasectomies are indisputably the most effective male contraceptive option currently available estimated at about 99% (PennMedicine, 2019; Planned Parenthood, 2022-b; Santos-Longhurst, 2022). Although, what counts as "available" is up for debate.

Vasectomies are not considered an "essential health benefit" by the Affordable Care Act so they aren't required to be covered by private insurance plans (Holmes, 2022). Even if private insurance plans cover the procedure the patient's out-of-pocket costs are variable depending on coverage and deductible amounts. High-deductible health insurance plans are now offered at record numbers by American businesses as a means of cutting overhead costs (Mantey, 2020) and more and more Americans are opting for these high-deductible plans (Cattanach, 2022). This leaves most consumers seeking vasectomies under private insurance plans facing high costs.

While some American men may find vasectomies are covered through Medicare, this coverage varies by state (Holmes, 2022) and precludes any man who doesn't qualify for Medicare plans from accessing this vasectomy coverage. If accessing vasectomy procedures is challenging to insured American men, then accessing vasectomy procedures as a man unable to attain private or government health insurance is nearly impossible. Vasectomy reversal procedures are even less likely to be covered by insurance (Holmes, 2022), which deepens existing access issues. Insurance coverage of vasectomies and vasectomy reversals is important for consumer access because of the cost of the procedures, which is estimated at about $1000 (plus follow-up care) for the initial procedure and nearly $6000 for the reversal (Holmes, 2022). This is all to say that comparing efficacy rates for emerging male birth control products to the one available high-efficacy male birth control option (vasectomies) highlights questionable logic in that the standard for comparison is highly inaccessible fundamentally impacting its availability.

As mentioned, comparing efficacy rates for emerging male birth control options to condom or vasectomy efficacy rates present issues. But even if condom and vasectomy efficacy rates are removed from comparison because of these issues, emerging male contraceptives run into other issues when they are compared to available female birth control options. While the male contraceptive R&D trajectory was experiencing delays, female contraceptives continued developing and improving. Female contraception consistently reports 90-95% efficacy rates (when used properly; Schneiderman, 2018). Having to meet such high efficacy standards is a "hurdle" for male contraception R&D (Em, 2018). Although significant progress has been made to date. Some call this roadblock "[a] matter of bad timing" (Oudshoorn, 2003, p. 106) because initial challenges and issues created a delay that cascaded into a larger issue down the road surrounding FDA regulations. FDA regulations offer one example of how the existing female contraceptive market sets limits on emerging male contraceptive methods.

***(Regulation of) side effects***

Another way existing female contraceptives set limits on emerging male contraceptive methods is through their reliance on hormone manipulation. The vast majority of female birth control methods rely on mechanisms that manipulate hormone systems (InformedHealth.org, 2017). The female contraceptive market sustained such success in employing hormone-based interventions early on that early-stage R&D efforts for male contraceptives tried to follow a similar path. But this led to delays in male birth control R&D due to issues with accessing resources for synthetic hormone production (Oudshoorn, 2003). It also caused delays because efforts were concentrated to develop

hormone intervention methods without consideration for how resulting (regulation of) side effects would impact the products.

Many male contraceptive methods that meet FDA efficacy requirements then encounter intense FDA scrutiny over side effects. For example, a 2008 to 2012 WHO/CONRAD hormonal shot clinical trial had very promising results in terms of pregnancy reduction but was terminated early due to reports of side effects, the most common of which included mood swings/disorders and injection site-related pain. Terminating this study was a controversial decision because the decision was made "without consulting the main investigators, the people managing it, or the independent data and safety board" (Eisenstein, 2020). Further, NPR science consultant, Rob Stein, commented that these side effects were comparable to what women experience on female contraceptive methods (acne, injection pain, etc.), although the mood swings were reportedly more intense (NPR Staff, 2016). Although, it could be asked whether side effects like mood swings from hormonal contraception are described as more intense in male users because they have not experienced those feelings before. Whereas female users are either acclimated to the side effects or experience similar events naturally. In fact, there is a possibility that circulating hormones for hormonal male contraceptives could produce mood swings equivalent to the lived experience of women both using and not using contraceptives (Scutti, 2016). This is in no way meant to minimize the experiences and feelings of these men. This comment is meant to add thought and texture to how the lived experiences of men's reproductive lives compare to that of women. In addition to this WHO/CONRAD contraceptive shot, other male contraceptive clinical

trials (like Gossypol and *Tripterygium wildfordii*) have been terminated early due to side effects (some cases of irreversible sterility, in both trials). In the end, reports of side effects frequently result in the termination of male contraceptive clinical studies regardless of how effective the method is (**see Figure 1)**. In the end, male contraceptive researchers were essentially led down a dead-end by concentrating early pursuits in researching hormone-based interventions. They have since backtracked and are largely focusing on developing non-hormonal male contraceptives to avoid issues with side effects. While their current R&D path shows more promise (discussed in the section *Current State of Male Birth Control*), this back-tracking inevitably delayed emerging male birth control options from reaching markets.

**Figure 1: Reports of Side Effects Frequently Halt FDA Clinical Trials for Emerging Male Contraceptives**

Reports of side effects are one of the most common reasons male contraceptive clinical trials are terminated. The below figure was taken from a Good Rx article (2022) discussing "The Latest Updates on Male Birth Control Options" (Murdock, 2022) and highlights how frequently side-effects have been cited as a reason to end research endeavors for past attempts. An examination of the cause for this trend is incomplete without considering how biomedical regulations and regulatory structures influence clinical trial outcomes.

| Medication | Why research has stalled |
|---|---|
| Clean Sheets Pill | Lack of funding |
| Gossypol | Side effects, irreversible fertility concerns |
| Testosterone enanthate (TE) | Side effects, frequency of injections |
| Levonorgestrel + TE | Side effects |
| Norethisterone enanthate + testosterone undecanoate | Side effects |
| Adjudin | Side effects |
| Gamendazole | Side effects |
| Triptolide | Irreversible fertility concerns |

**Stringent regulations based on healthy, long-term user.**

There are two major reasons why side effects are regulated so strictly. First, contraceptive users are typically healthy, long-term users so the side effects must be minimal because the body is already in a healthy, working condition (Callahan, et al., 2020). This also applies to female contraceptives which are, similarly, used by a healthy

user base over a long period of time. But if side effects like mood swings, weight gain, acne, and decreased libido are experienced by male and female contraceptive users at similar rates (Abbe & Roxby, 2020) and both users are subject to regulations of side effects based on their status as "healthy" users, then why is research on so many novel male contraceptives terminated due to side effects when research on female contraceptives has not?

One answer to this could be connected to the socio-cultural context in which clinical trials for female contraceptives began. The frequency and intensity of side effects in female users was often not taken seriously (Takeshita, 2012) decreasing the threshold for what was considered "acceptable" side effects in female contraceptive users, thereby impacting the level of regulation emerging female contraceptives met regarding reported side effects. This phenomenon is still an issue because organizations like the WHO explain that LARC methods are considered to "have few contraindications, and that almost all women are eligible for implants and intrauterine devices" (ACOG, 2009). Leading global health organizations continue to discuss female contraceptive options as "one-size-fits-all" without mention of how medical interventions should be uniquely considered for each potential user. This has direct influence on how female contraceptives are marketed and disseminated. Dorothy Roberts offers a reminder of this in her book *Killing the Black Body: Race, Reproduction, and the Meaning of Liberty* when she discusses how Norplant (a LARC method) is most unsuitable for people with health illnesses and complications, but the product historically has been most used by Black women despite this population being one of the most at-risk groups in America for

health illnesses and complications (Roberts, 1997, p. 123). Another answer to why research on so many novel male contraceptives is terminated due to side effects is because of an incomplete risk assessment that deems even minimal side effects from male contraception not worth the benefit.

**Stringent regulations based on incomplete risk assessment.**

Institutional Review Boards (IRBs) overseeing male contraceptive clinical research often determine the side effects outweigh the benefits of male contraception. In contrast, review boards operating under the same risk assessment declare the benefits of female contraception outweigh the side effects. This is because the consequences of fertilization and pregnancy pose more serious physical health threats to women, so regulatory bodies accept more intense and frequent side effects in clinical trials for contraceptive use in women because of how these side effects compare to the experience of pregnancy and/or childbirth (Belluz, 2019). Even major side effects, like blood clots and carcinogenic effects, are considered with less weight in female contraception users because the alternative—pregnancy—can result in just as major effects, including death.

In contrast, men do not experience the physical risks and pains of pregnancy, labor, and/or abortion, so there is a substantially lower level of acceptable side effects for male contraceptive users as compared to female users. Even minor side effects, like acne, are considered heavily in male contraceptive clinical trials because men typically experience very little physical pain or negative consequences due to pregnancy or childbirth.

While the disparity between physical burdens is dramatic, solely considering the physical impacts of pregnancy fails to provide a robust assessment and paints an incomplete (and therefore skewed) picture. The reality is that pregnancy and reproduction have emotional, psychological, financial, lifestyle, and legal implications for both partners involved. These impacts exist at the social level too, but the IRB's current framing of ethical evaluation is profoundly individualistic. Whether or not the current decontextualized, individualistic framework can be adapted to successfully account for textured relational dimensions is a question for other scholars. What matters here is calling to light how men are disserviced when the multifacetedness of their experiences as reproductive agents is ignored. If this framing of risk assessment was reflected in the male contraceptive clinical trial users, then they should report refusal to continue taking the intervention based on side effects experienced. But decisions of regulatory bodies to cease clinical testing in some male contraceptives has been in stark comparison to the wishes of the participants themselves. For example, in the CONRAD and WHO male contraceptive shot clinical trial that was terminated early due to side effects in 2016, 75% of male participants reported interest and willingness to use the shot contraceptive method despite the trial being terminated (Scutti, 2016). This discrepancy suggests men's attitudes regarding novel contraceptives do not align with the current risk assessment framework employed. Further research is needed on the matter.

In conclusion, this section of the thesis provides the historical context of male contraception R&D and commercialization. Some of these challenges have been left in the past or are being addressed as conditions change over time. Yet some, namely

opposition from big pharma and complications from FDA regulations, are still challenges for male contraception R&D today. Still, despite these challenges, existing and novel innovative partnerships between "the academic sector, small biotechnology companies, foundations, non-government organizations (NGOs), and the federal government" (Callahan, et al., 2020) continue expanding in breadth and depth could generate enough social, financial, and infrastructure support to, finally, launch male contraceptives into the market. The next part of this thesis discusses just how close novel male contraceptives are to finally breaching markets.

## Current State of Male Birth Control

For half a century, innovations in male contraceptives have seemed so close and yet so far away. With decades of promises and little to show for them, novel male contraceptives may very well have been written off as an illusory technology. In fact, a running joke within the male contraception field itself is that novel male contraceptives have been 5-10 years away for the past 40-50 years (Allen, 2020; Eisenstein, 2020). However, male contraception innovations may be finally delivering on their long-awaited promise. Some major innovations in male birth control technologies have surfaced in recent years. Due to the trouble that hormone-based mechanisms raise regarding side-effects, most of the recent innovations in male contraceptives unsurprisingly avoid hormone-based mechanisms.

One promising non-hormonal contraceptive named Reverse Inhibition of Sperm Under Guidance (RISUG) has truly been on the horizon for decades. Pre-clinical research

into safety and efficacy of this drug began in the 1980s (Khilwani, et al., 2020). RISUG became the first male contraceptive to begin phase III clinical pharmaceutical trials (Khilwani, et al., 2020). It is still in extended phase-III clinical trials in India and is awaiting approval from the Drugs Controller General of India (DCGI) to begin mass production (Khilwani, et al., 2020 & Santos-Longhurst, 2022). RISUG has been patented in the U.S (Murdock, 2022).

RISUG is injectable contraceptive that requires two injections. The first inserts a substance that partially blocks the vas deferens and also chemically interferes such that the sperm cannot fertilize an egg (Murdock, 2022). The second dissolves the substance, allowing sperm count to return to baseline within weeks of reversal. RISUG is classified as a long-acting reversible contraceptive (LARC) and can last an estimated 10-15 years (Lohiya et al., 2014). Notably, predictions estimate the cost of the procedure could reach as little as $10 (Altstedter, 2017).

RISUG's American counterpart, Vasalgel, is in FDA pre-clinical trials (Santos-Longhurst, 2022). This means Vasalgel has not reached human clinical trials yet (Murdock, 2022). Vasalgel varies from RISUG slightly in that Vasalgel is an SMA acid polymer dissolved in DMSO (dimethyl sulfoxide) that does not have a "pharmaceutical impact" but occludes (blocks) the vas deferens (Colagross-Schouten et al., 2017).

Of the novel male contraceptives being researched in the United States, a topical gel is leading the race. The University of Utah has opted to conduct clinical trials for this topical novel male contraceptive in partnership with the NIH's Contraceptive Clinical Trials Network (Jacobs, 2022). The clinical trial, which is still recruiting couples to test

the topical gel, is the first novel male contraceptive to reach phase II clinical trials in the United States (Craig, 2022). One of the lead researchers for this project has been quoted framing the intentions of this research as easing the burden that women face in pregnancy prevention and does not suggest men's self-articulated interest in reproductive self-determination (Craig, 2022). This contraceptive is also notable because it relies on hormone-based mechanisms to decrease sperm production, allegedly without decreasing libido (Jacobs, 2022).

COSO, known informally as the "Ballcuzzi," is a novel male contraceptive that promises to side-step concerns over side effects through its non-hormonal mechanisms, like RISUG and Vasalgel. A German researcher developed COSO to utilize a combination of "deep heat" emitted through ultrasound and water to impact sperm's fertility (Cost, 2021). COSO treatment is imagined to be self-administered at-home every couple of weeks to maintain temporary infertility levels (Cost, 2021).

COSO is in the early stages of development, though. The product design is attracting attention, recently winning the James Dyson international award for engineering and entering the final stage of competition (Felton, 2021). But the technical feasibility is yet to be tested in-practice, and clinical trials have yet to commence. The creator based designs off of a 2012 study successfully demonstrating use of ultrasound technology as contraception (Tsuruta et al., 2012). While COSO itself still has a way to go to reach markets, innovations in male birth control are at their closest point to ever entering markets.

# CHAPTER 3

# STUDY DESIGN

## Research Questions

It is still a question whether these innovations will actually reach the marketplace is still a question. One of the alleged biggest remaining hurdles—that of cis-men's presumed lack of interest in novel male contraceptives—has yet to be explored robustly. In the realm of academic research, available literature offers little help in responding to this question. This is because most contraception research predominantly focuses on user rates and since most users are women, this means most research focuses on women's user rates. Some research has begun exploring *women's* contraceptive decision-making (Grzanka & Schuch, 2019). Even less attention has been dedicated to understanding men's attitudes and subsequent decision-making regarding male contraception. Often these studies are designed from the perspective of a couple, not an individual man (Fennell, 2011; Kaufman, 1982; Storck, et al., 2022). Those few studies that isolate men as subjects rely on survey data measuring men's interest in novel male contraceptives (Friedman, et al., 2019; Lamb, 2015) or men's preferences for decision-making (Jacobsohn et al., 2022; Masters, et al., 2016; Lacasse & Jackson, 2019). Detailed qualitative studies adding texture to what men's attitudes are and how they develop/are influenced are largely missing. Although, one qualitative study of note used individual interviews with cis-men to investigate men's contraceptive decision-making (Dalessandro, James-Hawkins, & Sennott, 2019).

I address this gap through focus group interviews exploring whether cis-men's presumed attitudes on existing and novel male contraceptives are true. No published attempts to capture cis-men's perspectives on male birth control via focus group methodologies existed prior to this study. The open-ended focus group questions were designed to elicit responses to the following related sub-questions:

1. How do cis-men experience, choose, and navigate contracepting with such limited methods (condoms, vasectomies, pulling out/withdrawal, abstinence)?
    a. Do men want to take responsibility for their contracepting but can't because of a lack of male birth control options?
2. How do cis-men frame the impacts of having children?
    a. Do they conceptualize the impacts in ways beyond physical risk?
    b. How does this impact their interest in novel male contraceptives?
3. What do cis-men name as barriers to their access to/use of novel male birth control options?

The first research question focuses on how cis-men exercise decision-making in the context of the available contraception options, which are meager in comparison to available female contraception options. The second research question investigates how cis-men make risk assessments associated with sex, reproduction, and the possibility of children. The final research question explores what systems or actors cis-men name as structural barriers to male contraceptive research and development.

## Methods

To interrogate cis-men's attitudes about novel male contraceptives, I conducted four audio-recorded focus groups[2] each with four to six cis-male participants. The participants were current students (undergraduate and graduate) and alumni of a large public university in the Southwest United States.

Prior to beginning this project, funding and IRB approval were secured. This study was supported through funds obtained via personal grants from the Next Edison Foundation and the Graduate and Professional Student Association at the large public university where this study was conducted. IRB approval from the large public university where this study was conducted was obtained on 01.21.2022.

[2] Each focus group had two note-takers present. All note-takers were IRB certified for social and behavioral studies before assisting in focus group data collection. These note-takers were not transcribers. Rather than track verbatim what was said, they helped track who was speaking (speaker attribution) and non-verbal communication between focus group participants. Human note-takers captured these important aspects of the focus groups (Flick, 2014, pp. 67-68) in lieu of video-recording.

Note-takers were asked to arrive 30 minutes early for a detailed briefing on the project overall and their role in data collection, and to help with set-up. During the focus group, myself and the two note-takers were spread throughout the focus group circle to fully visualize all participants. Note-takers stayed behind no more than 30 minutes after each focus group ended to 1) discuss any major emerging themes and interesting comments or ideas mentioned in the focus group, and 2) help with clean-up. Note-takers were essentially compensated in-line with minimum wage in Arizona ($25 for about 2-2.5 hours of work) for their contributions to this research.

For each focus group, at least one of the two note-takers identified as a cis-man. This decision was based off the fact that I am not a cis-man. I decided to include at least one cis-male note-taker per focus group so the entire research team was not comprised of female-presenting people. Given the topics of discussion, I wasn't sure if the focus groups' climates would be impacted by such a gender imbalance. Other research on gender-of-interviewer effects (see Flores-Macias & Lawson (2008) and Padfield & Procter (1996)) suggests gender minimally impacts what interview data are collected. This is true even of what little interview data have been collected with cis-men centered around topics related to reproduction and sex (here I am citing one study that interviewed men about their perceptions of their paternal effects on sperm/children and looked at gender-of-interviewer effects; Almeling, 2020, p. 189). But, as an added layer of protection, I decided to include at least one cis-male note-taker per focus group.

## Data Collection

### *Focus Group Recruitment*

Recruitment efforts occurred throughout the 2.5 weeks preceding the first focus group and while focus groups were being conducted. Recruitment efforts continued until no longer permissible per IRB guidelines (i.e., until the last two weeks of the semester). In total, recruitment efforts lasted about 3 weeks.

Recruitment means for this project were varied, relying on both passive and active recruitment strategies. Passive recruitment strategies included word-of-mouth recruitment methods, snowball recruitment, and disseminating virtual recruitment flyers. Recruitment materials were intentionally disseminated to reach as diverse and intersectional of a demographic pool as possible. Active recruitment methods were also used by offering free pizza to all participants at the time of the study, and either a small financial compensation ($10 e-gift card[3]) or extra credit in participating courses[4] upon completion of the focus group.

Recruitment materials included a QR code link to a Google survey screening form. This screening form was used to schedule focus groups and checked that those respondents scheduled for focus group participation were 18 or older and identified as cis-men. Of the 28 total respondents, each was eligible to participation except for one, who identified as a cis-woman. Last-minute scheduling conflicts and personal

[3] Originally hoping to compensate participants $25, an amount at pace with minimum wage in Arizona at the time of this study and in-line with the compensation offered to note-takers, the compensation amount was decreased to $10 per participant to scale-up this research study.

[4] To avoid gender discrimination in these courses, an alternative extra credit option was established for students who didn't identify as cis-men and, therefore, were ineligible to participate in this study.

emergencies then precluded 7 respondents from participating. In the end, a total of 20 cis-men participated in focus group interviews (breaking down to four to six participants per focus group).

***Focus Group Interviews***

Focus group interviews were held in-person over the course of two weeks in April 2022. The interviews were held during different times of the week to accommodate various schedules and maximize participation.

Focus group interviews followed a semi-structured group interview style through use of open-ended questions **(Appendix B).** Interviews were audio-recorded only and lasted approximately 60 to 105 minutes.

***Demographic survey***

Participants arrived 20 minutes prior to each focus group to collect demographic data by way of an online demographic survey and to obtain written consent. These extra 20 minutes also offered participants space to get answered any remaining questions about the study. Lastly, this time was used as an ice-breaker period where the research staff and participants got comfortable with each other.

Protecting the rights and confidentiality of participants was of primary concern throughout this research project. During this period before each focus group interview, participants were instructed to select a pseudonym for identification. This pseudonym was used by participants when completing the demographic survey and written consent form. This pseudonym was also used to identify participants throughout the focus group interviews.

## Data Analysis

### *Focus Group Interviews*

#### Transcription.

All focus group data were transcribed in three rounds. First, transcription occurred through an artificial intelligence via Rev.com. Then, I performed a second round of transcription to check what was generated through Rev.com and insert speaker attribution. The third round of transcription consisted of re-contextualizing what was said in the focus groups, which was important for proper analysis of language (Flick, 2014, p. 299). During this third round of transcription, I cross-referenced the focus group audio recordings and my note-takers' annotations regarding non-verbal communication to add this texture back into the data. Reviewing the focus group interview transcripts did not end here. More transcript review was required while inductively building my codebook.

#### Building the Codebook.

I began building my codebook by hypothesizing what attitudes and topics would appear in response to my focus group questions and writing these topics down in an excel sheet. I then performed a comprehensive review of the data by looking for relevant topics mentioned throughout the focus group interviews. Each time a new topic appeared that was not already in the excel sheet, I added it. All four focus group transcripts were reviewed during this process. Hypothesized topics that were not found to be present in the data were removed from the topics list after this comprehensive data review.

After deepening my familiarization with the data through this comprehensive review, I printed out the longest transcript (which happened to be from focus group four)

and annotated in the margins what topics from the comprehensive list were mentioned throughout the interview. I then performed open coding of the topics to inductively form codes. Codes were developed based on how topics mentioned were discussed in terms of emotion/affect (such as fearing, anxiety, confusing, showing interest, etc.) and action (choosing, communicating, abstaining, etc.) Codes were intentionally developed around how topics were framed in terms of affect and action to capture participants' attitudes and actions regarding male contraceptives and contraception decision-making. Codes were entered into a new excel sheet separate from the comprehensive topics list.

I then cross-referenced the codes with the comprehensive list of topics to ensure the codebook covered all relevant topics mentioned across focus groups. Cross-referencing was necessary because only one focus group transcript was used to develop the codes. So, by comparing the codes to the comprehensive topics list (which was developed by reviewing all focus group transcripts), I adjusted the coding frame such that relevant material mentioned in all four focus groups was captured.

Once codes were developed and assessed for comprehensiveness, they were sorted according to which one of my research questions they responded to. I then refined my coding frame for distinctness. This involved writing detailed descriptions for each code to help ensure mutual exclusivity (Flick, 2014, pp. 175-178). Comparing for distinctness also involved comparing each code and its description, first, to codes grouped under the same research question, then, across all codes. Codes were adjusted (combined, revised, elaborated on, separated, qualified with subcodes, etc.) as needed here.

Additional codebook review was performed by one of my PIs. I also recruited two data analysis helpers who each reviewed the codebook in two ways. First, I sent the coding frame to my two data analysis helpers and had them read it over for any apparent areas of confusion or overlap. Adjustments were made accordingly[5].

Second, myself and my two data analysis helpers went through one calibration round of coding[6] using two excerpts from the focus group transcript data to test the codebook when applied to the data. Excerpts were selected such that some response to each research question was contained in at least one of the featured focus group excerpts. The two excerpts we reviewed accounted for 21 of the total 213 pages of focus group transcript data, meaning 9.86% of the total focus group data was reviewed during this calibration round. The codebook was adjusted again—this time based on feedback from the calibration meeting regarding areas of confusion, inconsistency, and/or overlap in the codebook[7]. After these changes, the final version of the codebook contained 46 codes and 38 subcodes **(Appendix C).**

---

[5] At this point, the main changes in the codebook were that "other" and "interesting quotes/dialogue" codes were added. This code was added based on feedback from the data analysis helpers to streamline flagging of areas of the focus group interview data that appeared important but didn't seem to quite fit in the codebook. Additionally, an "interesting quotes/dialogue" code was added to streamline flagging and retrieval of interesting points in the conversation. Both of these codes were excluded from data analysis. They are not relevant to the research questions being asked in this study in substance but, instead, through methodology.
Other adjustments included formalizing the codebook language, shortening code names to better assist data analysis helpers with remembering codes, and some definitions for code groups were clarified to be more orthogonal.

[6] HyperRESEARCH (HR), a qualitative data analysis software, was used for all calibration, coding, and analysis in this study. HR was chosen because it allows for easy calculation of IRR. It also has good data visualization features for qualitative data. And HR was the only qualitative data analysis software licensed by the public university where this research was conducted.

[7] More specifically, the following adjustments were made to the codebook: a code for "conversations with unspecified or mixed gender group of friends" was added since there was not always time to clarify what the gender of friends the participants are having conversations with about sex responsibility and pregnancy based on the focus group design. Two code names were changed to less technical and more easily memorable names. A code for "interested [in novel male contraceptives] for increased peace of mind" was added to the codebook as "peace of mind" didn't seem to be captured in any existing codes. Lastly, the code for "perceived biological differences" was moved as a subcode under "gender stigma" and a new main code ("physiological differences") was added for coding in instances when men discuss differences in pregnancy burdens outside of a gendered way.

Deliberations during the calibration meeting also set the parameters for rich data selection for coding. Sectioning data into 'rich' areas helps ensure that, first, coder comparisons occur over the same sections of data for analysis purposes (Flick, 2014) and, second, that the sections of data reviewed offer interesting and robust insight. Myself and my two data analysis helpers discussed interesting, recurrent topics we saw in the excerpts reviewed during calibration. Then we developed preliminary themes based on these recurrent topics. The two main themes ended up being that differences in physiological burdens throughout the pregnancy process impact cis-men's ability to conceptualize pregnancy, and that cis-men indicate they are interested in increasing their contracepting, but only to a certain degree. I reviewed all four focus group transcripts again and selected areas of the text which appeared to be affirm, challenge, or qualify these preliminary theme findings. The rich transcript sections were compiled into a single word document for ease of import into HR. Then this compilation document was coded using the revised codebook.

**Coding & Theme Building.**

For focus group data analysis, the aim was to identify common themes across focus groups through thematic analysis. Braun & Clarke's (2022) six-step process was followed. Step one of Braun and Clarke's process, familiarization, occurred both while performing transcript reviews and while building the coding frame. Inductive coding, step two of this process, was then performed.

Inductive coding was performed by myself and my two data analysis helpers with the intention of establishing Inter-Rater Reliability (IRR)—in-line with qualitative data

analysis recommended best practices (Flick, 2014, p. 171)—and comparing coder analysis by gender[8]. Limitations on time and resources precluded incorporation of enough calibration rounds to establish IRR[9]. Plus, too many uncontrolled variables between coders precluded any chance of assessing coder analysis based on gender differences alone.

Inductive coding was chosen over other analysis methods, such as qualitative content coding, because inductive coding is less restrictive. For inductive coding, material can be coded under multiple codes, including main and sub-categories--which is what was done here--whereas qualitative content coding only allows for coding under one main code, although multiple applications in sub-codes is fine (Flick, 2014, p. 175). Inductive coding of the transcript material occurred over 53 of the 213 transcript pages during this final coding stage, equating to 24.88% of the focus group data.

---

[8] Assessing how gender impacts coder analysis of qualitative data was a question of interest in this study that has not been explored much before. Other research on gender-of-interviewer effects (Flores-Macias & Lawson (2008) and Padfield & Procter (1996)) suggests gender minimally impacts what interview data are collected. This is true even of what little interview data have been collected with cis-men centered around topics related to reproduction and sex (here I am citing one study that interviewed men about their perceptions of their paternal effects on sperm/children and looked at gender-of-interviewer effects; Almeling, 2020, p. 189).

[9] Inter-rater reliability (IRR) was assessed between myself and my two data analysis helpers after the one round of calibration that we performed. The results were very low. Even when adjusting the character overlap level (from 80% to 50% and 25%) the results were low. The highest IRR reported through HR under these parameters was 31.60% at a 25% character overlap level. This rate was between myself (Coder A) and Coder C. Essentially this means with parameters where only a quarter of the characters for codes had to overlap to be deemed successful coding of the same content, the highest reliability was reported at slightly over 30% accounting for Cohen's Kappa. This is compared to suggested IRR levels of at least 70% for simple agreement and 80% for agreement accounting for Cohen's Kappa (Geisler & Swarts, 2019).

Interestingly, reliability between myself and Coder C was about double the reliability between myself and Coder B or Coder C and Coder B regardless of the character overlap level that was set. For example, at the 25% character overlap level, my IRR level with Coder C equaling 31.60% compares to my IRR level with Coder B of 15.22% and Coder C's IRR level with Coder B of 15.40%.

While this difference is significant and does correspond to a gendered difference in the coders, it could have been due to a number of other factors (including Coder C's more intimate familiarity with this study's design and questions and/or differences in how myself and Coder C applied codes throughout overlapping dialogue in the focus groups as compared to Coder B). No conclusions about how the gender of coders impacts qualitative data analysis can be drawn from this data. Future research should investigate how the gender of coders impacts data interpretation.

After inductive coding, themes were generated by identifying patterns based on prevalent and unused codes. The qualitative data analysis software that was used, HR, had several "tools" which analyzed coding data in different ways. The Frequency Report, one such tool, was used to identify prevalent and unused codes. When analyzing the frequencies of prevalent codes, I considered the total number of applied codes (572 to 517 after filtering out applications of "other" and "interesting quotes/dialogue" codes) and how concentrated the code frequencies were to set parameters for what I considered a "prevalent" code. In doing so, a code was considered prevalent when it was applied 11 or more times (because 11 is approximately 2% of the 517 total number of codes I applied and was also a clear cut-off in the data). 17 total prevalent codes were identified, five of which were clearly most prevalent.

Unapplied codes were analyzed for interesting areas of silence. To identify true areas of silence, though, unapplied codes were assessed for whether their lack of application could be explained by any other reason. I was able to assess why some codes might have gone unapplied for reasons that were not relevant to this study's questions because of my deep familiarization with the data. For example, some codes weren't applied because they simply weren't present in the rich data excerpts that were selected for coding. After this process of elimination there were two un-applied codes that stood out as significant.

The most prevalent codes and the two significant unapplied codes were then put in conversation to see if what, if any, patterns/themes emerged from these data.

### *Demographic Survey*

The demographic survey was conducted through Google Survey and its outputs were analyzed in the aggregate by the statistical analysis features offered in the Google Survey feature.

CHAPTER 4

STUDY RESULTS & DISCUSSION

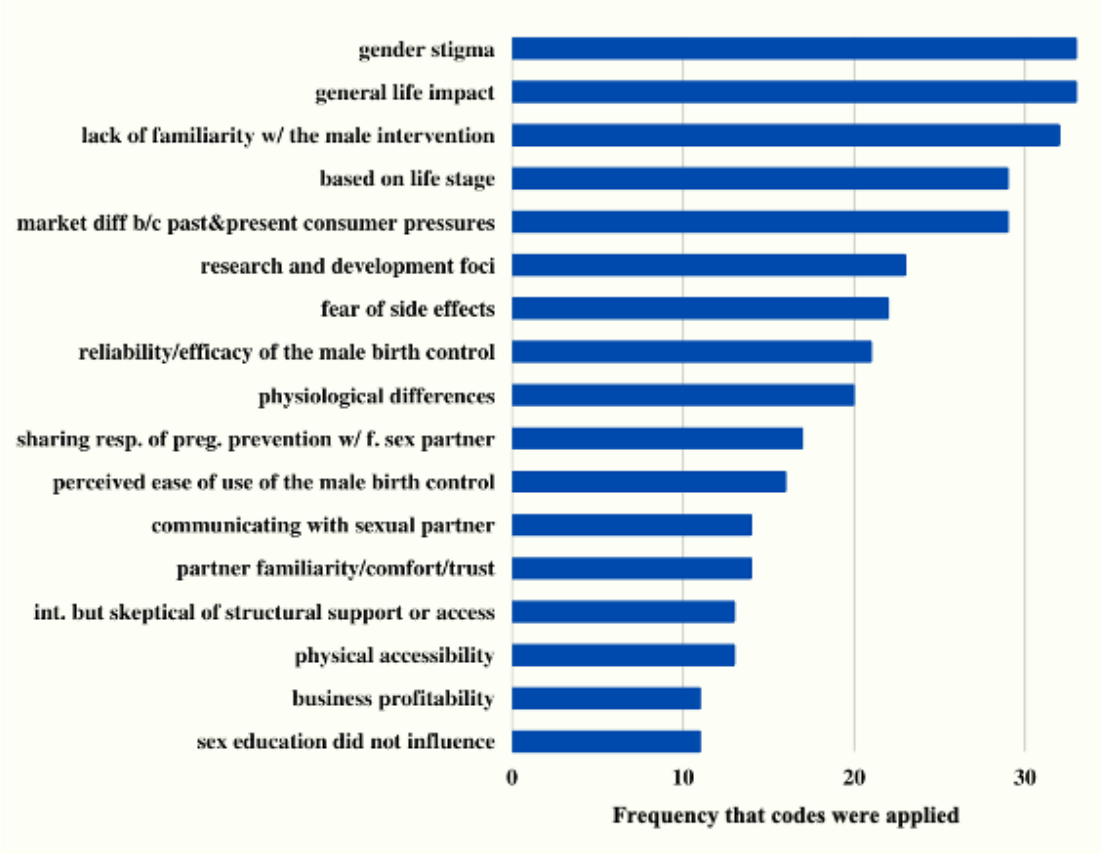
## Results

### Focus group interview results

Filtering out the "other" and "interesting quotes/dialogue" codes reduced the data from 46 codes and 38 subcodes that I applied a total of 572 times to 44 codes and 38 subcodes that I applied a total of 517 times.

When looking at these 517 total codes, 17 codes were identified as prevalent in this study. Of these 17 prevalent codes, five clearly stand out at the most frequently applied codes (see **Figure 2**). The "general life impact" and "gender stigma" codes were the two most applied codes overall.

**Figure 2: Prevalent Codes**[10]




A code was considered prevalent within this data set when it was applied 11 or more times. The 17 (sub)codes identified as prevalent under these parameters are shown in the bar graph above. Of these 17 prevalent codes, five clearly stand out at the most frequently applied codes:
"gender stigma" (applied 33 times), "general life impact" (applied 33 times), "lack of familiarity with the intervention" (applied 32 times), "based on life stage" (applied 29 times), and "market interests-differences in past and present consumer pressures" (applied 29 times). The "general life impact" and "gender stigma" codes were tied for the most applied code.

[10] The HyperRESEARCH (HR) qualitative data software that was used for coding and analysis in this study requires that any code grouped with at least one subcode in the codebook is applied under one of its subcodes only. If a specific subcode is not selected, the HR software applies all the possible subcodes rather than only selecting the main code. This means that only selecting a main code when it is grouped with subcodes is impossible since only the subcodes are available for selection. Frustrations over the limitations of this service in the software were most pronounced with certain code groupings, like the main code "gender stigma" and its grouped subcode "perceived biological differences". Of the 39 times that I applied the code "perceived biological differences," my coding annotations show that 33 of these times the intended code was actually "gender stigma." This modification is reflected in results reported here. Any codebook developed or imported to HR should be designed with this limitation in mind.

What goes without saying is often as important as what is said. So, I then turned to assess which codes did not appear. There were 14 (sub)codes I did not apply[11]. Only two of these codes ("high interest in having more male birth control options" and "unsuccessful at doing their best with the options at hand") were of significance because their absence could not be attributed to other reasons (see **Figure 3 for a breakdown of all 14 unapplied codes)**.

[11] As a reminder, selecting only a main code that is grouped with subcodes is impossible in the HyperRESEARCH software since only the subcodes are available for selection. However, because subcodes are specific qualifications of main codes, by applying a subcode one implicitly applies a main code. So, these unused codes are either 1) main codes that were not grouped with subcodes that were never applied, or 2) subcodes that were grouped under main codes that were never applied.

**Figure 3: Unapplied Codes**

| All Unapplied Codes |
|---|
| high interest in having more male birth control options |
| unsuccessful at doing their best with the options at hand |
| increasing contribution to shared pregnancy prevention responsibility |
| presence of conversations with some family and absence with others |
| presence of family conversations |
| protecting both |
| protecting their sexual partner |
| religious/spiritual proceedings/teachings |
| social media |
| STI/STD protection |
| absence of conversations with previous or current sexual partner |
| absence of female friend conversations |
| absence of family conversations |
| presence of female friend conversations |

| Key: |
|---|
| Significant code |
| Present in other parts of the focus group data |
| Codebook design: experimental replicability |
| Codebook design: unclear code |

Eight of these unused (sub)codes (those indicated in yellow) were present in other parts of the focus group data. They just were not captured during this coding process. Taking excerpts of the focus group data for coding purposes, by its very nature, does not capture all of the possible content in the focus group data. Decision-making about which excerpts to code resulted in the exclusion of these eight (sub)codes.

Four of the remaining six unused (sub)codes were accounted for through codebook design explanations. One design explanation is that some codes were added knowing they wouldn't show up in my data. Regardless, it was still important to include these codes in the codebook for the purposes of experimental replicability for other researchers who may wish to perform a similar study. The two codes that fall in this category are marked in light green.

The other explanation for codebook design is that time and resource constraints limited our ability to revise the coding frame. Lack of necessary revisions impacted clarity on when to apply some codes, especially in the context of focus group data analysis. For example, the "presence of female friend

conversations" code may not have been used because this code is hard to distinguish from the "presence of conversations with unspecified/mixed gender friends" due to the gender of the focus group participants. If the participants (who identify as cis-men as a requirement of participation for this study) are talking to female friends, then that is inherently a "mixed gender group." The "absence of family conversations" code was also difficult code to apply when tracking across a focus group. This is because it might seem like a participant's comment indicates he, for example, had no conversations with family members about men's responsibility in pregnancy prevention. But a comment later in the focus group reveals he had conversations only with certain family members, which at that point would have required application of a different code ("presence of conversations with some family members and absence of conversations with others"). This code needed to be refined more to be properly applied to data that were collected in a focus group setting. The two codes that fall in this category are marked in dark green.

The remaining two unused subcodes weren't accounted for in either of the previous ways and were subsequently deemed of significance. The first subcode of significance was "high interest in having more male birth control options." This code refers to the level of interest the cis-male participants expressed during the focus group when discussing novel male contraceptives. The other significant unused subcode was "unsuccessful at doing their best with the options at hand." This code refers to how cis-men conceptualize their lack of success in fulfilling their self-articulated responsibilities in pregnancy prevention.

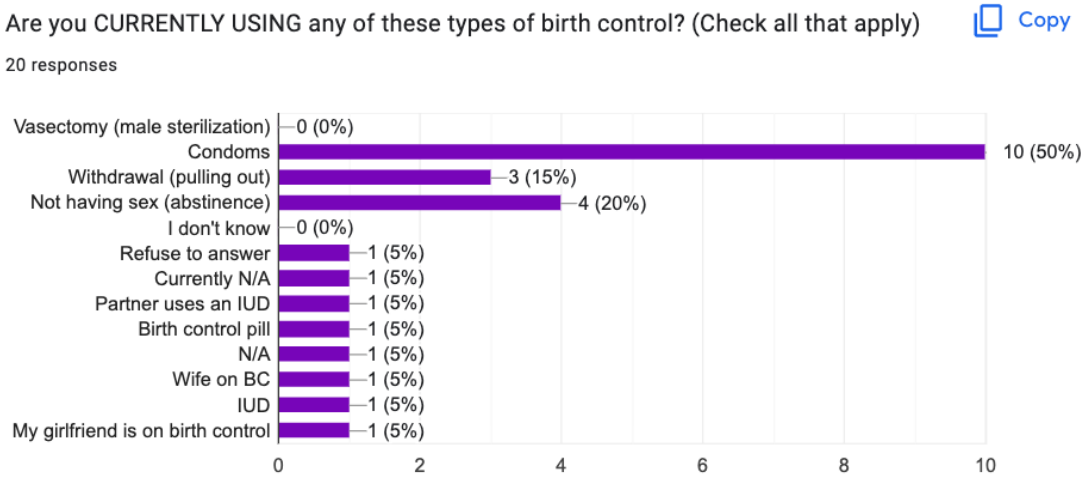
The most prevalent codes and the two unapplied codes of significance were then put in conversation in the "Discussion" section to see what patterns/themes emerged in relation to each of the proposed research questions.

**Demographic survey results**

The overall demographic range for this study's sample was robust. The below table outlines basic demographic data of relevance to this project. These data were self-reported by the participants immediately prior to focus group participation.

| | |
|---|---|
| **Age** | **Range:** 19-38 years old<br>**Median:** 23.5 years old |
| **Racial/Ethnic Background** | **White/Caucasian:** 12 participants (60%)<br>**Latinx/Hispanic:** 3 participants (15%)<br>**Black/African American:** 1 participant (5%) |

| | |
|---|---|
| | **White/South Asian:** 1 participant (5%)<br>**black, white, indigenous american, latino:** 1 participant (5%)<br>**Human:** 1 participant (5%)<br>**Asian:** 1 participant (5%) |
| **Country of Birth** | **United States:** 15 participants (75%)<br>**Spain:** 1 participant (5%)<br>**Italy:** 1 participant (5%)<br>**China:** 1 participant (5%)<br>**Egypt:** 1 participant (5%)<br>**Russia:** 1 participant (5%) |
| **Religious/Spiritual Affiliation** | **Atheist:** 8 participants (40%)<br>**Agnostic:** 6 participants (30%)<br>**No affiliation:** 4 participants (20%)<br>**Christian:** 2 participant (10%)<br>**Catholic:** 2 participant (10%)<br>**Jewish:** 1 participant (5%)<br>**Muslim:** 1 participant (5%) |
| **Year in College** | **Ph.D. candidate/student:** 8 participants (40%)<br>**Senior/fourth year:** 3 participants (15%)<br>**Junior/third year:** 3 participants (15%)<br>**Freshman/first year:** 2 participant (10%)<br>**Master's student:** 1 participant (5%)<br>**Super senior/fifth year or beyond:** 1 participant (5%)<br>**MS graduate:** 1 participant (5%)<br>**Not in school:** 1 participant (5%) |
| **Current Relationship/Dating Status** | **Not currently in a romantic relationship or dating anyone in particular:** 7 participants (35%)<br>**In a relationship that is serious, committed, or long-term but not living together:** 6 participants (30%)<br>**Casually seeing or dating one or more people:** 4 participants (20%)<br>**Married:** 2 participant (10%)<br>**A member of an unmarried couple living together:** 1 participant (5%) |
| **Partner's Gender Identity, If** | **Cis-woman:** 12 participants **(**60%) |

| | |
|---|---|
| **Applicable** | **Not currently in a relationship:** 7 participants (35%)<br>**Cis-man:** 1 participant (5%) |
| **Sexual Orientation/Identity** | **Heterosexual/Straight/Attracted to the Opposite Gender:** 16 participants (80%)<br>**Bisexual/Attracted to People of Both Genders:** 2 participant (10%)<br>**Pansexual/Attracted to People of Any Gender:** 2 participant (10%) |
|  | |
| **Parent Status** | **No Children:** 20 participants (100%) |
| **Currently Pregnant or Trying to get Pregnant** | **Not Pregnant or Trying to get Pregnant:** 20 participants (100%) |
| **Experienced Unintended Pregnancy** | **No:** 18 participants (90%)<br>**Yes:** 1 participant (5%)<br>**Refuse to Answer:** 1 participant (5%) |

There was almost a 20-year, or one generation, difference between the oldest and youngest participants (19 years difference). Regardless of age, all participants were childless and none of the participants were seeking pregnancy or children.

In terms of sexual orientation, the majority of participants (80%) identified as being heterosexual. The remaining four participants were split between a bisexual (10%) and pansexual sexual (10%) orientation.

The two most common racial/ethnic identities were White/Caucasian (60%) and Latinx/Hispanic (15%).

The majority of participants were born in the United States (75%). However, there was notable diversity in nationality with the remaining five participants having each been born in different countries outside the U.S. Those participants born in other countries also grew up, for a good amount of their lives, outside the United States. Most were of high school or college age before moving to the United States. Given that education was often a motivating factor for emigrating to the United States, it might not be a surprise to find diversity in nationality in this sample, regardless of size, given this study was conducted at a public institution for higher education in the U.S.

There was a strong skew towards Atheism (40%) and Agnosticism (30%) in the participants.

There was diversity regarding participants' current relationship status. Equal rates (35%) of participants reported not being in a relationship and being in a long-term relationship (regardless of cohabitation status). For the remaining participants, 20% reported they were casually dating and 10% that were married. Because only one participant (who identified as single) was not interested in novel male contraceptive options at all, this indicates that men at all life stages are interested in exploring male birth control options that suit their current lifestyle needs.

Regardless of relationship status, the participants were using a variety of available male contraceptives. Condom usage was reported at the highest rates (50%) with abstinence (20%) and withdrawal/pulling out (15%) as the second most common methods. Interestingly, in responding to this question asking if *they* were using any birth control methods, several of the participants (25%) reported what birth control methods their partners were using.

## Discussion

Prior to beginning this discussion there are two things worth mentioning. First, any names mentioned here are pseudonyms to protect participants' information. Second, the sample for this study is not representative. Representation was biased, in part, due to the participants' access to higher education which privileges the sample and the sample size (n=20). These findings might not generalize to the cis-male population in the United States. However, these findings are significant in that they offer novel insight into some cis-men's attitudes regarding male contraception. More research needs to be conducted with a diverse population of cis-men across America to draw conclusions about cis-men in general.

### Research Question 1: Decision-Making

In response to the first research question—which focused on how cis-men exercise decision-making in the context of the available contraception options when

faced with such limited contraceptive options as compared to women—there were four most prevalent codes.

| **Most Prevalent Codes** | **Frequency** |
|---|---|
| Lack of familiarity w/ the intervention | 32 |
| Based on life stage | 29 |
| Fear of side effects | 22 |
| Reliability/efficacy of the male contraceptive | 21 |

Taken together, these codes demonstrate some of the most crucial considerations that the cis-men in this study named when discussing how they make decisions about contracepting, including when considering potential novel male contraceptives. It is notable that the most common of these reasons sits in opposition to the idea of *novel* contraceptives since novel birth control options inherently carry a certain level of unfamiliarity. This is not to say that these cis-men were not interested in novel male contraceptive options, though. One participant, Greg, conveyed his interest in novel male birth control options by explaining how he currently decides to contracept, "It kind of feels like: use a condom, be super sketchy, or don't have sex, so." Then, when asked how those options make him feel, he elaborated that, "They don't, they don't feel great. No, like, uh, like Mark said, I do wish there was some options in the middle of that." In fact, only one participant, Jacob, was uninterested in any type of novel male contraception option because they considered it unnecessary due to their beliefs that people, including cis-men, should practice abstinence. Sustained interest in novel male contraceptive options across focus groups suggests that traditional social norms relegating family

planning responsibility to women may be changing. While some research exists that supports this claim (Fennell, 2011), more research is needed with a more representative sample to see if these changes in masculinity norms are truly generalizable to the nation at large. This future research could have important implications for optimizing the consumer base for the male birth market, too, since some of the participants in this study suggested marketing novel male contraceptives to cis-men via strategies that are in-line with notions of traditional masculinity, even though these participants overwhelming rejected traditional masculinity norms themselves.

Although these findings suggest social norms may be shifting at least within some sub-populations of cis-men, it is worth noting here that 25% of participants listed their female partners' birth control usage when asked prior to focus group participation what contraception options they themselves are currently using. These participants' responses suggest that social norms related to traditional notions of masculinity might be changing given that all but one cis-male participant mentioned interest in novel male contraceptive options. At the same time, these responses also affirm the assertion that the *expectation* for who is contracepting is deeply engrained in American culture (Littlejohn, 2021). In other words, these findings suggests that gender bias associating female bodies with expectations regarding reproduction/sex are subconsciously engrained to the point of implicit bias. This could be explained, in part, because of women's sheer access to diverse contraceptive methods as compared to men's lack of options fundamentally impacts where the burden of contracepting continues to fall, regardless of how involved or autonomous cis-men aspire to be regarding contraceptive decision-making

Although the majority of cis-men demonstrated interest in novel male contraception, they also articulated there were certain boundaries to contracepting they would not exceed. This boundary was most often determined by the use of hormones in novel male contraceptives, which the majority of participants were uninterested in due to the strong association of hormone-based birth control with side-effects. One participant, Derek, even articulated concern that the dangers associated with hormone-based interventions are not disclosed in their entirety. He explained, "Whether it's hormones deployed for male or female, like, I would definitely just prefer condoms because, um, I think, like, hormones that are used as a form of birth control, I think they're kind of downplayed, um, when it comes to their dangers and stuff like that." Regardless of whether or not the participants believed the dangers of hormone-based interventions are fully transparent, even the men most interested in novel male contraceptive options mentioned that they would avoid hormone-based interventions.

Interestingly, abortion access and its influence on cis-men's contraception decisions was absent from all focus group conversations.

These data provide valuable insight on how individual cis-men make decisions about contracepting. While participants expressed that lack of familiarity with male contraceptives decreased their interest in trying the contraceptive, they also named several ways in which these hesitancies could be circumvented. Participants most commonly mentioned that decreasing potential side-effects through avoiding hormone-based interventions would increase their interest in trying novel male contraceptives, regardless of their lack of familiarity with the intervention. Having access to highly

reliable—and reversible—birth control options available and options that suit their current life stage were also offered as ways to decrease hesitancies surrounding lack of familiarity with the intervention. From these data we see what cis-men most commonly consider when choosing how and when to contracept. Most importantly, though, we see how things that might have dissuaded cis-men from using existing or novel contraceptives can be addressed to increase interest in future technologies. Most importantly, novel male contraceptives should avoid hormone-based interventions, have high reliability rates, and should utilize diverse mechanisms to meet men's needs at their various life stages.

**Research Question 2: Risk Assessment**

In response to the second research question—which investigated how cis-men make risk assessments associated with sex, reproduction, and the possibility of children—revealed one prevalent code.

| **Most Prevalent Codes** | **Frequency** |
|---|---|
| General life impact | 33 |

Two codes are notable because they were rarely applied in comparison.

| **Rarely Applied Codes** | **Frequency** |
|---|---|
| Financial impact | 4 |
| Emotional impact | 3 |

Framing of the impact of pregnancy or children beyond a general conception of life impact was rare. Participants mentioned, although much less frequently, that pregnancy and children would impact their financial and emotional lives. This indicates that cis-men do conceptualize the impacts of pregnancy and children, but only to a certain extent. Michael frames the impact of teenage fatherhood in general terms as well,

> I just don't really want kids. And, uh, that's a lot of responsibility. I don't want to have to deal with that. So I've just been like, well, if I can take actions to prevent that...And I talk about with my friends, you know, like, uh, we know people who have had kids, you know, like 16, 17, 18, and that's just a massive impact on their life. I don't want to do that.

Even when facing something as disruptive as teenage fatherhood, this disruption is conceptualized in general terms.

An unexpected theme emerged surrounding men's consideration of their sexual partner(s) as part of the risk assessment they make prior to engaging in sexual activities. Facing such limited contraceptive choices, some participants described partner selection as increasing in weight during the risk assessment regarding participating a sexual activity with that potential partner. Shane exemplified this theme by stating,

> Well, I think it just ultimately depends on whether you are—whether you wanna have a kid—whether you are ready to accept the risk of having a kid and that risk depends on—and this risk depends on how much you trust the person [sexual partner] and stuff. I mean, that—that readiness to take the risk depends on how much you trust the person.

This theme was mentioned explicitly, as demonstrated by Shane's comment. It was also conveyed implicitly through reference to how the relationship-type, ensuing trust-level, and partner familiarity influenced participants' interest in engaging sexually with a

person, and also influenced decision-making in the context of contraception and reproduction. This relates to Dalessandro, James-Hawkins, and Sennott (2019) findings that cis-men's perceptions of their heterosexual sex partner(s) impacts what degree of contracepting the men partake in. However, the findings from the Dalessandro, James-Hawkins, and Sennott (2019) study are only partially affirmed because the authors reported that cis-men's perceptions of sex partners as "clean" or responsible was linked to the perceptions of whether or not that partner would acquire an abortion if necessary. Since these participants never mentioned that abortion access was influential in their decisions about contracepting, this study only partially affirms the Dalessandro, James-Hawkins, and Sennott (2019) findings.

These findings demonstrate that while men conceptualize the impacts of pregnancy and children in limited ways, they do not frame these impacts from a purely biological or physical risk assessment lens. If they did, then the participants would have framed the impact of unintended pregnancy as a rather inconsequential *physical* burden because they do not experience the major physiological burdens of pregnancy. Instead, the participants articulated some level of general impact on their lives. It is possible, though, differences in physiological burdens of pregnancy between cis-men and cis-women limit cis-men's ability to conceptualize the impacts of pregnancy and children beyond a general framework. This could relate to why men who are interested in novel contraceptives still express boundaries to which they will contracept. In other words, cis-men might experience less reproductive anxiety at the thought of (unintended) pregnancy due to physiological differences thereby making their decision-making process regarding

contracepting more stringent that cis-women who face high reproductive anxiety. In the end, these findings call into question our current system of risk assessment for clinical trials in which risk of the medication is compared to how the individual experiences (unintended) pregnancy in a purely physical sense.

**Research Question 3: Structural Barriers**

In response to the final research question—which explored what systems or actors cis-men name as structural barriers to male contraceptive research and development—there were four most prevalent codes.

| **Most Prevalent Codes** | **Frequency** |
|---|---|
| Gender stigma | 33 |
| Market difference in consumer pressures (past and present) | 29 |
| Research and development foci | 23 |
| Physiological differences | 20 |

When asked to brainstorm potential reasons impacting the divergent R&D trajectories of male versus female birth control technologies, participants often acknowledge systemic issues that impacted past and present consumer pressures. The most commonly cited systemic issue was that of gender discrimination, coded here as "gender stigma." Bruno describes this code by stating, "I think it was like what Ben was mentioning earlier. It's like, 'it's not my problem because I'm not the one getting pregnant.' So it's, like, I think a cultural problem." This code refers to how gender stigma relegating women's bodies as those responsible for reproduction and family planning

historically and contemporarily influences the market trajectory for contraceptives wherein R&D for female contraceptives is generally prioritized over R&D for male contraceptives. What is interesting here is that the cis-male participants of this study themselves overwhelmingly denounced gender stigma that relegates the burdens of pregnancy prevention to those who bear children. However, this was a common theme that was identified when the participants were asked to guess what has and does impede novel male contraceptives from reaching the United States cis-male population at large. These differences could be explained in part by "social desirability bias" where it is common in research for participants to express more socially acceptable answers as compared to stating their own beliefs in front of others they are unfamiliar with (Almeling, 2020, p. 158). Participants also accounted for gender stigma and subsequent differences in consumer pressures based on differences in what consumers experience the physiological burdens of pregnancy and childbirth. In other words, participants explained that because cis-men do not experience the physiological burdens of pregnancy, this has impacted the reproductive anxiety cis-men feel generally as a group and decreases the resulting urgency with which cis-men as a consumer base demand novel contraceptive measures.

Many participants acknowledged that a history of gender stigma and R&D efforts focused on developing female contraceptives has resulted in female contraceptives being significantly easier to manufacture (this was coded as "research and development foci"), regardless of whether the gender stigma initially relegating family-planning to female bodies is still an active issue. In other words, even if ideas about gender stigma are

changing, it is easier to continue producing female contraceptives since female birth control options and the infrastructure for their production are so normalized. What the participants identify here affirms Almeling's assertion that a feedback loop associating conceptions of female bodies with sex/reproduction has been established in American culture wherein male bodies are precluded association with these topics.

Notably, participants admitted that even if novel male contraceptives surpass these structural barriers and reach markets, they are not confident they themselves as relatively privileged cis-men or cis-men in general will be able to access the birth control options. Participants discussed being skeptical of structural support or access to novel contraception methods. One participant, Blanche, offered an astute observation that infrastructure for men's reproductive health as a field is a hinderance to cis-men accessing male contraceptives in general. He said,

> It's not so much the reversible part of it [a vasectomy] that's been kind of an obstruction to me [being interested in the intervention] as much as the not really knowing where to start or who to talk to about all of that. Because we [cis-men] don't have, like, an OB/GYN that we can go talk to about like our genitals of something. [...] Most, uh, women have a specialized doctor they go to see in regards to their reproductive health and everything. Um, we [cis-men] just don't have that.

Blanche describes colloquially the glaring issue with men's reproductive health that Almeling highlights in her book, *GUYnecology*. Almeling (2020) similarly explains how, "the failed attempt to establish a medical specialty oriented to men's bodies resulted in a lack of organizational infrastructure, which, in turn, impeded the making of medical knowledge about men and reproduction." (p. 31). Medical knowledge about men and reproduction includes research into how men contribute to reproduction (such as through

paternal affects, which Almeling focuses on) and how men's reproduction can be controlled (such as through male birth control R&D, which this study focuses on). In the end, Blanche and Almeling both identify how the absence of a specialized field dedicated to men's reproductive health has hindered infrastructure relating to men's reproductive health, which includes infrastructure relating to reproductive health check-ups both related to and outside of the scope of men's contraceptive use.

Participants also discussed how physical accessibility issues with novel contraceptives (including access to prescriptions/prescribers and physical access to stores selling the birth control methods) and financial accessibility (in terms of contraceptive cost and insurance coverage) will impact cis-men's ability to access novel contraception methods. Participant concerns about their ability to access novel male contraception options if they reach markets are well-founded. This is because access issues are a looming reality for women seeking contraceptives. Ross and Solinger (2017) point out only 47% of women in the United States needing publicly-subsidized birth control are receiving that support (p. 152). This is a problem because "services [such as receiving contraception] are accessible if they are provided in a nondiscriminatory way, if they are physically accessible, if they are economically accessible, and if information about services is accessible to begin with." (Ross & Solinger, 2017, p. 158). Unfortunately, Bruno and Blanche's comments highlight how male contraceptive R&D has been administered in discriminatory ways. And, even if novel options come to market despite these discriminatory R&D efforts, cis-men don't trust that birth control options will be accessible in all the ways necessary to be used by cis-men. These concerns not only

reflect the current state of available female contraceptives, but also the current state of available male contraceptives. Currently, the one long-term, modern contraceptive intervention men have (a vasectomy) is rarely covered under Medicare and even more rarely covered by private insurance, hindering financial and physical access to the intervention (Holmes, 2022).

Many of the systems or actors that the participants mentioned here have/still do impact the trajectory of male contraceptive R&D. These findings most importantly demonstrate that systemic changes need to occur in order for male contraceptive technologies to be accessible and utilized by cis-male populations. Social norms and expectations need to (keep) changing for cis-men to have personal interest in contracepting. The infrastructure for supporting men's reproductive health also needs to be significantly expanded. Individual interest in novel male contraceptive options cannot, by itself, guarantee cis-men will use the options if they reach markets. The social climate must support their use of the interventions as well.

**Discussion of Limitations and Future Research**

Some limitations of this study and suggested future research have been discussed throughout the contents of this paper. Other limitations include how a few of the codes in the codebook were not orthogonal. This is because of resource and time limitations with codebook review. This is also due to how HyperRESEARCH runs as a software and the inability to apply a general code when the general code is grouped with subcodes.

These findings were also produced in an artificial focus group setting. The use of focus groups helped develop a deeper conversation about the topics discussed and offered cis-men space to think about these topics, sometimes for the first time, in a supportive environment. However, focus group settings are artificial and can sometimes serve as sites of performance (Grzanka & Schuch, 2019). It is, therefore, worthwhile to also investigate these research questions through observational methods in future studies. It would also be worthwhile to explore if a mixed gender focus group setting elicits different responses from cis-men.

## Conclusion

These findings suggest that cis-men have less urgency to contracept due to where physiological burdens of pregnancy and childbirth lie. Decreased urgency does not mean that cis-men are not interested in contracepting or in novel contraception option, but that cis-men have limits to what they will endure in order to contracept. Knowing men's articulated boundaries can help male contraceptive R&D efforts moving forward so that novel birth control options are developed with the needs and desires of the target consumer population (i.e., cis-men) in mind. Having insight into why and where cis-men draw boundaries in their decision-making about contracepting allows us to parse out presumptions about men's attitudes from underlying issues. Specifically, these focus group data demonstrate that some cis-men are actually interested in novel male contraceptives and have positive attitudes about increasing their ability to contracept. But, infrastructure educating men about how to contracept and about birth control

options, in general, is lacking. Plus, such limited available birth control options forces men to either choose contraception options they do not want to use (i.e., condoms or vasectomies) or avoid using the interventions altogether. This is more of a commentary on underlying issues with male birth control than it is on men's interest in contracepting. Without studies like this, men's attitudes about contracepting and underlying issues with men's contraceptive options are easily conflated.

Equally as important is understanding how cis-men conceptualize the impacts of (unintended) pregnancy and having children. Without knowing how men think about the consequences of reproduction themselves, we are unable to evaluate the systems in which we develop ways for cis-men to avoid reproduction (i.e., systems for clinical trail assessment). As it stands, these findings call into question our current system of risk assessment for clinical trials in which risk of the medication is compared to how the individual experiences (unintended) pregnancy in a purely physical sense. Organizations, like the FDA, need to assess risk during clinical trials in a manner that is reflective of how cis-men conceptualize the risks themselves, making a purely physical risk assessment incomplete.

Crucially, knowing that cis-men are interested in contracepting and having an accurate risk assessment system for developing novel birth control options is still not enough. These findings demonstrate that systemic changes *must* occur for male contraceptive technologies to be accessible and utilized by cis-male populations. Addressing systemic issues surrounding the development, commercialization, and accessibility of (novel) male birth control options is imperative. Without doing so, cis-

men are set up to fail as consumers because they face physical and financial accessibility issues and have minimal medical infrastructure developed for supporting their reproductive health. In the end, individual interest in novel male contraceptive options cannot, by itself, guarantee cis-men will use the options if they reach markets. The social climate must support their use of the interventions as well.

# CHAPTER 5

# ADDENDUM--POST-*DOBBS* FOLLOW-UP SURVEY

Focus group interviews for this study were conducted in April 2022. Two months later, the Supreme Court of the United States issued a landmark decision reversing federal abortion protections outlined in *Roe v. Wade (1973)* and significantly altering the landscape of reproductive rights in America. The landmark case was *Dobbs v. Jackson Women's Health Organization (2022)*. A background on the case and its impact are discussed in the next section. A follow-up survey (herein referred to as the post-*Dobbs* follow-up survey) was designed and disseminated as a result of the *Dobbs* decision to gauge how this landmark ruling impacted participants' attitudes discussed in the focus groups.

## Background: *Dobbs v. Jackson Women's Health Organization (2022)*

The *Dobbs* decision overturned federal abortion protections outlined in the Supreme Court's *Roe v. Wade (1973)* decision. As context, *Roe v. Wade* was brought before the High Court in the early 1970s when a woman under the pseudonym Jane Roe legally challenged the then-district attorney for Dallas County, Texas, Henry Wade, over a law in Texas making abortion criminally illegal except by doctor's permission under the reason of saving the mother's life. Roe argued this violated her right to privacy under the Constitution, which is protected by the First, Fourth, Fifth, Ninth, and Fourteenth Amendments. Responding to the question of "Whether the Constitution legally recognizes and protects a woman's right to terminate her pregnancy by abortion?" the

Supreme Court voted 7-2 in favor of Roe (*Roe v. Wade,* 1973). The Supreme Court recognized that the Fourteenth Amendment inherently contains a right to privacy, and a right to terminate a pregnancy through abortion is covered under a right to privacy. However, the state possesses an interest in protecting the health of the pregnant woman and the unborn fetus (Legal Information Institute, 2022-b). Because of this decision, the Supreme Court concluded that in the first trimester, there is unrestricted abortion access. And, during the second trimester, the state can introduce abortion restrictions that are 'reasonably' related to maternal health. Finally, during the third trimester and after the fetus has reached viability (the threshold where the fetus is assumed to be viable/able to survive outside of the womb), the state can severely or entirely prohibit abortion, granted exceptions for maternal health are permitted (JUSTIA, 2022).

In 2018, Mississippi passed a "Gestational Age Act" law banning all abortions, with few exceptions, past 15 weeks. The “Gestational Age Act” was poised in direct opposition to federal abortion protections established in *Roe*. The only licensed abortion clinic and one of its doctor filed a lawsuit challenging this law and requesting an emergency temporary restraining order. The district court in Mississippi prohibited the Mississippi law from taking effect due to the fact that the State of Mississippi failed to provide evidence that a 15 week-old unborn fetus has reached viability. And, since the Roe decision prohibits abortion bans pre-viability, deemed this "Gestational Age Act" law unconstitutional. The U.S. Court of Appeals for the Fifth Circuit affirmed the district court's decision. The case was then taken up to the Supreme Court in 2021. After hearing arguments and deliberating, the court ruled 6-3 in *Dobbs v. Jackson Women's Health*

*Organization (2022)* declaring the "original intent" of the Constitution should be considered when deciding this case. Upon reviewing the “original intent” of the Constitution, the Supreme Court decided there is not explicit mention of Constitutional recognition or protection for abortions (*Dobbs v. Jackson Women’s Health Organization*, 2022). The Supreme Court's decision reverts the decision about abortions and abortion access back to the states (Legal Information Institute, 2022-a).

As a result, the landscape of abortion access has shifted dramatically, and with extreme variability, across states. A full abortion ban, with very few, if any exceptions, now exists in 13 states (these include Idaho, South Dakota, Wisconsin, Missouri, Oklahoma, Texas, Louisiana, Arkansas, Mississippi, Alabama, Tennessee, Kentucky, and West Virginia). Abortion has been banned after six-weeks in Georgia, which is around the time most people begin to find out they are pregnant. Florida and Arizona have banned abortion after 15 weeks, Utah after 18 weeks, and North Carolina after 20 weeks. Judges have temporarily blocked abortion bans in 8 other states (Indiana, Iowa, North Dakota, Michigan, Montana, Ohio, South Carolina, and Wyoming; The New York Times, 2022).

In Arizona specifically, the abortion ban after 15 weeks of pregnancy took effect in September, 2022—just three months after the *Dobbs* decision was officially released. The ban has rare exceptions only for 'extreme medical cases.' Furthermore, the day after the Dobbs decision, 9 of the 10 abortion clinics in Arizona stopped offering abortion procedures. Thus, even though legal access to abortion is permitted up to a certain gestational period, the ability to access abortion procedures brings along another set of

problems. Some political leaders (such as Arizona's current Attorney General, Mark Brnovich, and Arizona's current Governor, Doug Ducey) are still pushing for more stringent action. These politicians are calling on Arizona courts to re-enact an Arizona territorial law that bans all abortions, including cases of rape and incest, except those medically necessary for maternal health. This territorial law would make abortion access and assistance a felony crime. While abortion access was significantly restricted in Arizona, there is consideration of eliminating abortion access altogether in the near future (Lakhani, 2022).

The impact of the *Dobbs* decision is undeniable. Interestingly, though, impacts of the *Dobbs* decision and resulting changes have been almost exclusively framed from cis-women's reproductive rights perspectives. This left me wondering if cis-men's attitudes about contracepting were impacted as a result of the *Dobbs* decision. I then designed and disseminated the post-*Dobbs* follow-up survey to gauge how, if at all, the landmark *Dobbs* decision impacted participants' attitudes discussed in the focus groups.

## Study Design

The post-*Dobbs* follow-up study addressed the following questions:

**Research Question(s)**

1) How, if at all, did the *Dobbs* decision impact cis-men's understanding of their responsibility to contracept?
2) How, if at all, did the *Dobbs* decision impact cis-men's interest in novel male contraceptive options?

a. Has this impacted consumer pressures for novel male birth control technologies?

## Methods

### *Data Collection*

The follow-up study was a mixed-methods follow-up Google survey. Follow-up survey questions were a combination of written short response and Likert scale questions (**Appendix D**). The follow-up survey was sent out within 5 months of focus group participation.

### *Data Analysis*

To analyze this data, a coding frame was initially developed. However closer review of the follow-up survey data revealed other methods of analysis were needed due to the survey's brevity and purpose. Thus, the follow-up survey results were downloaded from Google Survey and converted to Excel format. The data were de-identified by matching the provided email address with the corresponding person and their pseudonym. Then I looked at the Likert-scale responses to see how much change, if any, the participants reported regarding their interest in trying the hypothetical male birth control intervention that was presented to them at the focus group interview (which was essentially the RISUG emerging novel male contraceptive). This follow-up study framed the participants' responses in the context of the overturning of federal abortion protections due to the *Dobbs v. Jackson Women's Health Organization* Supreme Court

ruling. A new column was added to the Excel sheet to track these changes. Another column was added to track any emerging patterns found in the explanations for why these participants ranked their interest as such.

After analyzing the Likert-scale questions, I looked at the participants' responses to the two open-ended questions and the optional "any last thoughts" question to see if any responses or patterns stood out.

## Results

In the 10 days the follow-up survey was open to participants, 15 of the 20 total participants responded, equating to a 75% response rate. In these responses, 8 participants ranked their interest in the presented hypothetical male birth control intervention at the same level before and after federal abortion protections were overturned in the *Dobbs* ruling. This means slightly over half of the responding participants indicated their interest stayed the same. What's important about these responses, though, is that the majority of the respondents' interest (6 of 8) did not change because they reported being at the highest levels of interest (10 on the Likert scale) both before and after the *Dobbs* ruling. While their interest stayed the same, a few of these respondents indicated they felt frustration about current availability/diversity of male birth control options and increased urgency for novel interventions. Blanche explained feeling "an intensification of frustration" that the male birth control option wasn't an available option yet. Greg seconded this by stating the ruling "makes me want it [the hypothetical novel male birth

control] available more than ever." Ben's explication perhaps captures these feelings best:

> I feel a stronger sense of urgency. I already felt responsibility beforehand, but now I also think this alternative options must be available as soon as possible. I have looked into vasectomy and reverting (when if ready to have children) it but it's an expensive procedure and not 100% success guaranteed.

Unlike Ben, Mason indicated he was lucky enough to have accessed a vasectomy procedure between the time of the focus group and the time of the follow-up survey. But Mason clarified if that procedure didn't happen, he would have considered other male birth control options including something similar to the hypothetical if it was available. Owen explained that while his interest in the intervention remained high, anxiety about his ability to exercise reproduction autonomy (what Takeshita (2012) terms "reproductive self-determination") increased because the *Dobbs* ruling "has only heightened those worries that my and my partners [sic] choice may be taken from us." While one respondent, Michael, expressed that they "already wanted this new birth control before this [*Dobbs* ruling] made the situation worse."

The other two respondents (Derek and Sam) who indicated their interest stayed the same, ranked their interest at the 1 and 3 point marks on the 10-point scale, respectively. Derek implied a lack of familiarity with the intervention impacted their interest as they explained their "main concern with this [hypothetical] birth control is that I don't want to be an early adopter incase of longterm [sic] side effects. I rather stick with what is known and tested already." Sam did not provide much explanation for their ranking except to explain that "it is the same." However, in their responses to how, if at

all, the *Dobbs* ruling impacted their beliefs about men's responsibility in pregnancy prevention, both Derek and Sam offered remarks that men's responsibility is now increased. Derek explained men should "have to carry more of the weight" and Sam offered "that men have more responsibility to prevent pregnancy" now. Derek and Sam's low interest in this hypothetical male birth control combined with their remarks about men's responsibility suggest that they feel more responsibility to contribute to pregnancy prevention, but that the particular birth control intervention we were discussing (RISUG) might not fit their personal/life needs at this time, leading us to the importance of diverse contraceptive options.

In the remaining 7 follow-up survey responses, no participants indicated their interest in the hypothetical male birth control intervention decreased. Five participants reported their interest increased by 1 point on the Likert scale. The other two reported an increase of 2 points. The participants offered a variety of reasons as explanations for their increased interest in the hypothetical male birth control option that was discussed during the focus group. These reasons included, decreased hesitancy over lack of familiarity with the intervention (Mark), decreased hesitancy regarding life stage/relationship status (Paul), increased importance of long-term male birth control options (Albert), increased interest in diverse male birth control options to better fulfill men's now heightened responsibility in pregnancy prevention (Shane), and increased interest in sharing pregnancy prevention burdens with romantic partner (Tanjro).

The changing socio-political climate of reproductive health in the United States as a result of the *Dobbs* decision does not erase all hesitancies, though, as suggested by

Geoff's comments that the ruling "only increased [my interest in the hypothetical male birth control] slightly as I still wouldn't want that kind of injection." Geoff's comment explains that hesitancy about the method of delivery is limiting his interest in this *specific* hypothetical novel male birth control. In contrast, Jacob states his hesitancy has to do with novel male contraceptives in general, "For the most part I don't see birth control beyond barrier as necessary for previous reasons stated above [that people shouldn't be having sex until they are ready to accept the risk of children]." Jacob's commitment to abstinence was also commonly mentioned in his focus group data, too, although Jacob wrote in one of his follow-up survey responses that he recognizes his beliefs "are not a necessarily common view," which is interesting given abstinence-only sex education is the norm in American public schools (Kaiser Family Foundation, 2018).

What's interesting is that 6 participants self-reported their interest in the hypothetical novel male birth control as 10 at the time of the focus group. This directly contradicts with the focus group data finding where the "high interest in having more male birth control options" was not coded.

In the end, survey responses to the open-ended questions revealed a majority of the 15 respondents thought cis-men were either as responsible for pregnancy prevention as before *Dobbs* (3 of 15; 20%) or had increased responsibilities regarding pregnancy prevention as a result of the *Dobbs* decision (8 of 15; ~53.33%).

And, regardless of whether or not this was to meet an existing or increased responsibility, 9 of the 15 respondents (60%) reported an increased urgency for novel and diverse male birth control options because of *Dobbs*. Paul acknowledged the current

paradox regarding men's "equal" responsibility in pregnancy prevention when the availability of birth control options for men versus women is anything but equal when calling attention to the increased urgency for novel and diverse male birth control options. He said,

> We need more diverse options now more than ever. If the responsibility for pregnancy prevention should be divided evenly between men and women, then men and women both need a variety of tools to ensure they can do their part.

According to one participant, Blanche, this urgency for novel and diverse male birth control options was so great, he explored "the possibility of participating in clinical trials to bring options to market faster." Blanche's comment indicates market pressures for novel and diverse male contraceptives may be shifting as a result of the changing socio-political climate post-*Dobbs*. Ben nicely sums up how men's increasing responsibility to prevent pregnancy is directly linked to new consumer pressures for novel male contraceptives,

> Before recent events, I already thought that the options available to men in pregnancy prevention were limited, putting a burden on women. Now I think there is even more urgency for men to do better with the current options (condoms, etc.) but also demand more and better alternatives.

Intense periods of social change and conflict can catalyze great changes. Socio-political pressures of COVID, for example, transformed the future of American life and spurred then normalized novel technologies (e.g. vaccine platforms, at-home COVID tests, software supporting synchronous learning and working, etc.). So too may the socio-political pressures of a post-*Dobbs* society transform the future of American life as it pertains to reproductive health and justice by consciously including men as stakeholders,

not just allies, thereby spurring then normalizing novel technologies (e.g. diverse male contraceptives, at-home fertility checks, etc.) This vision of reproductive health and justice in America can only exist so long as a true global human rights framework is upheld.

Normalization of a new definition of reproductive health and justice to include men as stakeholders, not just allies, might be quickened as a result of the current socio-political climate. Mason describes this in one of his follow-up survey comments,

> While I was already personally going to get a vasectomy, I have been more likely to discuss my choice to get a vasectomy with other folks who produce sperm in order to tell them how easy and quick it it. [sic] This change in behavior is due to a change in feelings regarding sperm producing folks responsibilities when it comes to the conversation of pregnancy prevention.

Notably, the *Dobbs* decision could catalyze normalization of conversations about men's responsibility in pregnancy prevention and male birth control options, even among men.

## Discussion

In the end, 13 of the 15 participants reported their interest in novel male contraceptive options at the highest amount (10 out of 10) or that their interest in novel options increased after the *Dobbs* decision. Notably, participants discussed that they were more likely to try novel contraception options regardless of their lack of familiarity with the intervention or potential side effects as a result of federal abortion protections being overturned via *Dobbs*. This suggests that cis-men's risk assessment of the impact of unintended pregnancy has been altered due to the aftermath of the *Dobbs* decision wherein factors that were most commonly cited as reasons cis-men might avoid male

birth control options (i.e. lack of familiarity with the intervention and fear of side effects) are less dissuasive now than they were pre-*Dobbs* (i.e. at the time of the focus group interviews). The percentage of men interested in contraception use was already projected to grow as male contraceptives become more socially and scientifically available. In fact, one profitability projection predicted, at the very least, a $1 billion-dollar valuation of the male contraceptive market by 2024 with an annual growth rate of at least 6% over the next decade (Sitruk-Ware, 2018). Based on these findings, the current abortion politics climate could catalyze growth in novel male contraceptives—as indicated by these follow-up survey results—and increase these projections even more.

These findings also suggest that different methods and/or units of analysis are needed to accurately measure cis-men's interest in novel male birth control options. Asking participants to retrospectively report their interest in novel birth control options at the time of the focus group does limit these results. However, it is notable that nearly half of the respondents in this follow-up study (6 of the 15) indicated their interest in novel male birth control options was at the highest level at the time of the focus group interviews when the code "high interest in novel male contraceptives" was never applied when analyzing any of the focus group interviews.

Not only did the participants report high interest in novel male birth control options, they also reported higher urgency for these options suggesting that consumer pressures for novel male contraceptives are changing as a result of the post-*Dobbs* social climate. This attitude might be reflected nationally as men's inquiries into vasectomies--the only high-efficacy and long-lasting contraceptive option men currently have—is

reportedly on the rise (Burke & Brown, 2022; Miller, 2022; Venkataramanan, 2022). Whether or not men follow through with vasectomies, men's increased urgency in accessing effective male contraceptives is obvious. This is important because it demonstrates how cis-men's interest and urgency for novel male contraceptives is highly influenced by the current socio-political context surrounding reproductive justice issues. This finding affirms the focus group data finding that the FDA risk assessment is incomplete not only because the current method for risk assessment only considers biological or physical risk, but also because the influence of the current socio-political climate on individuals' understanding of acceptable levels of risk. Performing risk assessments solely on the basis of the physical impact of pregnancy—also referred to as "biological risk/benefit" assessment (Walker, 2016)—ignores men's robust experiences as reproductive agents. This is demonstrated through participants' follow-up survey responses indicating the threshold for what amount of risk/unintended effect they are willing to assume is a result of the socio-political context of the time.

Plus, 11 of the 15 respondents thought cis-men were either as responsible for pregnancy prevention as before *Dobbs* or had increased responsibilities regarding pregnancy prevention as a result of the *Dobbs* decision. This further supports the focus group data finding that traditional notions of masculinity relegating reproductive responsibilities to women are becoming less popular in cis-male populations, especially when reproductive health services that women used to be able to access are revoked, such as abortion.

Lastly, it is worth noting that abortion access did not surface throughout any focus group conversations discussing factors impacting men's contraceptive decision-making. This is interesting compared to the results of the follow-up survey in which participants specifically said that men's responsibility in pregnancy prevention has increased as a direct result of federal abortion protections being overturned. One might expect that if revoking abortion access invoked such strong comments about the increased responsibility men face, that the presence of abortion access as a means of regulating unintended pregnancy would have been mentioned as a factor impacting men's contraceptive decision-making, which is a pattern that was seen in the one interview-based study I could find that asked individual men about their contraceptive decision-making. In this study the authors reported that men's perceptions of their female partners as willing to "handle" unintended pregnancies (implying that they would abort the embryo/fetus somehow) impacted their own contracepting (Dalessandro, James-Hawkins, & Sennott, 2019). So, it is interesting this tenant was not affirmed here. Although, this could be an issue with representation of this study's sample since 90% of the participants expressed they had never experienced an unintended pregnancy (per the demographic survey data that was collected prior to focus group participation) which is at odds with statistics estimating the unintended pregnancy rate in the United States rests at about 51%.

# CHAPTER 6

# CONCLUSION: BRINGING IT ALL TOGETHER

Birth control technologies promised to curb growing human populations while liberating women individually and socially. Instead, these technologies have reinforced a feedback loop associating women's bodies with family-planning responsibilities (Almeling, 2020). As a result, a growing number of diverse female contraceptive options have reached markets while comparably few male birth control options have done the same. An overview of male contraceptive research and development reveals a complicated history. Cis-men's attitudes are often cited as a reason that novel male contraceptives have not reached markets at the same pace as female contraceptives, but little research has been conducted investigating this.

I begin to address this research gap through the use of focus group interviews exploring cis-men's attitudes on existing and novel male birth control technologies. The focus group findings suggest that cis-men have less urgency to contracept due to where physiological burdens of pregnancy and childbirth lie. Decreased urgency does not mean that cis-men are not interested in contracepting or in novel contraception option, but that cis-men have limits to what they will endure in order to contracept. Knowing men's articulated boundaries can help male contraceptive R&D efforts moving forward so that novel birth control options are developed with the needs and desires of the target consumer population (i.e., cis-men) in mind. It is important to recognize, though, that these boundaries can vary based on the current socio-political state. As demonstrated in the follow-up survey, increased urgency for novel male contraceptives as a result of the

*Dobbs* decision, for example, can increase cis-men's interest in trying the interventions regardless of their lack of familiarity with the method or its potential side effects.

Additionally, these findings call into question our current system of risk assessment for clinical trials in which risk of the medication is compared to how the individual experiences (unintended) pregnancy in a purely physical sense. Organizations, like the FDA, need to assess risk during clinical trials in a manner that is reflective of how cis-men conceptualize the risks themselves, making a purely physical risk assessment incomplete. The follow-up survey findings also demonstrate how cis-men's interest and urgency for novel male contraceptives is highly influenced by the current socio-political context surrounding reproductive justice issues. This finding affirms that the FDA risk assessment is incomplete not only because the current method for risk assessment only considers biological/physical risk (as demonstrated via focus group data findings), but also because the influence of the current socio-political climate on individuals' understanding of acceptable levels of risk is not taken into account. As it stands, current risk assessment methods actually remove the individual consumer from consideration within their surrounding socio-political context. This study demonstrates that risk assessments need to be socially contextualized.

Crucially, knowing that cis-men are interested in contracepting and having an accurate risk assessment system for developing novel birth control options is still not enough. Even at a time when cis-men articulate high interest and urgency for reliable and novel contraceptive because federal abortion protections have been overturned, they find themselves unable to act on the intensification of these feelings due to systemic issues

surrounding male birth control R&D. These findings demonstrate that systemic changes *must* occur for male contraceptive technologies to be accessible and utilized by cis-male populations. In the end, individual interest in novel male contraceptive options cannot, by itself, guarantee cis-men will use the options if they reach markets. The social climate must support their use of the interventions as well.

REFERENCES


Abbe, C., & Roxby, A.C. (2020). Assessing safety in hormonal male contraception: a critical appraisal of adverse events reported in a male contraceptive trial. *BMJ Sexual & Reproductive Health, 46,* 139-146. http://dx.doi.org/10.1136/bmjsrh-2018-200206

Allen, R. H. (2020, October 1). *New male contraceptives may be on the horizon: A decade away could be a reality.* Relias Media. https://www.reliasmedia.com/articles/146800-new-male-contraceptives-may-be-on-the-horizon

Almeling, R. (2020). *GUYnecology: The missing science of men's reproductive health.* University of California Press.

Altstedter, A. (2017, April 5). *Birth control for men not exciting Big Pharma.* The Bulletin. https://www.bendbulletin.com/nation/birth-control-for-men-not-exciting-big-pharma/article_aa5c0fe6-262f-5b14-ae56-d723bf16191c.html

American College of Obstetricians and Gynecologists [ACOG]. (2009). ACOG opinion no. 450: Increasing use of contraceptive implants and intrauterine devices to reduce unintended pregnancy. *Obstetrics and Gynecology*, 114, 1434-1438. https://doi.org/10.1097/AOG.0b013e3181c6f965.

Amory, J. K. (2020). Development of novel male contraceptives. *Clinical and Translational Science, 13*(2), 228-237. DOI: 10.1111/cts.12708

Belluz, J. (2019, April 1). *The 3 most promising new methods of male birth control, explained.* Vox. https://www.vox.com/2018/4/4/17170262/male-birth-control-explained

Braun, V. & Clarke, V. (2022). *Doing reflective TA [thematic analysis].* https://www.thematicanalysis.net/doing-reflexive-ta/

Burke, M. & Brown, M. (2022, June 30). *More men are seeking vasectomies now that the Supreme Court has overturned Roe.* NBC News. https://www.nbcnews.com/news/us-news/men-are-seeking-vasectomies-now-supreme-court-overturned-roe-v-wade-rcna36204

C., S. (2019, November 19). *The professor who had to spend half his life to make the drug India needs.* The Wire. https://science.thewire.in/health/risug-male-contraceptive-icmr/

Callahan, R. L., Mehta, N. J., Nanda, K., & Kopf, G. S. (2020). The new contraceptive revolution: developing innovative products outside of industry. *Biology of reproduction*, *103*(2), 157–166. https://doi.org/10.1093/biolre/ioaa067

Cattanach, J. (2022, January 24). *High-deductible health plans continue to grow in popularity, but are they right for you?* ValuePenguin. https://www.valuepenguin.com/high-deductible-health-plan-study

Chao, J., Page, S. T., & Anderson, R. A. (2014). Male contraception. *Best practice & research. Clinical obstetrics & gynaecology*, *28*(6), 845–857. https://doi.org/10.1016/j.bpobgyn.2014.05.008

Colagross-Schouten, A., Lemoy, MJ., Keesler, R.I., Lissner, E. & VandeVoort, C.A. (2017). The contraceptive efficacy of intravas injection of Vasalgel™ for adult male rhesus monkeys. *Basic and Clinical Andrology, 27*(4), 1-7. https://doi.org/10.1186/s12610-017-0048-9

Cost, B. (2021, October 15). *'Testicle bath' wins Dyson award as innovative birth control for men.* New York Post. https://nypost.com/2021/10/15/men-can-prevent-pregnancy-by-giving-their-testicles-a-bath/

Craig, E. (2022, January 21). *U of U scientists test gel contraceptive for men, hope to ease burden of birth control for women.* KSL News Radio. https://kslnewsradio.com/1962953/u-of-u-tests-gel-contraceptive-for-men-hopes-to-ease-burden-of-birth-control-for-women/

Dalessandro, C., James-Hawkins, L., & Sennott, C. (2019). Strategic silence: College men and hegemonic masculinity in contraceptive decision making. *Gender & Society*, *33*(5), 772–794. https://doi.org/10.1177/0891243219850061

Daniels, K. & Abma, J. C. (2018, December). Current contraceptive status among women aged 15-49: United States, 2015-2017. NCHS data brief, no. 327. Hyattsville, MD: National Center for Health Statistics (NCHS). https://www.cdc.gov/nchs/products/databriefs/db327.htm

Devroy, A. (1993, January 23). *Clinton cancels abortion restrictions of Reagan-Bush era.* The Washington Post. https://www.washingtonpost.com/archive/politics/1993/01/23/clinton-cancels-abortion-restrictions-of-reagan-bush-era/0e145a5a-0b37-4908-8c4d-44643f62b0a0/

Dobbs v. Jackson Women's Health Organization, 597 U.S. ___ (2022). https://www.supremecourt.gov/opinions/21pdf/19-1392_6j37.pdf

Eisenstein, M. (2020, December 16). *Stopping sperm at the source.* Nature. https://www.nature.com/articles/d41586-020-03534-4

Em, M. (2018, August 6). *Male birth control: Current options and new breakthroughs.* SingleCare. https://www.singlecare.com/blog/male-birth-control-options/#pill

Felton, J. (2021, October 13). *Testicle bath contraception wins James Dyson Award for engineering.* IFLScience. https://www.iflscience.com/testicle-bath-contraception-wins-james-dyson-award-for-engineering-61267

Fennell, J. L. (2011). Men bring condoms, women take pills: Men's and women's roles in contraceptive decision making. *Gender & Society*, *25*(4), 496–521. https://doi.org/10.1177/0891243211416113

Flick. U. (Ed.) (2014). *The SAGE handbook of qualitative data analysis.* SAGE Publications. https://dx.doi.org/10.4135/9781446282243

Flores-Macias, F. & Lawson, C. (2008). Effects of interviewer gender on survey responses: Findings from a household survey in Mexico. *International Journal of Public Opinion Research*, *20*(1), 100–110. https://doi.org/10.1093/ijpor/edn007

Friedman, M., Nickels, L., Sokal, D., Hamlin, A., King, G., Levine, D., Vahdat, H., & Shane, K. (2019, February). Interest in potential new male methods. In *Interest among U.S. men for new male contraceptive options.* Male Contraceptive Initiative. https://www.malecontraceptive.org/uploads/1/3/1/9/131958006/mci_consumerresearchstudy.pdf

Geisler, C. & Swarts, J. (2019). Chapter 5: Achieving reliability. In Donahue, D. (Ed.), *Coding streams of language: Techniques for the systematic coding of talk, text, and other verbal data* (pp. 155-202). WAC Clearinghouse and University Press of Colorado. https://wac.colostate.edu/docs/books/codingstreams/chapter5.pdf

Grzanka, P.R. & Schuch, E. (2019). Reproductive anxiety and conditional agency at the intersections of privilege: A focus group study of emerging adults' perception of long-acting reversible contraception. *Journal of Social Issues, 76*(2), 270–313. https://doi.org/10.1111/josi.12363

Holmes, T. E. (2022, April 5). *How much does a vasectomy cost?* GoodRx. https://www.goodrx.com/conditions/birth-control/vasectomy-cost

InformedHealth.org. (2017, June 19). *Contraception: Hormonal contraceptives*. Institute for Quality and Efficiency in Health Care. https://www.ncbi.nlm.nih.gov/books/NBK441576/#:~:text=Most%20birth%20control%20pills%20contain,are%20taken%20in%20different%20ways

Jacobs, B. (2022, January 24). *Utah researchers are testing a birth control for men.* The Salt Lake Tribune. https://www.sltrib.com/news/2022/01/24/wanted-utahns-willing/

Jacobsohn, T., Nguyen, B. T., Brown, J. E., Thirumalai, A., Massone, M., Page, S. T., Wang, C., Kroopnick, J., & Blithe, D. L. (2022). Male contraception is coming: Who do men want to prescribe their birth control? *Contraception*, *115*, 44–48. https://doi.org/10.1016/j.contraception.2022.04.014

JUSTIA. (2022). *Roe v. Wade, 410 U.S. 113(1973).* https://supreme.justia.com/cases/federal/us/410/113/

Kaiser Family Foundation. (2018, June 1). *Abstinence education programs: Definition, funding, and impact on teen sexual behavior.* https://www.kff.org/womens-health-policy/fact-sheet/abstinence-education-programs-definition-funding-and-impact-on-teen-sexual-behavior/

Kaufman, S.P. (1982). *Unplanned pregnancy a dilemma for college students*. ERIC Clearinghouse.

Kean, S. (Host). (2021, April 20). Why don't we have a male birth control pill yet? (268) [Audio podcast episode]. In *The Disappearing Spoon*. The Science History Institute. https://www.sciencehistory.org/distillations/podcast/why-dont-we-have-a-male-birth-control-pill-yet

Khilwani, B., Badar, A., Ansari, A.S., & Lohiya, N.K. (2020). RISUG® as a male contraceptive: Journey from bench to bedside. *Basic and Clinical Andrology, 30*(2), 1-12. DOI: 10.1186/s12610-020-0099-1

Knight, N. (2020, August 31). *Reviewing new contraceptive methods and innovations.* GE: Voluson Club. https://www.volusonclub.net/empowered-womens-health/reviewing-new-contraceptive-methods-and-innovations/

Lacasse, K. & Jackson, T. E. (2019). Conformity to masculine norms predicts US men's decision-making regarding a new male contraceptive. *Culture, Health & Sexuality, 22*(10), 1128–1144. https://doi.org/10.1080/13691058.2019.1658806

Lakhani, N. (2022, August 15). *Abortion is still legal in Arizona. But confusion and fear abound.* The Guardian. https://www.theguardian.com/us-news/2022/aug/15/arizona-abortion-laws-ban-access

Lamb, D. J. (2015, September 17). *Despite decades of research, male contraceptives remain years away.* Healio. https://www.healio.com/news/endocrinology/20150917/despite-decades-of-research-male-contraceptives-remain-years-away

Legal Information Institute. (2022-a). *Dobbs v. Jackson Women's Health Organization.* Cornell Law School. https://www.law.cornell.edu/supremecourt/text/19-1392

Legal Information Institute. (2022-b). *Jane ROE, et al., appellants, v. Henry WADE.* Cornell Law School. https://www.law.cornell.edu/supremecourt/text/410/113

Littlejohn, K.E. (2021). *Just get on the pill: The uneven burden of reproductive politics.* University of California Press. https://doi.org/10.2307/j.ctv1wdvwwm

Lohiya, N.K., Alam, I., Hussain, M., Khan, S.R., & Ansari, A.S. (2014). RISUG: an intravasal injectable male contraceptive. *Indian Journal of Medical Research, 140*, 63-72. PMID: 25673546. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4345756/

Mann, E. S., & Grzanka, P. R. (2018). Agency-without-choice: The visual rhetorics of longacting reversible contraception promotion. *Symbolic Interaction, 41*, 334–356. https://doi.org/10.1002/symb.349

Mantey, J. (2020, March 3). *Why high-deductible health plans are more common than ever.* Scripthero. https://www.scripthero.com/articles/why-high-deductible-health-plans-are-more-common-than-ever

Masters, N.T., Morrison, D. M., Querna, K., Casey, E. A., & Beadnell, B. (2016). Correlates of young men's intention to discuss birth control with female partners. *Perspectives on Sexual and Reproductive Health*, *49*(1), 37–43. https://doi.org/10.1363/psrh.12005

Miller, J. R. (2022, July 1). *More men getting vasectomies after 'triggering' Roe v. Wade decision.* The New York Post. https://nypost.com/2022/07/01/more-men-getting-vasectomies-after-roe-v-wade-decision-report/

Murdock, J. (2022, August 5). *The latest updates on male birth control options.* GoodRx. https://www.goodrx.com/health-topic/mens-health/male-birth-control#risug

NPR Staff. (2016, November 3). *Male birth control study killed after men report side effects.* NPR. https://www.npr.org/sections/health-shots/2016/11/03/500549503/male-birth-control-study-killed-after-men-complain-about-side-effects

Oudshoorn, N. (2003). *The male pill: A biography of a technology in the making*. Duke University Press.

Padfield, M. & Procter, I. (1996). The effect of interviewer's gender on the interviewing process: A comparative enquiry. *Sociology, 30*(2), 355-366. https://doi.org/10.1177/0038038596030002009

Page, S. T., Amory, J. K., & Bremner, W. J. (2008). Advances in male contraception. *Endocrine reviews*, *29*(4), 465–493. https://doi.org/10.1210/er.2007-0041

PennMedicine. (2019, March 1). *7 things you didn't know about vasectomies.* https://www.pennmedicine.org/updates/blogs/health-and-wellness/2019/march/7-things-about-vasectomies#:~:text=They%20are%20extremely%20effective&text=Masson.,their%20partner%20receiving%20a%20vasectomy

Planned Parenthood. (2022-a). *How effective are condoms?* https://www.plannedparenthood.org/learn/birth-control/condom/how-effective-are-condoms#:~:text=If%20you%20use%20condoms%20perfectly,will%20get%20pregnant%20each%20year

Planned Parenthood. (2022-b). *How effective is a vasectomy?* https://www.plannedparenthood.org/learn/birth-control/vasectomy/how-effective-vasectomy

Roberts, D. (1997). *Killing the Black body : Race, reproduction, and the meaning of liberty*. (1st ed.). Pantheon Books.

Roe v. Wade, 410 U.S. 113 (1973). https://www.oyez.org/cases/1971/70-18

Ross, L. J., & Solinger, R. (2017). *Reproductive Justice: An Introduction.* University of California Press.

Santos-Longhurst, A. (2022, July 27). *Everything you need to know about the male birth control injection*. Healthline. https://www.healthline.com/health/birth-control/male-birth-control-injection#in-development

Schneiderman, M. (2018, April 2). *Will men use a new male birth control pill?* Healthline. https://www.healthline.com/health-news/will-men-use-new-male-birth-control-pill

Scutti, S. (2016, November 1). *Male birth control shot found effective, but side effects cut study short.* CNN. https://www.cnn.com/2016/10/30/health/male-birth-control/index.html

Silliman, J., Fried, M. G., Ross, L., & Gutiérrez, E. R. (2004). *Undivided rights: Women of Color organization for Reproductive Justice*. South End Press.

SingleCare Team. (2018, December 3). *The future of male birth control: Who should control contraceptives?* SingleCare. https://www.singlecare.com/blog/news/the-future-of-male-birth-control/

SisterSong. (2022). *Reproductive justice*. https://www.sistersong.net/reproductive-justice/

Sitruk-Ware, R. (2018, May 11). *Getting contraceptives for men to the market will take pharma's help.* Stat News. https://www.statnews.com/2018/05/11/contraceptives-for-men-pharma/

Stokes, T. & Pappas, S. (2012, February 26). *Condom use 101: Basic errors are so common, study finds.* NBC News. https://www.nbcnews.com/healthmain/condom-use-101-basic-errors-are-so-common-study-finds-207925

Storck, K. E., Gawron, L. M., Sanders, J. N., Wiaderny, N., & Turok, D. K. (2022). "I just had to pay the money and be supportive": A qualitative exploration of the male partner role in contraceptive decision-making in Salt Lake City, Utah family planning clinics. *Contraception*, *113*, 78–83. https://doi.org/10.1016/j.contraception.2022.04.005

Takeshita, C. (2012). *The global biopolitics of the IUD: How science constructs contraceptive users and women's bodies.* MIT Press.

The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research [The Commission]. (1979-a, April 18). Boundaries between practice & research. In *The Belmont Report: Ethical principles and guidelines for the protection of human subjects of research.* https://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/read-the-belmont-report/index.html#xbound

The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research [The Commission]. (1979-b, April 18). Selection of subjects. In *The Belmont Report: Ethical principles and guidelines for the protection of human subjects of research.* https://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/read-the-belmont-report/index.html#xselect

The New York Times. (2022, November 8). *Tracking the states where abortion is now banned.* https://www.nytimes.com/interactive/2022/us/abortion-laws-roe-v-wade.html

Tsuruta, J.K., Dayton, P.A., Gallippi, C.M., O'Rand, M.G., Streicker, M.A., Gessner, R.C., Gregory, T.S., Silva, E.JR., Hamil, K.G., Moser, G.J., & Sokal, D.C. (2012). Therapeutic ultrasound as a potential male contraceptive: Power, frequency and temperature required to deplete rat testes of meiotic cells and epididymides of sperm determined using a commercially available system. *Reproductive Biology and Endocrinology, 10*(7), 1-15. https://doi.org/10.1186/1477-7827-10-7

United States Census Bureau. (2022, March 15). *Equal pay day: March 15, 2022*. https://www.census.gov/library/stories/2022/03/what-is-the-gender-wage-gap-in-your-state.html#:~:text=In%201973%2C%20full%2Dtime%20working,a%20gain%20of%2026.4%20cents

United Nations [U.N.] Department of Economic and Social Affairs. (2019). *Contraceptive use by method: Data booklet.* United Nations. https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/files/documents/2020/Jan/un_2019_contraceptiveusebymethod_databooklet.pdf

Venkataramanan, M. (2022, June 29). *Men rush to get vasectomies after Roe ruling.* The Washington Post. https://www.washingtonpost.com/health/2022/06/29/abortion-vasectomies-roe-birth-control/

Walker, S. (2016, November 8). *We won't have a male contraceptive until we change our understanding of risk.* The Conversation. https://theconversation.com/we-wont-have-a-male-contraceptive-until-we-change-our-understanding-of-risk-68375

# APPENDIX A

# AVAILABLE CONTRACEPTIVES

There are about 5 general categories of contraceptive methods that are available to men. **Appendix A Table 1** displays these methods sorted into "Western" or "Indigenous" categories, depending on their origin.

Only one available male contraceptive method, as compared to nearly all available female contraceptive methods, is controlled through medical professionals like gynecologists, primary care physicians, or surgeons. Part of this disparity is likely rooted in a lack of male analogs to available female contraceptives, though.

**Appendix A Table 1:**

| **Western Contraceptive Methods** | **Indigenous Contraceptive Methods** |
|---|---|
| Condoms | Herbs |
| Sterilization (Vasectomy & "No-Scalpel" Vasectomy) | Withdrawal (A.K.A. "Pulling Out") |
| | Abstinence |

In comparison, **Appendix A Table** 2 shows available female contraceptive methods categorized as "Western" or "Indigenous." While not definitive, this extensive list names at least 18 general categories of contraceptive methods that are available to women. While R&D on female contraceptives is ongoing and vast, the overwhelming majority of this is innovating and refining available contraceptive methods. For example, "new" female contraceptive methods include long(er)-lasting vaginal rings, slimmer IUDs, and internet-based fertility tracking or contraception reminder applications (Knight, 2020)—which are not novel contraceptives methods but offer a novel way to track existing contraceptive methods. These variations are not included here. When looking at general categories, more than 3.5 times as many contraceptive methods are available to women as compared to men.

**Appendix A Table 2:**

| **Western Contraceptive Methods** | **Indigenous Contraceptive Methods** |
|---|---|
| Subdermal implant | Herbs/herbal medicine |
| IUD (copper or hormonal) | Amulets |
| Hormonal patch | Charms |
| Hormonal pill | Magical/spiritual medicine |

| | |
|---|---|
| Hormonal shot | Abstinence |
| Sterilization (hysterectomy or tubal ligation) | |
| Female condom | |
| Diaphragm | |
| Spermicide | |
| Cervical caps | |
| Sponges | |
| Vaginal rings | |
| Emergency contraceptive (Plan B) | |

# APPENDIX B

# FOCUS GROUP FACILITATION GUIDE

This appendix includes the facilitation guide I used to conduct the focus group interviews.

---

**Focus Group Protocol:**

**Overall Research Questions**

1. How do cis-men experience, choose, and navigate contracepting with such limited methods (condoms, vasectomies, pulling out/withdrawal, abstinence)?
    a. Do men want to take responsibility for their contracepting but can't because of a lack of male birth control options?
2. How do cis-men frame the impacts of having children?
    a. Do they conceptualize the impacts in ways beyond physical risk?
    b. How does this impact their interest in novel male contraceptives?
3. What do cis-men name as barriers to their access to/use of novel male birth control options?

**Materials Needed**

- Table to arrange food
- Chairs (enough for 1 facilitator and 2 note-takers and each participant)
- Refreshments and food for 10 people (remember utensils, cups, napkins, plates)
- Drinking water for facilitators and participants
- Paper plates & napkins
- Nametags
- Thick black magic markers to write on name tags
- Focus group recording equipment (2 digital recorders & backup batteries)
- Incentives ($10 e-gift cards)
- Pens
- Clipboards
- Large envelope to collect consent forms
- 3 Pads and pens for note takers (2) and facilitator (1)
- Face Masks
- Folder for:
    - Printed QR codes to take participants to the demographic survey & tape to hang
        - **Print a few back-up copies of the Demographic Survey**
    - Consent forms (copies for participants and facilitators)

**Focus Group Site Preparation (30 minutes)**

1. Arrange chairs in circular formation for at least participants and two facilitators.
2. Set-up food and refreshments
3. Have name tags and thick black magic markers available for participants to write their pseudonyms only.
4. Test audio recording equipment and place both in center of the circle.
5. Warmly greet participants as they enter the room. Encourage them to eat.
6. Give each young adult the written consent form to read over. Review the consent form and make sure they sign the written consent form to participate. Make sure each emerging adult knows they can take a copy of the form with them. Be available to summarize/read the form to emerging adults that need help.
7. After signing the written consent form, have participants scan the QR code to take the demographic surveys. If the code is not working for some or all participants, have participants fill out a physical copy and put the survey in a large envelope when they are finished.
8. Ask participants to turn off cell phones.
9. Inform participants where bathrooms are and encourage them to use before the focus group gets started.

****While everyone is eating pizza, check demographic survey submissions, written consent submissions, and check-in participants on the attendance tracking form.****

**Introduction (5 minutes)**
Good evening and welcome to our discussion. Thanks for taking the time to join us to talk about your experiences related to male birth control. My name is _____ and working with me is **__Insert: names of note-taker helpers for that interview__**. (Offer a little about your background.)

**Background on Focus Group Research Study**
I'm going to tell you a little bit about our project and what you can expect during our time together. Our focus group discussion is going to last about two hours total. Once we get started, I am going to ask you questions and we'd like you to share your thoughts and opinions freely. You will do most of the talking. We will be doing a lot of listening. We are not going to necessarily "teach" you anything today. Remember you are the experts and we want to learn from you.

**Appreciation**
To show our appreciation for what you teach us and for your time, we have provided a meal for you today and an e-gift-card incentive of $10—which will be distributed after our focus group. Alternatively, if you are participating for extra credit, let me know at the

end when I am distributing incentives and I will mark that down to ensure you get your extra credit.

**How Today's Focus Group Will Work (5 minutes)**

**Talking about Sexuality Issues**
We are going to be talking about birth control today, which requires us to talk about sex and relationships. In our society, people don't always feel comfortable talking about sex openly and freely and we often don't have many opportunities to talk openly and honestly about sex and sexuality. Much of what we talk about tonight will focus on issues that impact men who have sex with women, but we want you to know we realize not everyone in the group may identify as heterosexual or straight. We want to make sure that you feel safe and comfortable in this group talking about these kinds of issues. Here are some ground rules that will help make this group safe and comfortable:

- **No assumptions:** We won't make any assumptions about your behavior. We expect that there is a lot of diversity in this group. In general with young adults your age – some have already had some sort of sexual behavior, some have not. We are going to be asking you about your opinions and experiences and hope you will feel comfortable sharing.

- **Feelings are OK:** Because people don't have a lot of opportunities to discuss these issues openly, they sometimes feel a little uncomfortable, shy, or silly. All of these feelings are normal.

- **No judgments or put downs:** Please don't judge or put anyone down in the group because of something they say. In order for everyone to feel safe and comfortable, they have to know that no one is going to laugh at them, tease them, or put them down for anything they say today. So can we all agree that there will be no teasing or put downs? (look around for nods in agreement)

**No "Right" or "Wrong" Answers and Participation**
We'll be asking you some questions for the next two hours or so. There are no "right" or "wrong" answers to these questions because we want to know what you think. It's okay to have a different opinion from other people in the group. **It's really important for us to hear all the different points of view in the room.** We want you to share your point of view, whether it's the same or different from what others are saying. We want you to feel comfortable saying what you really think and to respect each other's opinions.

Don't feel like you have to respond to me all the time. Feel free to talk to one another when discussing my questions. If you want to respond to something someone said, agree or disagree with something someone said, or give an example, you can do that; just be respectful. We want all people to have a chance to share ideas. We may need to interrupt or call on people to make sure this happens. Please do not feel offended if we do this.

**Recording and Confidentiality**
We will be recording the session because we don't want to miss any of your comments. People often say things in these sessions and we can't write fast enough to write them all down.

We will use each other's pseudonyms today and again, we will not use your actual names in our report. No one will be able to link your identity back to what you said and only project staff like myself will listen to this recording. I am also going to ask all of you to keep what is said here confidential, so that everybody feels comfortable talking and knows what they say will not be repeated. Can you all do that?" (Make eye contact with each person in the group and wait for them to nod affirmatively.)

Also, you do not have to answer any question that makes you feel uncomfortable. If you are asked a specific question and don't want to answer, you can just say 'pass.'

**Timing and Incentives**
We expect to be here until about **__:__ PM**. We appreciate you giving us your time and we want to make sure we end on time. **__Insert: names of note-taker helpers for that interview__** will be watching the clock and may need to interrupt the discussion at times and move us on to another question to be sure we have to time to discuss all topics.

At about **__:__ PM** (5 minutes before the end of our time together), we will end the focus group and distribute the incentives to thank you for your time and participation.

**Tell the group that you will be starting the recorders and do so.**
**[Begin recording on all devices]**

**Ice-Breakers [5-10 minutes]**
Let's begin. We have asked you to wear a name tag to help us remember each person's fake names. Let's go around the room and introduce yourselves by giving your pseudonym, your affiliation with our institution or when you graduated, and a fun fact about yourself that you're comfortable sharing. I will ask the note-takers to participate in this discussion.

**Focus Group Questions**

**A. Learning about Birth Control [30-40 minutes]**

As the first thing we are going to talk about, let's brainstorm what birth control options are available to men. What male birth control options are you aware of?

**A. Men's Responsibility in Avoiding Pregnancy**

Based on your own personal beliefs, what should be men's role in preventing pregnancy? Why? What shapes or influences your opinions on this?

- PROBE: Who did you talk about this with and how? What conversations should we be having about this topic?

To what extent do you feel you can fulfill your role given the male birth control options currently available to you?

- REPHRASE: How successful do you feel fulfilling your role with the birth control options available to you?

Thank you so much for sharing. At this point, we have talked about your experiences learning about birth control and what men's role is in contracepting. Now, I'd like to learn more about your opinions regarding available male birth control options.

**B. Navigating Available Male Birth Control Options**

How do you or would you decide what birth control options to use given the options that we've talked about?

What male birth control options do you wish were available? Why (pregnancy prevention vs STI prevention? Other factors)?

- PROBE: What would having these options available to you mean? What would they provide or allow for you?
- PROBE: So, it seems there is some interest in more birth control options becoming available to men. Can you brainstorm some potential barriers to male birth control development that you can think of?

**C. Advancing Male Contraception Options: Exploring LARmC**

So far, we have talked about what male birth control options are currently available. For the last part of the focus groups, let's talk about a hypothetical situation:

Imagine there is a long-acting male birth control option that becomes available for use. The birth control involves receiving a shot in which a gel is injected into your vas deferens—the tube that carries the sperm from the testicles. This means you still cum, but the cum is sterile or 'blank'. The procedure occurs under LOCAL anesthesia, so you don't feel it and lasts 10-15 years. Then, when you are ready to have children or your life-circumstances change, there is another substance injected into the vas deferens again that dissolves the barrier, and your sperm count returns to normal levels.

Would you be interested in trying the birth control? What is interesting/engaging about this prospect to you? What is uncomfortable or off-putting?

Would you want or need to know more about information to decide if you wanted to try it? What information would you need?

- PROBE: What would it take to convince you to try the product? [marketing / accessibility needs?]

How would we inform other people about the option?

How would this talk about this in sex education?

Would having this option available be more fair? Fair to whom and why?

We appreciate you sharing your views on birth control. Is there anything you would like to add to what we've talked about tonight?

**Wrap Up [5 minutes]**

Our time is coming to a close and we want to thank you so much for taking the time to participate in the focus group.

If you have not already completed your demographic survey online, please do so before you receive your incentive today and leave.

Thanks again for sharing your insights today!

# APPENDIX C

# FOCUS GROUP INTERVIEW CODEBOOK

This appendix includes the content of the codebook that I used to analyze the focus group interview data.

---

| 1a) What do cis-men articulate as the norm/typical level of responsibility allotted to men regarding contracepting? | | |
|---|---|---|
| **Code** | **Sub-code(s) *if applicable*** | **Definition/Explanation** |
| Sharing responsibility of pregnancy prevention with female sex partner(s) | | Participant considers both parties capable of creating progeny as having a spilt/shared responsibility in pregnancy prevention |
| Abstaining from sex until ready to accept risk of potential impregnation | | Participant expresses responsibility as abstaining from sex until ready to accept or face all consequences--including pregnancy risk |
| Wearing condoms | | Participant expresses men's responsibility as wearing condoms |
| Pulling out | | Participant expresses men's responsibility as pulling out/withdrawing or "cumming responsibly" |
| Communicating with sexual partner(s) | | Participant expresses men's responsibility as having communications with sexual partner(s) about current and needed prevention measures and/or comfort. |
| Protecting | -Themselves<br><br>-Their sexual partner(s)<br><br>-Both | Participant articulates that men's responsibility concerns the protection of either themselves, their sexual partner(s), or both. This can be framed as pregnancy protection or STI protection, or both. |
| | | |
| 1b) Where/how do these views develop? Do these | | |

| | | |
|---|---|---|
| views align with norms of traditional masculinity and common discourses around contraception? | | |
| **Code** | **Sub-code(s) *if applicable*** | **Definition/Explanation** |
| Conversations with friends (unspecified or mixed gender) | -Presence of these conversations<br><br>-Absence of these conversations | Participant expresses that their ideas about responsibility in reproduction, pregnancy prevention, and/or sex are influenced by the PRESENCE OR ABSENCE of conversations with friends regarding the topics where the gender of the friends is either unspecified or mixed. |
| Conversations with female friends | -Presence of these conversations<br><br>-Absence of these conversations | Participant expresses that their ideas about responsibility in reproduction, pregnancy prevention, and/or sex are influenced by the PRESENCE OR ABSENCE of conversations with female friends regarding the topics |
| Conversations with male friends | -Presence of these conversations<br><br>-Absence of these conversations | Participant expresses that their ideas about responsibility in reproduction, pregnancy prevention, and/or sex are influenced by PRESENCE OR ABSENCE of conversations with male friends regarding the topics |
| Conversations with family (mothers, fathers, siblings, etc.) | -Presence of these conversations<br><br>-Absence of these conversations<br><br>-Presence of these conversations with certain family members & absence of these conversations with | Participant expresses that their ideas about responsibility in reproduction, pregnancy prevention, and/or sex are influenced by PRESENCE AND/OR ABSENCE of conversations with family members regarding the topics |

| | | |
|---|---|---|
| | other family members | |
| Conversations with previous or current sexual partner(s) | -Presence of these conversations<br><br>-Absence of these conversations | Participant expresses that their ideas about men's responsibility in reproduction, pregnancy prevention, and/or sex are influenced by PRESENCE AND/OR ABSENCE of conversations with previous or current sexual partner(s) |
| Media | -Social media<br><br>-Other more traditional media outlets like TV, movies, etc. | Participant expresses that their ideas about responsibility in reproduction, pregnancy prevention, and/or sex are influenced by social media posts/communications or other more traditional media outlets (like TV or movies) regarding the topics |
| Religious/spiritual proceedings/teachings | | Participant expresses that religious/spiritual proceedings or events or experiences influenced their understanding of men's responsibility in pregnancy prevention |
| Sex education | -Did influence<br><br>-Did not influence | Participant expresses that sex education either DID or DID NOT influence their understanding of men's responsibility in pregnancy prevention |
| | | |
| 2) How do cis-men adults experience, choose, and navigate contracepting with such limited methods (condoms, vasectomies, abstinence, pull out)? Do men want to take responsibility for their contracepting but can't because of a lack of options? | | |

| Code | Sub-code(s) *if applicable* | Definition/Explanation |
|---|---|---|
| Skepticism/doubt | -Regarding considering abstinence as a 'valid' male birth control option<br><br>-Regarding the ability to reverse vasectomy procedures | Participant expresses skepticism or doubt about available male birth control options which impacts their interest in trying or using the intervention |
| Partner familiarity/comfort/trust | | Participant expresses that the selection of male contraception depends on partner familiarity and the trust that is or is not established thereafter |
| Perceived 'naturalness' of the male birth control option | | Participant expresses that selection of male contraception is influenced by conceptions of 'naturalness' of the male intervention. Specifically, male contraception decisions are influenced by the tendency to avoid 'unnatural' male birth control interventions and, relatedly, by the tendency to select birth control options that appear more 'natural.' Individual definitions of 'natural' can be different here. |
| Reliability/efficacy | -Pertaining to the male birth control intervention<br><br>-Pertaining to a female birth control intervention their sexual partner(s) are using | Participant expresses that selection of male contraception is influenced by the perceived reliability/efficacy of the intervention--whether this is the reliability of the male intervention or the reliability of a female intervention their sexual partner(s) are using. |
| Reversibility/impermanence | | Participant expresses that the selection of male contraception depends on perceptions of reversibility/impermanence |

| | | |
|---|---|---|
| Fear of side effects | | Participant expresses that the selection of male contraception depends on fears of perceived or potential side effects from using or wearing the contraception. this can be articulated generally or through more detail, such as referring to specific side effects like decreased sex drive or potential birth defects in children. this is distinct from 'lack of consumer compatibility' because lack of consumer compatibility would prevent men from using a particular contraceptive due to lack of physical compatibility with the intervention. Whereas 'fear of side effects' might prevent consumer use, but consumers could also be wary of side effects and continue to use the product(s). |
| Doing my best with the male birth control options at hand | -Successful<br><br>-Unsuccessful<br><br>-Both successful and unsuccessful (at the same or different time points) | Participant expresses that men's responsibility/role in pregnancy prevention is to essentially 'do the best they can with what's available' which refers to using the limited options of condoms, abstinence, pulling out, or vasectomies. this code will almost never be articulated explicitly.<br><br>-The sub-codes for this refer to whether or not cis-men articulate that they feel successful in exercising their limited agency to achieve their previously self-articulated definition of men's responsibility in pregnancy |

| | | |
|---|---|---|
| | | prevention.<br>1<br>This relates to the idea of exercising "agency without choice" (Mann & Grzanka, 2018). |
| Based on reproductive anxiety or lack thereof | | Participant expresses that feelings of unease or nervousness about having children impact the male contraception decisions |
| Based on life stage | | Participant expresses that the stage in their life or life position impact male contraception decisions |
| Based on lack of desire to procreate | | Participant expresses that the general lack of desire to conceive or procreate impacts male contraception decisions |
| Accessibility | -<u>Financial</u><br><br>-**Physical** | Participant expresses that the accessibility of the male contraception options impacts decisions about contracepting. This can refer to <u>financial accessibility</u> (is it cheap/affordable, or expensive/non-affordable, or insured/not insured) or **structural accessibility** (do you have physical access to or means to access the contraception option; **e.g. physical access** to a doctor that would prescribe the intervention or to the store that would sell the contraception) |
| Lack of familiarity with the male birth control option | | This can refer to either not having much information about the intervention, the fact that the intervention is novel or 'too new' to know much about, and/or that they don't know people who have successfully used the intervention |

| | | |
|---|---|---|
| By level of protection | -Pregnancy<br><br>-STI/STD<br><br>-Both levels of protection | Participant expresses that the level of protection of the male contraception impacts decisions about using it--in other words whether it offers pregnancy protection only, STI/STD protection only, or both |
| Perceived ease of use of the male birth control option | | Participant expresses that the perceived ease of use of the intervention impacts decisions about contracepting with that option. their definitions of 'easy' can and will differ here. For example, someone might think that a long-acting intervention is 'easier' than a daily but someone else might offer that a daily intervention would be 'easier' to implement for their life |
| Based on how the male birth control option makes sex feel | | Participant expresses that the perceived impact on how sex feels influences men's contraception decisions |
| Lack of consumer compatibility | -Regarding the men who would be wearing or using the male contraception<br><br>-Regarding the sexual partner(s) who would be coming into contact with the male contraception | Participant expresses that male contraception decisions are influenced by lack of consumer compatibility, which (for the purposes of this research) is defined as a physical incompatibility. This consumer incompatibility could be because of personal allergies or medical conditions, for example, that impact what contraception interventions are compatible with men's bodies, or with the sexual partner(s) they have, and thus impact what male contraception options are even used or tried. |

| | | |
|---|---|---|
| 3) How do my participants frame the impacts of having children? Do they conceptualize the impacts in ways beyond physical risk? | | |
| **Code** | **Sub-code(s) *if applicable*** | **Definition/Explanation** |
| Financial impact | | Participant articulates that financial stability or financial risk are part of the consideration about if/when to have children |
| Emotional impact | | Participant articulates that emotional maturity/positioning influences men's consideration about if/when to have children. this could also be articulated through comments invoking perceived emotional impact of having children. |
| General life impact | | Participant articulates that the overall life impact of having children is of consideration when deciding if/when to have children. **This code excludes explicit comments about emotional or financial impact, since emotional and financial impact are separate codes.** |
| | | |
| 4) What do cis-men think about novel male birth control options? Are they receptive or excited or offput by the idea? | | |
| **Code** | **Sub-code(s) *if applicable*** | **Definition/Explanation** |
| Interested, but skeptical of structural support or access | | Participant expresses interest in novel male birth control options, but that structural issues would have to be figured out before being willing to try novel |

| | | |
|---|---|---|
| | | interventions. these structural issues can be in the form of, for example, access to doctors (for prescriptions or check-ins), insurance coverage of novel male birth controls, or other structural issues |
| More male birth control options means more control/autonomy over sex and reproduction | | Participant expresses interest in more male birth control options is related to the idea of having more control over their decisions and/or body in relation to sex and reproduction<br><br>This code relates to "reproductive self-determination" (Takeshita, 2012, p. xii) |
| Interested in having more male birth control options | -Moderate interest<br><br>-High interest | Participant expresses general interest in novel male birth control options, but does not elaborate on the level of interest<br><br>The sub-code for this just asks to differentiate between those that express moderate or high levels of interest in novel male birth control options. high interest in novel male birth control options could be expressed by saying things like "I would try it immediately" or "I'm very interested." Whereas moderate interest might be expressed through statements like "that sounds interesting" or "I would consider the birth control method." |
| Increasing contribution to shared pregnancy prevention responsibility | | Participant expresses interest in novel male birth control options for the reasons of more equitably sharing the |

| | | |
|---|---|---|
| | | responsibility of pregnancy prevention with sexual partner(s). In other words, men express they are interested because they would be able to increase their ability to contribute to the articulated shared responsibility of pregnancy prevention |
| Complacency | | Participant expresses that they are not particularly interested in novel male birth control interventions because they are more-or-less comfortable/complacent with the options they have now. this could be expressed with or without acknowledging that novel male birth control options might be beneficial or interesting to other cis-men |
| Interested for increased "peace of mind" | | Participant expresses that they are interested in novel male birth control interventions because they would offer more "peace of mind" and less worry after having sex |
| | | |
| 5) What do men name as barriers to their access to/use of novel male birth control options? | | |
| **Code** | **Sub-code(s) *if applicable*** | **Definition/Explanation** |
| Physiological differences | | Participant articulates that different physiology, such as the fact that women bear the fetus/child has/does impact the concentration of R&D efforts for female birth control interventions, as opposed to male birth control interventions. |

| | | |
|---|---|---|
| Gender stigma | -Perceived biological differences | Participant articulates that social norms/stigmas that heavily associate female bodies with parenthood, motherhood, reproduction, birth & birth control, etc. result(ed) in concentration of R&D efforts for female birth control interventions, as opposed to male interventions. This can also be expressed through invoking ideas about "Provider bias against male involvement" (Oudshoorn, 2003, p. 146) where providers (doctors/medical professionals and/or insurance companies) assume men don't want or won't take birth control (this is rooted in social stigma associated with gender norms, so it is included here). This can also be expressed explicitly.<br><br>**One variation of gender sigma concerns how gender stigma impacts our conception of our biological selves,** which is what the sub-code is describing here. This subcode is to be applied when participants articulate that biological differences are (one of) the reason(s) for why birth control interventions have been concentrated in female reproductive bodies--i.e. because female bodies are perceived to be more easily alterable/controllable/monitored for this specific intervention type (i.e. birth control interventions for the purposes of monitoring reproduction). |

| | | |
|---|---|---|
| | | This relates to Almeling's (2020) concept of the feedback loop that's been established between women's bodies and ideas/interventions surrounding reproduction and family planning. |
| Market interests | -Differences in past consumer pressures<br><br>-Differences in present consumer pressures<br><br>-Differences in past and present consumer pressures | Participant expresses that women/child-bearers have a more vested interest in birth control interventions, so they have created (past tense) or do still create (present tense, or both) more demand/pressure for the birth control interventions to enter the market as opposed to men. this can include conversations about how side effects are perceived to be too great for men in male birth control clinical trials since they have less of a vested interest in preventing pregnancy, thus impacting the intensity of men's consumer pressures for birth control interventions and decreasing the threshold for acceptable side effects for male populations. |
| Business profitability | | Participant expresses that businesses or pharmaceutical companies might be wary to jeopardize losing female birth control consumers/market power by introducing diverse novel male birth control options |
| Research & development (R&D) foci | | Participant expresses that the product of focusing on female contraception R&D and commercialization for so long has resulted in structural bias to support easier female |

| | | |
|---|---|---|
| | | contraception development as opposed to male contraception development. This could be expressed through comments suggesting that it has just gotten logistically easier to produce female contraception now that that has been the R&D focus for so long. |
| | | |
| 6) Miscellaneous | | |
| **Code** | **Sub-code(s)**<br>***if applicable*** | **Definition/Explanation** |
| "Other" | | If anything stands out that should be coded and recognized in analysis but that wasn't captured by the codebook, then code it as "other" for consideration later. |
| Interesting quotes/dialogue | | Code interesting quotes/dialogue for consideration later. |

# APPENDIX D

## POST-*DOBBS* FOLLOW-UP SURVEY

This appendix includes the content of the follow-up survey that I send out to participants.

---

**Focus Group Follow-Up Survey:**

Hello! I hope your summer months were enjoyable. I am following up on the focus group about male birth control/contraceptives that you participated in in April. Due to the recent overturning of Roe v. Wade and, with it, federal abortion protections, I kindly ask that you complete the follow-up survey below so that I can better understand your thoughts on male birth control in the context of current events.

Thank you so much for your time and help! Please email me if you have any questions.

The following few paragraphs will give a brief description of recent events. This is necessary to ensure that we are all on the same page and have the same information in mind when responding to the follow-up survey. So, please read the following paragraphs if you have any questions or uncertainties about current abortion access, especially for Arizona. However, if you feel properly informed about the recent overturning of Roe v. Wade and, with it, federal abortion protections, then feel free to skim or skip the following informational section:

Roe v. Wade (1973)

In the early 1970s, a woman under the pseudonym Jane Roe legally challenged the then-district attorney for Dallas County, Texas, Henry Wade, over a law in Texas making abortion criminally illegal except by doctor's permission under the reason of saving the mother's life. Roe argued this violated her right to privacy under the Constitution, which is protected by the First, Fourth, Fifth, Ninth, and Fourteenth Amendments. Responding to the question of "Whether the Constitution legally recognizes and protects a woman's right to terminate her pregnancy by abortion?" the Supreme Court voted 7-2 in favor of Roe. The Supreme Court recognized that the Fourteenth Amendment inherently contains a right to privacy, and a right to terminate a pregnancy through abortion is covered under a right to privacy. However, the state possesses an interest in protecting the health of the pregnant woman and the unborn fetus. Because of this decision, the Supreme Court concluded that in the first trimester, there is unrestricted abortion access. And, during the second trimester, the state can introduce abortion restrictions that are 'reasonably' related to maternal health. Finally, during the third trimester and after the fetus has reached viability (the threshold where the fetus is assumed to be viable/able to survive outside of the womb), the state can severely or entirely prohibit abortion, granted exceptions for maternal health are permitted. For more information please

visit *Roe v. Wade* (1973) and JUSTIA (2022).

Dobbs v. Jackson Women's Health Organization (2022)

In 2018, Mississippi passed a "Gestational Age Act" law banning all abortions, with few exceptions, past 15 weeks. The only licensed abortion clinic and one of its doctor led a lawsuit challenging this law and requesting an emergency temporary restraining order. The district court in Mississippi prohibited the Mississippi law from taking effect due to the fact that the State of Mississippi failed to provide evidence that a 15 week-old unborn fetus has reached viability. And, since the Roe decision prohibits abortion bans pre-viability, deemed this "Gestational Age Act" law unconstitutional. The U.S. Court of Appeals for the Fifth Circuit affirmed the district court's decision. The case was then taken up to the Supreme Court in 2021. After hearing arguments and deliberating, a 6-3 ruling declared that the "original intent" of the Constitution should be considered when deciding this case and, upon review, there is not explicit mention of Constitutional recognition or protection for abortions. The Supreme Court's decision reverts the decision about abortions and abortion access back to the states. For more information please visit: *Dobbs v. Jackson Women's Health Organization* (2022) and Legal Information Institute (2022-a).

Since Dobbs v. Jackson Women's Health Organization, access to abortion has shifted significantly. A full abortion ban, with very few, if any exceptions, now exists in 12 states (these include Idaho, South Dakota, Wisconsin, Missouri, Oklahoma, Texas, Louisiana, Arkansas, Mississippi, Alabama, Tennessee, and Kentucky). Two more states (Ohio and Georgia) have since banned abortion after six-weeks, which is around the time most people begin to nd out they are pregnant. Florida has banned abortion after 15 weeks, Utah after 18 weeks, and North Carolina after 20 weeks. Indiana and Arizona have bans that are coming into existence later this month. Judges have temporarily blocked abortion bans in 7 other states (Wyoming, West Virginia, South Carolina, Montana, Michigan, North Dakota, and Iowa).
See The New York Times (2022) to explore this information further.

Arizona specifically has an abortion ban after 15 weeks of pregnancy that is taking effect on the 24th of this month--less than three weeks away--with rare exceptions only for 'extreme medical cases.' The day after the Dobbs decision, 9 of the 10 abortion clinics in Arizona stopped offering abortion procedures. Thus, even if legal access to abortion is permitted up to a certain gestational period, the ability to access abortion procedures brings along another set of problems. However, some political leaders (such as Arizona's current Attorney General, Mark Brnovich, and Arizona's current Governor, Doug Ducey) are calling on Arizona courts to re-enact an Arizona territorial law that bans all abortions, including cases of rape and incest, except those medically necessary for

maternal health. This territorial law would make abortion access and assistance a felony crime. Therefore, while abortion access is being restricted in Arizona at the moment, there is consideration of eliminating abortion access altogether in the near future. See Lakhani (2022) for more information.

1. Please list your email.

2. How, if at all, have your feelings about men's responsibilities in pregnancy prevention shifted as a result of the Supreme Court's decision to overturn federal abortion protections?

3. How, if at all, has your desire to have access to more diverse male birth control options been impacted by the Supreme Court's decision to overturn federal abortion protections?

4. The following set of three questions requires you to think about your opinions at the time of the focus group and your opinions now.
During the focus group, you were presented with the following hypothetical scenario: Imagine there is a long-acting male birth control option that becomes available for use. The birth control involves receiving one shot in which a 'blocking' gel is injected into your vas deferens—the tube that carries the sperm from the testicles. This means you still cum, but the cum is sterile or 'blank'. The procedure occurs under LOCAL anesthesia, so you don't feel it, and can last up to 10-15 years. Then, when you are ready to have children or your life-circumstances change, there is another 'dissolving' substance injected once more into the same spot in your vas deferens that dissolves the barrier. Your sperm count returns to normal levels within 4-6 weeks.
Please quantify/rate your interest level in trying the hypothetical long-lasting male birth control option AT THE TIME OF YOUR PARTICIPATION IN THE FOCUS GROUP.

- **SCALE: 1 (I'm not interested in trying this male birth control option at all) – 10 (I would absolutely try this male birth control option)**

5. Now that federal abortion protections have been overturned, please quantify/rate your CURRENT INTEREST (1-10) in trying the hypothetical long-lasting male birth control option that we discussed in the focus group.

- **SCALE: 1 (I'm not interested in trying this male birth control option at all) – 10 (I would absolutely try this male birth control option)**

6. Please explain your responses to the previous two questions. In other words, respond to the following prompt:
How, if at all, has the Supreme Court's decision to overturn federal abortion protections impacted your interest in trying this hypothetical long-lasting male birth control option?

7. Thank you so much! I appreciate you taking the time to complete this follow-up survey. If you have anything to add about how, if at all, the Supreme Court's decision to overturn federal abortion protections has impacted your thoughts on male birth control, please leave them here: _____.