ABSTRACT

Title of Dissertation:	RACIAL DIFFERENCES IN PROTECTIONS AGAINST PREGNANCY: COMPETING GOALS AND DECISIONS
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Racial disparities in unintended pregnancy are largely related to differences in contraceptive practices. Black women are less likely to use an effective contraceptive and more likely to discontinue a method compared to their White counterparts. More concerning is that the Black-White gap in these protections against unintended pregnancy may have widened over time. Reasons for these racial disparities and the pathways to contraceptive practices that leave at-risk women vulnerable to unintended pregnancy are unexplained This project addresses some of the existing gaps in the literature by using a mixed-methods approach to 1) investigate the various factors contributing to Black-White differences in contraceptive practices over time and 2) explore the contraceptive decision-making of women at high risk of unintended pregnancy. Using multinomial logistic regression and a Fairlie decomposition on data from the National Survey of Family Growth 1988 and 2011-

2015 survey cycles, I analyze contraceptive use and effective method choice of young adult women. Results reveal that the Black-White gap in contraceptive practices in 2011-2015 are 2-3 times larger than in 1988. Very few factors were statistically significant at explaining the 13% Black-White difference in 2011-2015. Interviews with Black women in Philadelphia were used to improve our understanding of contraceptive practices that are less effective at protecting against pregnancy. Findings highlight criteria for method selection, concern for STDs, and partner trust as key factors guiding contraceptive practices.

RACIAL DIFFERENCES IN PROTECTIONS AGAINST PREGNANCY: COMPETING GOALS AND DECISIONS

by

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Dissertation submitted to the Faculty of the Graduate School of the
University of Maryland, College Park, in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
2018

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Dedication

To my sisters around the world who are confronting adversity in the pursuit to become their possible selves.

Acknowledgements

I am grateful for the funding opportunities at the University of Maryland. Being awarded the Maryland Population Research Center's 2016 Summer Research Grant and the 2017 Dean's Dissertation Research Initiative made this work possible. Thank you to the award committees for recognizing the importance of this work and investing in its success.

Thank you to my fiancé, who survived the emotional roller coaster that is being the significant other of a doctoral candidate. Can't wait for our post-doc life together. I know it'll be a thrill ride of its own.

My deepest appreciation goes out to my best friend, Laferguson. No matter what strains you experienced in your life, you were consistently present and supportive throughout my PhD program. We shared my frustrations and joys. You assisted in hanging flyers for recruitment. You opened your home to me during my travels for data collection. And when we were apart, you encouraged me with the best long-distance high fives. This is our dissertation! …We made it.

Finally, to the women who trusted me with their life stories. You have elevated my research and motivated my efforts to fight for reproductive justice and health. I thank you and will ensure that your experiences are heard.

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Chapter 1: Introduction

Statement of the Current Problem

Unintended pregnancies, either unwanted or mistimed, can have negative economic, emotional, and physical effects on both mothers and children (Guzzo & Hayford, 2014; Kost and Lindberg, 2015). With close to half of all pregnancies being unintended, the United States has made it a public health goal to reduce its occurrence (NCHS, 2000). In spite of the recent decline, from 51% of all pregnancies in 2008 to 45% in 2011 (Finer & Zolna, 2016), disparities in experiencing an unintended pregnancy persist. Unplanned pregnancy particularly burdens poor women, lower educated women, and Black women. Rates of unintended pregnancy among those who are below the federal poverty level are two times the national average (Finer & Zolna, 2016). Similarly, the rate for Black women is more than double that of non-Hispanic White women (Finer & Zolna, 2014).

To enhance health and reduce the burden associated with unintended pregnancies, significant attention and research efforts have been dedicated to understanding methods of prevention, namely contraceptive use. Contraception is a key proximate determinate of fertility (Bongaarts 1978; Davis and Blake, 1956) and data strongly indicate that contraceptive use is associated with lower rates of unintended pregnancy (Trussell, 2011; Goldsmith, 2016; Sundaram et al., 2017). Therefore, a crucial strategy for sexually active women to delay or avoid pregnancy is the consistent and correct use of an effective contraceptive method. Nevertheless,

many at-risk women are not utilizing this strategy and use rates are relatively low among particular groups.

Among women who are sexually active and do not wish to become pregnant, Black women are significantly less likely than White women to use any contraceptive (Upson et al., 2009; Jones et al., 2012; Grady et al., 2015) and they are also less likely to use an effective method (Jacob and Stanfors, 2013; Rocca and Harper, 2012; Shih et al., 2011). Furthermore, Black women have relatively higher rates of contraceptive discontinuation and inconsistent use (Wu et al., 2008). These differences in contraceptive strategies are leaving Black women largely vulnerable to unintended pregnancy and the negative outcomes associated with such fertility. Although Black-White differences in contraceptive use are well documented, the causes of Black women's less effective contraceptive practices are still unclear (Sweeny & Raley, 2014). For example, many have argued that race differences in contraceptive behaviors reflect economic disparities, though a study by Dehlendorf et al (2011) reveals that even when the financial barrier is removed, Black-White differences in method selection remain. Others have even examined if contraceptive knowledge explains racial disparities, but find no significant impact (Craig et al., 2014; Rocca & Harper, 2012).

While access and knowledge have not been found to be barriers to effective contraceptive practices among Black women, it is possible that attitudes toward contraception in general or about specific methods may shed some understanding of the race gap in contraceptive strategies. Theories of behavior, especially those involving health, find a strong link between attitudes and behaviors (Fishbein &

Ajzen, 1975; 1980). Therefore, attitudes toward and experiences with contraception are likely to help shape women's contraceptive decisions. Yet, Black women's attitudes towards contraceptive have not been extensively explored –especially among adult women.

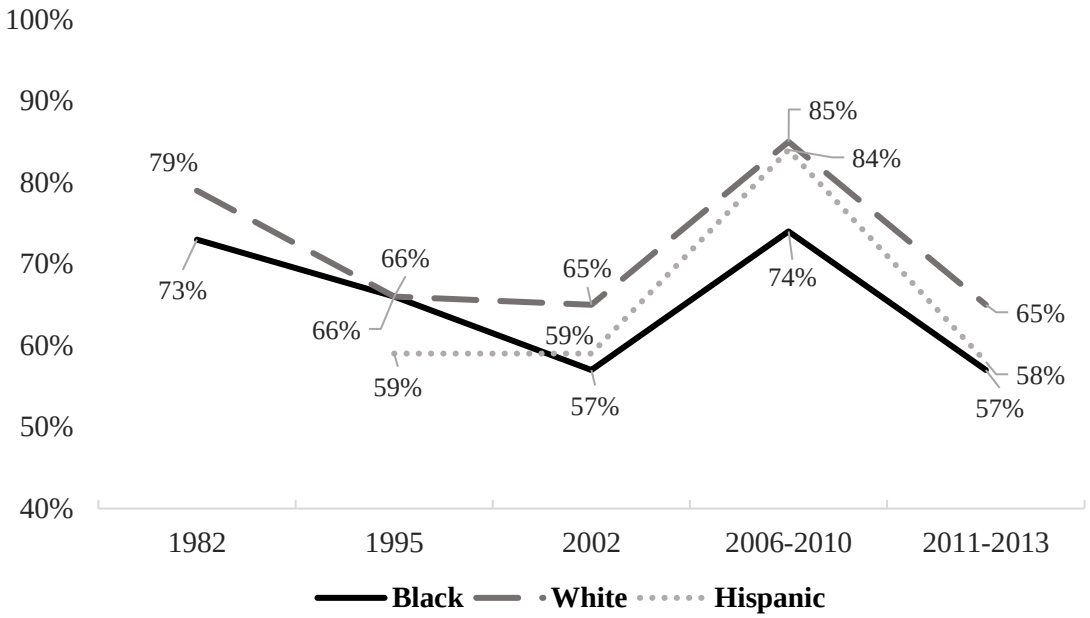
Statement of the Problem over Time

Research has suggested that increasing education and reducing poverty are critical to improving contraceptive practices (United Nations, 1995; Martin, 1995; United Nations, 2005). However, in the United States, racial disparities in use and effective method choice persist despite the rise in the Black middle class and large increases in college and higher degree attainment by Black women. More concerning is the finding that the Black-White gap in contraceptive practices is worse today than in prior decades (Jacobs & Stanfors, 2013).

Studies based on the National Survey of Family Growth suggest that Black-White differences in contraceptive practices have fluctuated over time, especially since the 1980s (Mosher & Bachrach, 1986; Mosher et al., 2004; Abma et al., 1997; Jacobs and Stanfors, 2013; Daniels et al., 2014; Daniels et al., 2015). Based on published data, Figure 1 illustrates the trends in contraceptive use by race. The trend may waver given the difference in sample definitions across studies, but it is clear that the Black-White gap in use has increased over time. The race gap has also grown for the effectiveness level of methods chosen. For example, in the 1980s among contracepting women, Black women were more likely than White women to use the most effective contraceptive methods (Mosher & Bachrach, 1986; Mosher et al., 2004). However, in 2011-2013, Black and Hispanic women were significantly less

likely to employ an effective contraceptive method compared to their White counterparts (Daniels et al., 2014; Daniels et al., 2015).

Figure 1. Percentage of Women Ages 15-44 Using any Contraceptive Method by Race/ethnicity, National Survey of Family Growth 1982-2013



Although the shift in contraceptive practices by race is apparent when comparing across previous studies, little research has given the change much recognition, nor has examined it rigorously. While the aforementioned studies (Mosher & Bachrach, 1986; Mosher et al., 2004; Abma et al., 1997; Jacobs and Stanfors, 2013; Daniels et al., 2014) all use the NSFG, they often used different indicators and sample definitions across analyses, which limits the comparability of findings. Much of the research that looked at the association between race and contraceptive behaviors over time did not control for socioeconomic, sexual, and reproductive characteristics. Such factors are key to understanding contraceptive practices and may help to explain racial differences. Other more dated examinations

did not distinguish the trends among women at risk of unintended pregnancy. Not accounting for women's pregnancy intentions misrepresents motivations to use contraception (in this case, for the purpose of avoiding/delaying pregnancy). Moreover, factors contributing to these changes in Black-White differences have not been empirically examined.

This Study: Overview

This project addresses some of the existing gaps in the literature by using a mixed-methods approach to explore the various factors contributing to Black-White differences in contraceptive practices over time. This project specifically examines how individual, interpersonal, economic, and cultural factors shape the contraceptive behavior of young adult women at-risk of unintended pregnancy. A mixed-methods analysis is needed to move forward our understanding of contraceptive strategies of protecting against unintended pregnancy. Previous research using nationally representative data has failed at fully explaining racial differences in contraceptive practices. It is often reasoned that the persistence of racial variations are due to cultural or attitudinal differences, however few studies have used large data sets to capture attitudes or beliefs. A qualitative analysis could bridge this gap by allowing the investigation of more complex influences on contraceptive practices that are not possible using secondary data.

The limitations of currently available secondary data are recognized, however the usefulness of these data are not to be underestimated. The quantitative portion of this study uses data from the National Survey of Family Growth (NSFG), which

allows for a detailed investigation of Black-White differences in the levels, trends, and determinants of contraceptive practices and changes over time. Specific contraceptive method choices are compared between 1988 and 2015. A series of regression models are then used to examine the statistical significance of Black-White differences over time when holding key variables constant. The quantitative portion of this study is a rigorous inspection of trends over time in race differences in protecting against unintended pregnancy.

To advance the understanding of unintended pregnancy, as well as improve the lives of women, children, and families, it is crucial to examine the precursors to contraceptive practices which leave at-risk women most vulnerable. Although the quantitative analysis allows us to study Black-White disparities in contraceptive behavior in recent decades, it provides only limited explanations for why the most vulnerable women appear to use the least effective contraception. For this reason, we also use qualitative methods to delve into the factors shaping contraceptive decisions made by women who are at high risk of unintended pregnancy. To examine a subset of such women, in-depth one-on-one interviews took place with Black women living in Philadelphia. Given their distinct contraceptive trends, Black women provide a unique population which gives valuable insight to this fundamental process.

Overall, both methodologies examine the contraceptive strategies of women at-risk of unintended pregnancy. As a first step, the quantitative analysis looks across time to update and quantify recent Black-White disparities in protective contraceptive practices. Like previous research, the analysis fails to explain away these Black-White differences. Then, the qualitative interviews delve deeper into an era of large

Black-White disparities in effective contraceptive practices to understand the decisions made by women at greatest risk of unintended pregnancy. The interviews, which took place in 2016 and 2017, illustrate the complex decision-making process related to the use of contraception and the choice of method. The interviews provide a nuanced understanding of the choices that continue to leave at-risk women vulnerable to unintended pregnancy.

Chapter 2: Literature Review

This study aims to better understand the changes and complexities driving Black-White differences in contraceptive practices. Volumes of research have shown that health behaviors reflect a wide range of socioeconomic, cultural-historical and contextual factors (Williams & Collins, 1995; Dubowitz et al., 2011; Williams et al., 2016), and many of these same factors are central to our understanding of contraceptive behaviors. Nonetheless, such avenues do not fully explain racial disparities (Sweeny & Raley, 2014), and research has found that there are racial differences in how individual-level determinants affect health behaviors (Dubowitz et al., 2011; Sweeny & Raley, 2014). In the 1960s and 1970s scholars used Knowledge, Attitude and Practices (KAP) surveys to examine the substantial proportion of women who wanted no more children, but were not using contraception (Bongaarts, 1991). KAP surveys essentially measured women's knowledge of, attitudes toward, and practice of contraception (Freedman et al., 1974). At the time, many believed improved knowledge about and access to contraception would outweigh cultural or attitudinal obstacles (Westoff, 1988), while others asserted expansion of family planning programs would not do much good without addressing cultural and familial factors (Bongaarts & Bruce, 1995). Nonetheless, propositions implied by KAP surveys have influenced today's literature on unintended pregnancy and contraceptive use.

To identify key factors that may explain racial differences in contraceptive practices, this literature review concentrates on Black-White differences in knowledge, access, and attitudes. After reviewing those elements, historical Black-White differences in

the context of sexual health are explored as a possibly critical factor to understanding contraceptive method selection as a strategy for meeting sexual and reproductive goals.

Knowledge

Individuals, especially young women who often bear the heaviest burden of consequences, must have knowledge of key sexual and reproductive topics to make informed decisions that ensure their well-being. To protect against pregnancy, one must accurately understand the reproductive process and the methods of preventing conception. Misunderstandings of the two leave women vulnerable to unintended pregnancy. Thus, racial differences in reproductive and contraception knowledge have been explored as possible contributors to disparities in rates of unintended pregnancy.

Sex Education. It has been found that 50 percent of reproductive age women across all races have misperceptions of fertility with Black women being the least likely to understand the fertile window (Yano et al., 2014). Sex education is a program specifically geared at addressing these misunderstandings and providing knowledge other topics of importance for protecting sexual and reproductive health. Despite public controversy, most experts advocate formal and parental sex education for adolescents (Breuner & Mattson, 2016) –and some even recommend formal sex education for adults (Kaye et al., 2009). Racial differences in sex education could possibly contribute to racial disparities in adverse sexual health outcomes. Notably, racial differences in sex education fluctuate over time. A study comparing data from 1995 and 2002 (Lindberg et al., 2006), demonstrates that in 1995 there was no

statistically significant differences in formal contraceptive sex education by race. Yet by 2002, Black and Hispanic women were significantly less likely to report receipt of formal contraceptive sex education compared to White women. On the other hand, a similar study found no statistically significant racial differences in contraceptive sex education by parents in 1995 or in 2002 (Robert & Sonenstein, 2010). More recent examinations of racial differences in sex education note that almost all women (95%) have received some formal education and a large majority (75%) have received sex education by parents (Vanderberg et al., 2016). The authors found no statistically significant racial differences in contraceptive sex education.

Despite racial similarities in receipt of contraceptive sex education, differences in contraceptive use and method selection persist. Most women are likely to receive formal sex education, however the content and quality is not uniform nationwide (Guttmacher Institute, 2017). As a result, sex education about contraceptives may have varying impacts on contraceptive practices. Moreover, actual measures of knowledge about contraception may have a stronger association with contraceptive practices than sex education.

Available Methods. Disparities in contraceptive knowledge have been explored as a possible cause for racial differences in contraceptive method choice. Using the National Survey of Reproductive and Contraceptive Knowledge (NSRCK), researchers have identified racial disparities in awareness of available contraceptives, knowledge of correct use, and facts about specific methods. Assessments reveal that White women had higher awareness and knowledge of contraceptives compared to their Black and Hispanic counterparts. However, knowledge and awareness of

specific methods among Black women were only slightly lower than White women (Craig et al., 2014; Rocca & Harper, 2012) and this difference did not explain Black and Hispanic women's use of less effective contraceptive methods (Rocca & Harper, 2012). As being aware of currently available methods did not lead to greater use of effective methods, other factors may be working as a mediator between knowledge and contraceptive practice.

Access

Access can be a barrier between knowledge and practice. For example, even if a woman is aware of various contraceptives and wants to use a specific one, she may be unable to obtain it because of her geographic location and/or financial situation. Previous research documents disparities in reproductive health services (Chandra et al., 2005; Chuang et al., 2012) and method selection (Kahn et al., 1990) among women living in rural areas compared with women in metropolitan areas. Distance to family planning services could thwart contraceptive use as some women may not have transportation or time to travel. If a woman has the ability to visit a clinic, distance could encourage use of a long acting reversible contraceptive or condoms versus a monthly method like an injection which would require more frequent trips to a provider or pharmacy (Jones, Mosher, & Daniels, 2012). How geographic differences contribute to racial disparities in contraceptive practices has not been thoroughly explored, though the association may be weak given the low proportion of minority groups in rural America compared to those found in urban areas.

Financial resources has also been regarded as a barrier to contraceptive use and method choice. Uninsured women are less likely than insured women to use contraception (Culwell & Feinglass, 2007) and more likely to report having experienced difficulties obtaining a prescription contraception or refills (Grindlay & Grossman, 2016). As minority women have been disproportionately uninsured (Ebrahim et al., 2008; Todd & Sommers, 2012), their limited access to health care is likely to contribute to racial disparities in contraceptive use and unintended pregnancies. Although the Affordable Care Act (ACA) decreased the uninsured rate among women of reproductive age, racial disparities in health coverage persist (Jones & Sonfield, 2016; Guttmacher Institute, 2017). Nonetheless, the impact of increasing insurance coverage may not directly translate into increased contraceptive use. Comparisons of contraceptive patterns before and after the implementation of ACA have found no significant changes in contraceptive use or method selection among sexually active women (Pace et al., 2016; Bearak & Jones, 2017).

Contemporary accounts from women who have experienced unintended pregnancies rarely focus on cost or access as a reason for nonuse of contraception (Edin et al., 2007; Sable et al., 2000). Research by Dehlendorf and her colleagues also suggests that financial barriers may not be a leading factor for racial disparities in method selection. Dehlendorf et al. (2011) examined claims data from a program which provides free family planning services to low-income residents in California. The researchers found that despite every contraceptive being free and available, compared to White women, Black women were more likely to choose a less effective method. Even in the context of financial equity, racial disparities in contraceptive

method choice could not be explained away. How financial barriers impact contraceptive use and method selection is unclear and may differ over time.

Attitudes

Research has shown that, on its own, knowledge is a poor facilitator of behavior (Morrison et al., 1994; Valente et al., 1998). While knowledge is key, theories of behavior have found a stronger correspondence between attitudes and subsequent behavior (Ajzen and Fishbein, 1975; 1980). Hence, the desire to avoid pregnancy may be the most essential attitude that motivates contraceptive use and method selection. In an attempt to identify factors which contribute to racial disparities in unintended pregnancy, some researchers have explored the desire to avoid pregnancy by race. Studies find that the desire to prevent pregnancy are similar across race (Barber et al., 2015; Hayford & Guzzo, 2013). However, there is a gap between stated desires and subsequent behavior. Using longitudinal data, Barber and colleagues (2015) find that despite similarly low levels of desire for pregnancy, in the 2.5 year study span, 25 percent of Black women compared to 17 percent of White women became pregnant. As shown by rates of unintended pregnancy, gaps between desires and behaviors are larger for Black and Hispanic women than White women at a national scale and across reproductive age.

Attitudes about the expected consequences of unintended births may act as a moderating influence on the association between pregnancy desire and behaviors to avoid pregnancy. It has been found that, compared to White women, Black women perceive less negative consequences of unintended pregnancy (Barber et al., 2015).

Research has even concluded that many minority and low-income women view unintended births as bringing greater meaning to their life (Edin & Kefalas, 2005). These optimistic attitudes and pregnancy ambivalence could lessen the drive to use any contraceptive or a more effective method.

Side Effects

Most contraceptives, especially the most effective methods, come with possible side effects including: nausea, weight gain, mood swings, irregular menstrual cycles, and others. Concern about experiencing side effects has been shown to influence contraceptive method choices, with Black women more apprehensive of side effects than their White and Hispanic counterparts (Guzzo & Hayford, 2012), especially in regard to some of the most effective contraceptive methods (Kaye et al., 2009). This fear of side effects may be leaving many women, especially Black women, vulnerable to unintended pregnancy via method discontinuation and avoidance of effective methods.

Eugenics

Historical discriminatory beliefs and practices towards minority women, including sterilization without consent (Stern, 2005) and coercive family planning counseling (Harrison & Cooke, 1988; Roberts, 2000) has shaped the way that Black and Hispanic women approach family planning decisions. Perceived as well as real discrimination has been well documented by health care and family planning research (Dehlendorf et al., 2010a; Dehlendorf, Krajewski, and Borrero, 2014a). Black and Hispanic women are more likely than their White counterparts to rate their family

planning visits unfavorably (Becker & Tsui, 2008; Forrest & Frost, 1996), to report feeling pressured to limit their family size by health care providers (Downing et al., 2007; Thorburn & Bogart, 2005a), and be encouraged to adopt long acting contraceptives (Dehlendorf et al., 2010b). Given this context of discrimination, many Black and Hispanic women may feel skeptical or uncomfortable with medical providers' positions on contraceptives.

Black and Latina women are more likely than White women to believe the government encourages contraceptive use to limit minority populations (Rocca & Harper, 2012). However, research shows that even when the belief is present, it does not have an impact on Black women's use of contraceptives. Among Black women who endorse contraceptive conspiracy beliefs, contraceptive use is still likely. However, these women are more likely to use over-the-counter methods and less likely to use provider-dependent methods (Bird & Bogart, 2003; Thorburn & Bogart, 2005b).

Sexual Health and Competing Goals

During the period between 2006 and 2010, Black women were more likely than any other racial group to use sexual and reproductive health services (Hall et al., 2012). However, trends by type of service sought revealed that Black women were more likely than White women to have used services for sexual transmitted diseases (STD) rather than for preventing pregnancy. Research suggests that contraceptive decisions are often tailored to match the risks that one perceives as most pressing, either pregnancy or STDs. Raine, Minnis, and Padigan (2003) found that women with

multiple sexual partners and those who believed their main partner had other partners were more likely to rely on condoms than a hormonal method as their primary contraceptive. In order to protect against possible STD contraction, many women employed condoms which are a less effective method for protecting against pregnancy.

Concern about STDs is important to consider when examining racial differences in contraceptive method choice, especially among young women. The Centers for Disease Control and Prevention (CDC) estimates that adolescents and young adults (age 15-24) make up about 25 percent of the sexually active population, yet they account for 50 percent of the 20 million newly sexually infected persons in the United States each year (SatterWhite et al., 2013). Furthermore, in the U.S., there is and has long been a large racial disparity in STD rates, with non-Hispanic Blacks disproportionately at higher risk. Trends of racial disparities in STD incidence over time in the United States has been recently documented (Chessen et al., 2016; Chapin-Bardales et al., 2017). Studies reveal that the Black-White difference in rates of gonorrhea, syphilis, and HIV substantially increased between the 1980s and 1990s. Although the rate of increase has slowed thereafter, the disparity has persisted over time. A 2013 CDC Sexually Transmitted Diseases Surveillance report details stark racial differences in STD rates. The report estimates that, among women aged 15-24 years, the rate of chlamydia infection is more than 4 times greater for Black women compared with White women and the rate of gonorrhea is 10 times greater. Furthermore, rates of HIV have consistently impacted the Black population

disproportionately. Among women diagnosed with HIV-infection between 2008 and 2011, 64% were Black (CDC, 2014).

Heightened concern about healthy sex practices began in the late 1980s during the HIV/AIDS epidemic. In the 1980s, HIV infection emerged as a leading cause of death in the United States (CDC, 1993). High rates of infection and reports from The Surgeon General (Office of the Surgeon General, 1986) prompted many safe sex campaigns that emphasized the importance of using condoms to protect against spreading and contracting HIV/AIDS. As racial and ethnic minority populations became disproportionately affected by the HIV epidemic, safe sex campaigns heavily targeted Black men and women. Today's safe sex advertisements are not as prevalent as in the past –or framed in the same way (i.e., know your status campaigns). However, the Black community remains a target population for such messages. Since the late 1980s, Black women may have had greater exposure to condoms as a suggested contraceptive than any other method.

Disease prevention and pregnancy prevention can become competing goals when selecting a contraceptive method. When choosing a method, women must weigh the risks and benefits of all available options. Although condoms are the only form of contraception that protects against STDs, they are not the most effective at preventing pregnancy. Nonetheless, women do not have to leave themselves vulnerable to one over the other. Dual method use is an effective strategy to simultaneously protect against unintended pregnancy and STD contraction. However, very few women use this approach (Cushman et al., 1998; Eisenberg et al., 2012; Higgins et al., 2014; Rosenberg, 2010) and some think it too much of a hassle to even

use one method (Frost et al., 2012), let alone two. As Black women are more exposed to STDs and have higher rates of unintended pregnancy, the dual protection that condoms provide may be the best method that meets their needs. Therefore, by using condoms to protect one's sexual and reproductive health, many women essentially opt out of using the most effective contraceptive strategy that prevents pregnancy. When up against incurable diseases such as HIV/AIDS, the choice of condoms is likely worth the lesser protection against pregnancy.

Discussion

Overall, the literature review has shown that many of the theorized factors associated with contraceptive practices do not explain Black-White differences in use or method selection. Although White women were found to be slightly better informed about available contraceptive methods and features than were Black women (Craig et al., 2014; Rocca & Harper, 2012), these differences did not explain racial differences in use of less effective methods (Rocca & Harper, 2012). While access can act as a barrier between knowledge and practice, recent research shows that access and health insurance do not weigh heavily on women's contraceptive practices (Bearak & Jones, 2017; Edin et al., 2007; Sable et al., 2000). Even when looking across women of similar economic circumstances, Black women are more likely to choose less effective methods than their White counterparts (Dehlendorf et al., 2011). If knowledge and access do not explain Black-White differences, what could possibly mediate their impact on contraceptive practices? As stressed by some scholars who

question whether promoting greater access will solve the problem of unmet need[1] (Bongaarts & Bruce, 1995; Cleland et al., 2014), it is important to consider how attitudes may prevent women from using adequate contraception.

In the literature reviewed, attitudes provided insight to understanding racial differences in the strategies women employ to protect against unintended pregnancy. Research documents differences in motivations to avoid unintended pregnancy via racial differences in pregnancy ambivalence (Schwarz et al., 2007) and expected outcomes of unplanned fertility (Barber et al., 2015). Such outlooks have been associated with less negative views about unplanned births, and therefore a lower likelihood of using or continuing with a method of contraception (Frost et al., 2007; Jaccard, 2009). Other attitudes more directly related to contraception were also informative for understanding Black-White differences in contraceptive use. Compared to White and Hispanic women, Black women were more apprehensive about side effects, especially for the most highly effective methods (Guzzo & Hayford, 2012; Kaye et al., 2009). Similar apprehension was also found for contraceptives in general. Black and Latina women were found more likely than White women to believe that the government pushes methods of birth control to specifically limit minority reproduction (Rocca & Harper, 2012). These attitudes, often referred to as conspiracy theories, were associated with use of less effective contraceptive methods (Bird & Bogart, 2003; Thorburn & Bogart, 2005b).

[1] Unmet need refers to the condition of wanting to avoid or postpone childbearing but not using any method of contraception

Despite its utility to possibly filling the gap between knowledge and practice, there has been little incorporation of attitudes in contraceptive research, largely because surveys do not ask attitudinal questions about contraceptive practices. In the current study, attitudes are at the center of the qualitative analysis in which young women are given the opportunity to share their own views on how they navigate contraceptive decisions. The richness of the qualitative responses complement the quantitative analysis by providing a more nuanced perspective on the reasoning behind the choices women make. The quantitative portion of the project primarily serves as an update of past research, highlighting the reversal of gains for Black women. However, the quantitative analysis will also include insights into Black-White differences in exposure to STDs. As detailed in the above summary of past research, condom use as disease prevention is a competing goal to using an effective contraceptive method for pregnancy prevention. Consideration of exposure to STDs and methods of protection reveal a rational circumstance in which less effective method choice (in this case, referring to condoms) is viewed as the best strategy of contraception. The quantitative analysis will explicitly explore condom use as contributing to observed racial differences in contraceptive method selection over time.

Chapter 3: Conceptual Framework

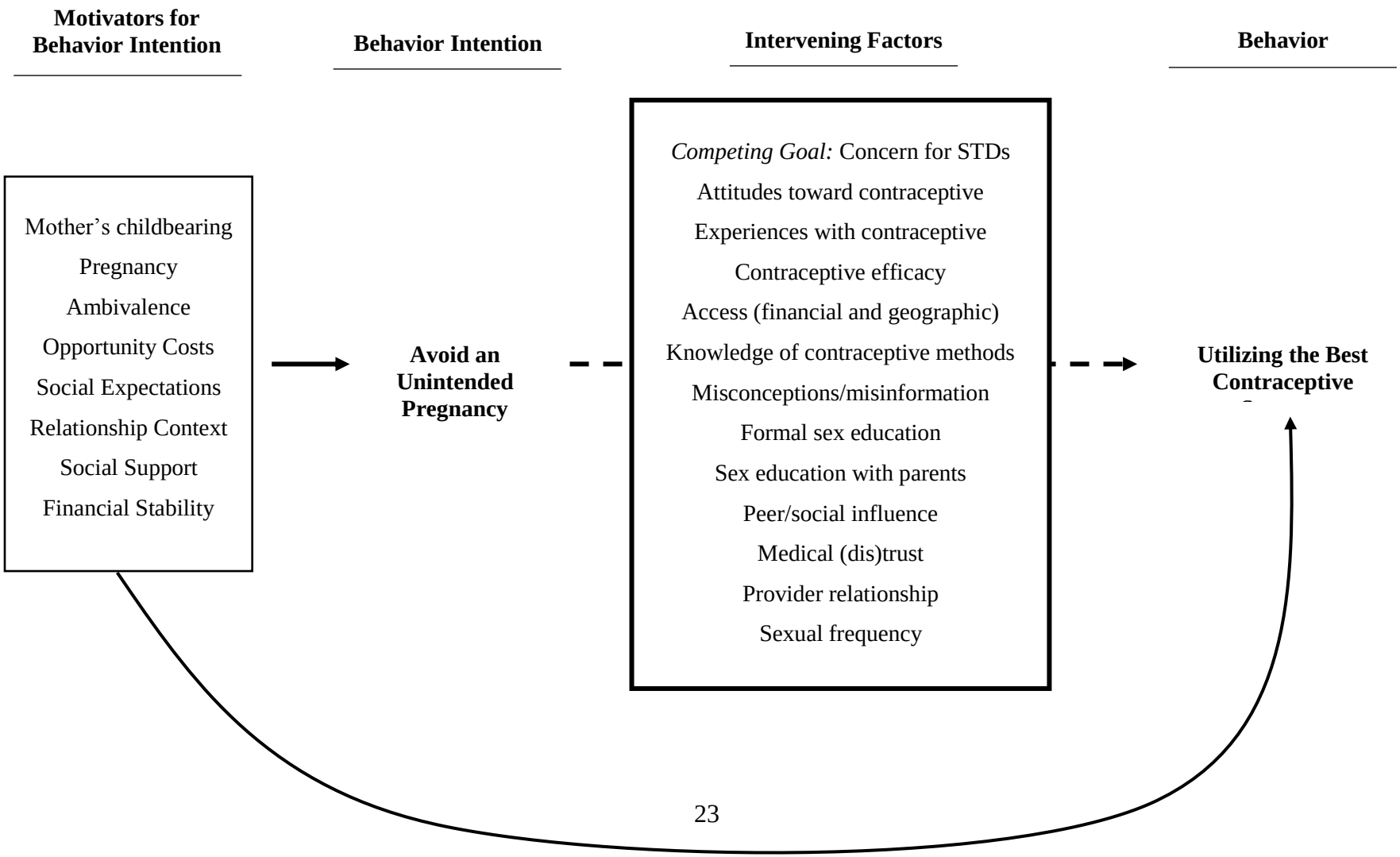
Much is still unknown about why Black women are consistently less likely than White women to use effective contraception. Knowledge of the reproductive system, awareness of available contraceptive methods, and access to methods (via financial resources and health insurance) did little to inform our understanding of racial disparities. The present study proposes a theoretical framework to guide our thinking about the factors that may account for the growing Black-White differences in protection against unintended pregnancy.

The theory of reasoned action and planned behavior are the leading theoretical frameworks underlying this study. Reasoned action models of behavioral intentions are based on the notion that attitudes toward a subject provide a reliable forecast of subsequent behavior when confronted with the subject (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980). However, as the theory of reasoned action acknowledges, there are factors which can limit the influence of attitudes on actions. Attitudes may provide a strong intent, yet circumstances may thwart the ability to enact an intended behavior. Recognizing these possible restrictions, reasoned action approximates behavioral intentions and not behavior itself. Behavioral intention is the antecedent of behavior, but it must overcome intervening factors. Later extensions of the theory of reasoned action connected behavioral intentions to actions (Ajzen, 1990). When behavioral intentions and actions align, such a phenomenon is referred to as planned behavior.

The theories are useful for understanding the decision-making process in protecting against unintended pregnancy, because they account for factors that can

influence behavioral outcomes. The model is appropriate for the current research because it gives primacy to the role of attitudes in shaping the behaviors that leave at-risk women vulnerable to unintended pregnancy. The theories also provide a framework or map to guide the selection, of variables and interpretation of results (Wang et al., 2006). In relation to employing the best strategy to avoid an unintended pregnancy, the conceptual framework has two components: 1) the desire to avoid or delay pregnancy and 2) the barriers, persuaders, and deterrents which shape contraceptive practices. In the flowchart detailed below, the desire to avoid or delay pregnancy represents the behavioral intention and the barriers, persuaders, and deterrents connected to contraceptive use exemplify the factors that may facilitate or hinder performance of the planned behavior –or in this case, employing the best strategy to protect one's intentions. Objectively, the best strategy for protecting against unintended pregnancy is the correct and consistent use of a highly effective contraceptive method.

Figure 2. Conceptual Framework Highlighting the Intervening Factors between Avoiding an Unintended Pregnancy and Effective Contraceptive Use



By addressing the factors that may deter using the best contraceptive strategy for avoiding unintended pregnancy, the model focusses on attitudes, experiences, and competing goals such as protecting against STDs. The theory of planned behavior does not explicitly mention the influence of other behavioral intentions on one another. However, this study recognizes that individuals usually have a multitude of intentions. It is possible that the pursuit of one behavior intention (protecting against STDs) thwarts best efforts of meeting another (protecting against unintended pregnancy). Most research examining racial differences in contraceptive practices only considers pregnancy prevention and fails to consider the importance of avoiding STDs. As Black women are at greater risk of STD contraction, they may be more likely to select condoms as a strategy to meet both goals. Unfortunately, this method better meets one than the other. For this reason, concern of STDs is modeled as an intervening factor to using the most effective contraceptive method to protect against pregnancy. In addition, other intervening factors will include: access, knowledge and misconceptions, peer influence, provider relationships and medical (dis)trust, contraceptive efficacy, and sexual frequency. Where these elements interact in the decision-making process of contraceptive behavior is illustrated in Figure 2.

One limitation of the theory of planned behavior is that it does not account for variables which motivate or heighten the desire for an intended behavior. Findings suggest that motivation to plan childbearing is a key determinant of intended vs. unintended fertility (Hayford & Guzzo, 2016). Throughout a decision-making process, the motivation for a behavioral intention is often pitted against the intervening factors or competing goals. For example, a woman who doesn't want

children until she finishes her master's program may continue to use a method despite the bouts of nausea she experiences from it. Alternatively, she may be more likely to switch her contraceptive method than to discontinue use altogether. The motivation for a behavioral intention (completing school) may supersede the intervening factors (side effects of method) to an outcome, thus acting as the motivation to comply with the behavioral intent (delay pregnancy).

To better mirror the decision-making process, this paper's conceptual framework includes the motivators for a behavior intention. This extension as applied to the desire to avoid an unintended pregnancy is also illustrated in Figure 1. Scholars have found that pregnancy or having a child is impacted by: feelings of pregnancy ambivalence (McQuillan et al., 2011; Miller et al., 2013), mother's fertility patterns (Barber, 2000; Barber, 2001; Kahn & Anderson, 1992; Manlove, 1997), opportunity costs of education and labor market participation (Becker, 1960; Hayford & Guzzo, 2016; Mills et al., 2011; Willis, 1973), the relationship context and marriage markets (Benzies et al., 2006; Edin & Kafalas, 2011), financial stability (Benzies et al., 2006; Mills et al., 2011), and social support (Rossier & Bernardi, 2009; Turner et al., 1990). These factors are included in model as motivators to contraceptive outcomes.

General Research Questions

The objective of this research is to examine the determinants of contraceptive practices that leave at-risk women vulnerable to unintended pregnancy. This research is especially invested in understanding how attitudes toward contraception affect the way that women protect against pregnancy. To probe this larger query, I tackle the following research questions:

R_1: Over time, have White and Black women become more or less protected against unintended pregnancy? Has the traditional race gap narrowed or widened?

R_2: What factors are associated with the use of effective contraceptive methods? Are these factors equally predictive over time for Black and White women?

R_3: Among high-risk women, how do competing goals and intervening factors impact women's contraceptive choices?

Hypotheses

Based on prior research that explores determinants of contraceptive practices and the conceptual framework detailed above, the following hypotheses were tested:

H_{1a}: *Black-White differences in contraceptive use and method choice have narrowed over time.* Socio-economic status is a known predictor of contraceptive use and unintended pregnancy (Finer & Zolna, 2011; Jones, et al., 2012). Given the socioeconomic growth among Black women over time (Landry & Marsh, 2011), economic theories of fertility argue that contraceptive practices should improve (United Nations, 1994; Martin, 1995; United Nations, 2005).

H_{1b}: *Black-White differences in contraceptive use and method selection have grown over time due to the greater concerns among Black women for protecting themselves from STDs by using condoms rather than more effective methods of contraception.* Protecting against STDs can be a competing goal

with protecting against unintended pregnancies. Some women may choose to use condoms to protect against both instead of dual method use (conjunction of a condom and a highly effective contraceptive method). Historically, there are noteworthy Black-White differences in exposure to STDs –specifically at the onset of the HIV/AIDS epidemic. These racial differences may have resulted in more Black women using condoms as their most effective contraceptive method than do White women.

H_{2a}: *Net of other factors, race will remain a significant predictor of contraceptive practices over time.* Although part of the racial differences may be lessened by accounting for other characteristics, race will likely remain significant because of the many factors secondary data cannot measure (such as attitudes toward contraception).

H_{2b}: *Part of the racial differences over time can be attributed to differential access to and use of reproductive health services.* Racial differences in use of medical services provide differing opportunities for contraceptive counseling and general access to prescription contraceptive. As Black women were found more likely to use STD related services rather than those for contraceptive (Hall et al., 2012), this may contribute to less effective contraceptive strategies. Moreover, differences in sexual health contexts may lead women at greater risk to rely on the duality of condoms to protect both sexual and reproductive goals.

H_3: *Negative attitudes about and experiences with contraception act as significant barriers to effective contraceptive use.* Supported by theories of

behavior, an individual's feelings toward a subject shapes behavior when confronted with the item. Therefore, negative relations with contraception may lead to practicing less effective contraceptive strategies that protect against pregnancy. Given the long history of infringements on Black women's reproductive rights (i.e., sterilization without consent and discriminatory contraceptive counseling), it is expected that Black women will be more likely to have negative feelings about contraceptive than do White women.

Rationale of Study: Mixed-Methods Approach

A mixed-methods approach is necessary in order to explore all of the hypothesized explanations for racial differences in young women's contraceptive practices. An exploratory sequential mixed methods design was used, in which qualitative data are collected to provide new understandings, suggest better instruments, and provide better interventions to that of quantitative results (Creswell, 2017). Stepwise, quantitative data are first analyzed, next gaps in understanding are identified, then qualitative research is designed to address those specific gaps.

The quantitative portion of this research is fitting for providing a large enough sample of young women across race with detailed fertility-related information. The National Survey of Family Growth (NSFG) is the premiere source for reproductive health information of American women. Not only are the data robust for investigating the subject at hand, but comparable data have been collected for more than 30 years, which allows for an investigation over time. This research used the NSFG to look across time to understand how Black-White differences in contraceptive practices

have developed. More importantly, it allowed for examining how socio-economic factors, sexual and reproductive history, mother's characteristics, and medical services impact contraceptive use and method choice.

Although the NSFG's rich data on sexual and reproductive experiences allow for the careful analysis of patterns and determinants of contraceptive practices, secondary data shapes and limits the factors which can be investigated and how they are analyzed. Several key factors from the conceptual model are not available in the NSFG or other secondary data sets. Much of previous research on contraceptive practices and unintended pregnancy has followed a rational theory which models motivators for a behavior intention (my proposed extension to the behavioral model) without consideration of the barriers women must work through to arrive at using an effective contraceptive method. It is understood that decision-making is complicated and not necessarily step-wise and organized. A secondary data analysis will not fully reflect this complex, and often non-linear, association between pregnancy intentions and contraceptive behaviors.

Qualitative methodology is a preferable way to empirically explore how women's contraceptive decision-making is experienced. Applying a qualitative method serves as a tool of social constructionism that encompasses the context, process, and meaning of individual's experiences (Charmaz, 1990; Daly, 2007) –in this case, women's contraceptive use and method choice. This study utilizes the qualitative technique of in-depth one-on-one interviews to investigate the barriers, persuaders, and deterrents to women using the best strategy to protecting against unintended pregnancy. From this paper's conceptual model, the interviews

specifically detail the key competing goals (concern for STDs) and intervening factors (attitudes about and experiences with contraceptives, contraceptive efficacy, access, etc.) involved in decision-making processes which lead to contraceptive behaviors that either protect against or leave one vulnerable to unintended pregnancy. Consideration of these factors will take our understanding deeper than previous research has been able to reveal.

Chapter 4: Quantitative Data and Design

Data

Data for the quantitative analysis come from the National Survey of Family Growth (NSFG) female data files for each survey cycle from 1988 and 2011-2015. The NSFG is a cross-sectional national probability survey of the noninstitutionalized population of women in the childbearing ages (15-44) in the United States which is directed by the CDC's National Center for Health Statistics (NCHS). The survey was specifically designed to provide reliable national data on marriage, divorce, contraception, fertility, and the health of women in the United States.

Since the start of NSFG in 1973, their data collection and population of interest has changed over time. Until 1982, the NSFG only surveyed women who were currently married, previously married, or never married but had offspring living in the household. The sample then changed to include all women aged 15-44, irrespective of marital status, in the non-institutional population of the United States. In 1995, the NSFG changed its mode of collection from paper-and-pencil to

computer-assisted personal interviews (CAPI). Cycle 6 (2002) of the NSFG included the addition of an independent sample of men ages 15-44 to the survey. These men were not connected in any way to the sample of women. The NSFG's latest change began in 2006 with a shift from a periodic survey to continuous interviewing. Under continuous interviewing, fieldwork takes place continually (48 weeks, or four 12-week quarters, each year), in a smaller number of areas within the U.S. than is the case for periodic interviewing. Therefore, continuous interviewing makes it necessary to pool across several years in order to obtain a sufficient sample size. More detailed information of sampling methods can be found elsewhere (NCHS, 2016).

As the study focuses on strategies for avoiding unintended pregnancy, it is important to limit the sample to women who are at risk of getting pregnant unintentionally. Following convention (Brown & Eisenberg, 1995), the analytic sample is limited to young adult women (ages 18–25 years) who are sexually active (having had heterosexual intercourse within the past 12 months), who are neither pregnant nor actively seeking to get pregnant, and who are neither sterile nor surgically sterilized. The sample is also limited to non-Hispanic Black and non-Hispanic White women. Other racial/ethnic groups are excluded to limit uncertainty in the changes of trends over time. Given changes in immigration patterns and the U.S. population over the covered time period, observed changes in contraceptive behavior could be erroneously attributed to changes in population composition than behavior itself. The study population for the 1988 NSFG included an unweighted sample of 1,369 women and the 2011-2015 NSFG included 1,229 women for a total sample of 2,598. Results are weighted to account for the NSFG's complex sample design.

Outcome Measures

The dependent variable for this analysis measures the type of method used. The variable is based on the NSFG's construction of the respondent's most effective contraceptive method being employed at the month of interview and/or at last sex (CONSTAT1). Focusing on respondent's most effective contraceptive method misses dual method use. For this analysis it is especially concerning to exclude women who are employing condoms alongside a more effective method. Those women would be protected against both unintended pregnancy and STD contraction. Nevertheless, very few women in this sample were using a condom and a more effective method. As the introduction and recall of available methods vary in any given year, contraceptive method categories were individually constructed for each survey cycle. Categories of the outcome measure are broad enough to be comparable across years.

Most recent examinations of racial differences in contraceptive behavior focus on the use of effective methods. Black women are not only less likely to use any contraception (Upson et al., 2009; Mosher & Jones, 2010; Jones et al., 2012; Grady et al., 2015), but they are also less likely to use an effective method (Shih et al., 2011; Rocca and Harper, 2012; Jacob and Stanfors, 2013; Dehlendorf et al., 2014). While racial differences in reproductive behaviors (i.e., teen birth rates, birth spacing, and higher parity) have persisted over time, research has given little attention to trends in the association of race and contraceptive method choice. Table 1 shows the most effective methods employed (if any) in 1988 and 2011-2015 by race among young adult women at-risk of unintended pregnancy.

Table 1. Percentage Distribution of Contraceptive Method Use Among Young Adult Women Ages 18-25 by Race and Survey Year, National Survey of Family Growth, 1988 and 2011–2015

	1988		**2011-2015**	
	Black	**White**	**Black**	**White**
Contraceptive Method Use				
More Effective	*58.3*	56.2	*45.3*	*62.9*
Implant (0.2% – 0.8%)	--	--	4.6	4.4
IUD (0.05%)	0.8	0.1	7.9	8.0
Vasectomy (0.15%)	0.0	1.6	0.3	0.2
Injectable (6%)	--	--	13.3	4.5
Pill (9%)	57.5	54.5	16.6	42.9
Patch (9%)	--	--	0.8	0.7
Ring (9%)	--	--	1.8	2.2
Less Effective	*17.3*	*23.6*	*27.8*	*19.8*
Diaphragm (12%)	1.2	2.8	--	--
Condom (18%)	10.9	15.7	21.2	14.9
Sponge (12% – 24%)	1.4	0.9	--	--
Withdrawal (22%)	1.2	2.7	5.6	4.3
Fertility-based awareness (24%)	1.8	0.9	1.0	0.5
Jellies/foams/creams (28%)	0.8	0.6	0.0	0.1
Non-Use	*24.4*	*20.2*	*26.9*	*17.3*
No reported method	24.4	20.2	26.9	17.3

Note: percentages in parentheses indicate the number out of every 100 women who experienced an unintended pregnancy within the first year of typical use of each contraceptive method (Trussell, 2011; Sundaram et al., 2017)
Chi-square tests support that differences within race across time are statistically significant (Black: $p<0.001$; White: $p<0.05$)

As can be seen in Table 1, in 1988, Black women were more likely than White women to use a more effective method, whereas by 2011-15, 13% fewer Black women were using a more effective method. During the same time period, White women were increasingly likely to use an effective method. This produced a wider racial gap in effective method use. Upon closer examination, it is clear that pill use dropped for both Black and White women, though the drop was much steeper among Black women (from 57.5% to 16.6%). In turn, we see a doubling in condom use for Black women (from 10.9% to 21.2%) compared with a slight drop for White women

(from 15.7% to 14.9%), though this could mask an unknown number of condom users who also used a more effective method. Nevertheless, this shift in condom use may help explain the development of racial disparities in contraceptive practices that protect against unintended pregnancy. Paralleling the reversal of the race gap in effective method use, we also see opposite trends in nonuse by race. Over time, Black women became slightly more likely to be unprotected (from 24.2% to 26.9%), whereas White women became less so (from 20.2% to 17.3%).

In this paper, type of method use is measured using a 4-category variable including: more effective method use, less effective method use, condom use, and non-use. Women who were using the pill, patch, ring, injectable, IUD, or implants were coded as using a more effective method. Less effective method use includes women who employed either a diaphragm, sponge, withdrawal, fertility-based awareness, or spermicide. Those using condoms as their most effective method were categorized as condom use. Women who do not report using any method were coded as non-use. This includes women who report nonuse due to not having sex in the past 3 months.

The measure of contraceptive method use used in this study slightly diverges from the conventional effectiveness level structure. The construction attempts to better understand which methods women are employing instead of more effective options. More specifically, the measure highlights condom use because of its benefit of STD protection which appears to have contributed to the growth in Black-White differences in effective method use over time.

Demographic Characteristics

As this study's objective is to understand Black-White differences over time, race is a key demographic variable of interest. Using NSFG data on race and Hispanic origin, two groups are defined: non-Hispanic White and non-Hispanic Black. In addition to race, other sociodemographic factors were included in the analysis as main independent variables because of their importance in contributing to contraceptive decision making. These included age (categorized: 18-20, 21-23, and 24-25), education (less than high school, high school/GED, and college degree of higher), working status (employed or student vs not working), income relative to the federal poverty level (0-99%, 100-199%, 200% or higher), and place of residence (urban vs. rural).

Sexual and Reproductive Characteristics

Explanatory variables hypothesized to moderate the association between race and contraceptive practices were include the following: sexual and reproductive characteristics included cohabitation status (married and/or living with a partner or not), and number of children (no births, one, and two or more). Birth control education included if the respondent ever received sexual education about birth control (yes/no) and if the respondent talked with a parent about birth control (yes/no). Characteristics about the respondent's mother included if the mother was a teen mom (age at first birth was before age 20 vs. after age 20) and if she had a college education (Bachelor's degree vs. less than a BA). Medical related services in the past 12 months include yes/no questions about whether the respondent was

uninsured at any point, had taken a pregnancy test, took a STD test, had a pap smear, or had a pelvic exam[2].

The distributions on the covariates by year and race can be found in Appendix A1. Patterns across socio-demographics are as expected. Notable differences over time include changes in parity, increased rates of young adults speaking with their parents about birth control, increases in the percentage of respondent's whose mother has a college degree, a decrease in respondents whose mother was a teen mom, and decreases in receiving a pap smear or pelvic exam.

Analytic Strategy

Bivariate and Multivariate Analysis

First, bivariate statistics were used to summarize the associations between the dependent variable and covariates across survey cycles. Next, a series of multivariate analyses were conducted to test how recent Black-White differences in contraceptive practices compare to those in the past. To address this study's second research question, tests were conducted to investigate how the effects of covariates on contraceptive practices may have varied 1) over time, 2) by race, and 3) within race over time. As the dependent variable is categorical, multinomial logistic regression was employed for this investigation. The sets of models included an examination

[2] Pap smear and pelvic exams are examined separately, because of their differences in suggested guidelines from the American College of Obstetricians and Gynecologists (ACOG). Annual pelvic examination of patients 21 years of age or older is recommended by the College. Exams may occur earlier than age 21 if indicated by patient's medical history. On the other hand, Pap smears are recommended every three years for women ages 21 to 29. As this study's population of interest (women age 18-25) fall between these recommendations, each may have varying effects depending on the respondent's age and sexual history.

within race by survey cycle, within race by survey cycle interacted one-by-one for each covariate, and within survey cycle by race interacted one-by-one for each covariate. These tests were important checks before pooling data files. It would be erroneous to assume that the covariates are equally predictive for both Black and White women (Dubowitz et al., 2011) or have the same impact in 1988 as in 2011-2015.

Finally, a data file combining the 1988 and 2011-2015 cycles was used to examine if Black-White differences in contraceptive practices are significantly larger today than in the past. Here, multinomial logistic regressions present women's relative odds of non-use, condom use, or less effective method use versus more effective contraceptive strategies to protect against unintended pregnancy. Specifically, the regression modeled Black women's risk, relative to that of White women, of non-use, less effective method use, or condom use rather than using a more effective method. To test the main hypothesis of how disparities changed over time, interaction terms between race and survey year were fitted in the regression models. The models were adjusted in a step-wise manner, for race, survey cycle, interaction of race and survey cycle, socio-demographic characteristics, sexual and reproductive characteristics, birth control education, characteristics of the respondent's mother, and medical related services sought in the past 12 months.

Decomposition

This project investigates Black-White differences across a wide time period (27 years). As the female population in the United States has likely experienced significant changes over time (i.e., labor force participation, education, family

formation), these changes could account for some of the observed changes in contraceptive behavior. A decomposition analysis addresses this notion by testing what percentage of observed differences are attributable to changes in the composition of populations as opposed to changes in behavior. The purpose of a decomposition is to relate between-group differences in an outcome variable to differences in observable characteristics (Tuncer, 2008). In this paper, the Fairlie decomposition method is applied to assess how factors contribute to differences within and across race over time. This decomposition approach has been used to determine underlying factors in unintended pregnancy (Kim et al., 2016) and other health disparities (Pagán et al., 2009; Saloner et al., 2014).

The Fairlie approach relies on a dichotomous dependent variable and therefore logistic regression is the necessary first step to conducting a decomposition of group differences. For this reason, we break the 4-category dependent variable into 2 dichotomies: 1) use vs. non-use among all at-risk women, and then, among users of any method, 2) condom vs. some other method. Each regression was parsed by survey cycle and race, which became the basis for comparison. This resulted in 4 models: comparing time periods among Black women, comparing time periods among White women, comparing race in 1988, and comparing race in 2011-2015. Logistic regression results are presented in the appendix as they are solely a catalyst to the decomposition method and repeat insights from the multinomial logistic regression.

The Fairlie method decomposes the mean differential of contraceptive behavior between Black and White women by replacing one independent variable at a

time for one group while keeping all other variables constant in the other group (Fairlie, 2005). This allows for identifying the individual contribution of variables to observed differences in an outcome, in this case contraceptive behaviors. The method decomposes the differences in unadjusted rates into portions that are explained by observed characteristics in the model and the unexplained portion. For robust standard errors, the analysis used 100 decomposition replications (Fairlie, 2003; Yun 2004).

Chapter 5: Black-White Differences in Contraceptive Method Use Over Time, 1988-2015

Research Questions

This chapter presents results for tests investigating the following research questions:

R_1: Over time, and by way of contraceptive, have women become more or less protected against unintended pregnancy? Has the traditional race gap narrowed or widened?

R_2: What factors are associated with the use of effective contraceptive methods? Are these factors equally predictive over time for Black and White women?

Results

Summary Statistics

The following analyses explore the characteristics associated with changing determinants of contraceptive practices over time. Summary statistics in Table 2 show differences in contraceptive practices across race, age, education, cohabitation status, number of children, sex education, talking to parents about birth control, and medical services sought in the past 12 months. Race differences are dramatically larger in 2011-2015 than in 1988. In 1988, Black women were more likely than White women to be using a more effective method. At the same time, Black women were also more likely to not be using any contraceptive method at all. By 2011-2015, Black women now had substantially lower rates of more effective method use compared to White

women. The race gap in each contraceptive method type increased, with Black women more likely to be using a condom or no method at all.

Age, education, work status, cohabitation, and medical service differences in contraceptive practice were similar in 1988 and 2011-2015. In both time periods, younger women were less likely to use effective methods and more likely to use condoms or nothing at all. Women who obtained less than a high school degree were more likely to not be using a method while those with a bachelor's degree or higher were more likely to use effective methods. Those working or in school were more likely to use a more effective contraceptive method than those who were unemployed. Women who were either married or cohabitating had low rates of non-use and were more likely to be using either a less effective or more effective method. Women most likely to be using a more effective method had received a pap smear or pelvic exam in the last 12 months. In 1988, but not 2011-2015, contraceptive practices varied across income. Those at less than the 200% federal poverty level were much more likely to be using a less effective method, condom, or no method compared to other income levels.

Table 2. Bivariate Associations between the Dependent Variable and Covariates, Chi-square Tests of Method Choice by each Covariate within Year, National Survey of Family Growth, 1988 and 2011–2015 (unweighted N= 2,598)								
	1988 (N= 1,369)				**2011-2015** (N= 1,229)			
	More Effective Method	**Less Effective Method**	**Condom**	**Non-Use**	**More Effective Method**	**Less Effective Method**	**Condom**	**Non-Use**
Socio-demographics								
Race	*				***			
White	56.2	8.1	15.7	20.0	62.9	5.0	14.9	17.1
Black	58.3	6.4	10.9	24.4	45.2	6.6	21.2	27.0
Age	**							
18-20	51.9	5.1	16.7	26.2	53.4	4.4	18.6	23.5
21-23	61.4	8.8	11.6	18.2	61.4	5.7	14.7	18.2
24-25	57.5	8.7	13.5	20.3	55.1	7.3	18.8	18.8
Education	***				*			
Less than high school	48.1	6.2	13.1	32.7	48.8	4.1	19.2	27.9
High school	59.4	7.4	14	19.2	57.1	5.9	17.1	19.9
Bachelor's+	55.9	11.8	15.7	16.7	67.1	4.8	13.8	14.4
Employment Status	**							
Not working or in school	49.9	6.9	14.7	28.5	52.5	5.8	19.2	22.5
Working or in school	59.3	7.6	13.7	19.4	58.7	5.5	16.3	19.6
Federal Poverty Level	***							
0-99	54.4	5.1	12.9	27.6	52.4	5.3	18.9	23.3
100-199	55.8	4.7	12.3	27.2	56.9	5.7	16.5	20.8
200+	58.8	9.8	15.2	16.3	61.5	5.6	15.5	17.4
Metropolitan Status								
Rural	57.7	7.1	14.6	20.6	60.6	5.1	15.1	19.3
Urban	56.8	7.5	13.8	21.9	56.6	5.6	17.3	20.5
Sexual & Reproductive								

Married and/or Cohabiting	***					***		
No	53.5	6.5	12.9	27.1	55.3	3.5	17.8	23.4
Yes	63.2	9.1	15.8	11.9	61.9	10.5	14.9	12.7
Number of Children								
None	56.3	7.3	15.1	21.3	57.9	4.8	17.6	19.7
One	60.8	7.0	12.0	20.2	55.9	6.8	15.8	21.4
Two+	53.4	8.7	12.5	25.4	56.4	6.6	16.1	20.9
Birth Control Education								
Sex education								
No	53.2	9.5	15.5	21.8	58.4	5.5	14.8	21.3
Yes	58.3	6.8	13.4	21.6	56.9	5.6	17.6	19.9
Talk w/ parents	**							
No	51.1	8.6	15.9	24.4	54.1	6.5	19.2	20.2
Yes	61.4	6.6	12.5	19.5	58.9	5.0	15.7	20.3
Respondent's Mother								
Teen mom								
No	56.5	7.5	15.5	20.5	59.1	4.9	16.8	19.1
Yes	57.7	7.4	11.7	23.3	53.8	6.6	17.2	22.4
College degree								
No	57.5	7.1	13.6	21.8	56.2	6.1	17.8	19.9
Yes	53.0	10.2	16.3	20.5	60.8	3.7	14.2	21.3
Medical Services (past 12 months)								
Pregnancy test	*							
No	58.8	7.2	14.3	19.8	54.9	5.8	17.9	21.4
Yes	50.9	8.3	12.8	27.9	61.6	5.1	15.2	18.2
Pap smear	***				***			
No	19.1	9.8	27.6	43.5	43.9	6.3	22.2	27.5
Yes	65.3	6.9	10.9	16.8	66.1	5.0	13.4	15.5

Pelvic exam	***				***			
No	22.8	10.1	27.9	39.2	43.2	7.0	21.7	28.1
Yes	65.3	6.8	10.5	17.4	66.4	4.6	13.8	15.2
*p<0.05. **p<0.01. ***p<0.001.								

Overall contraceptive practices varied as expected. In both 1988 and 2011-2015, women with higher rates of either non-use or condom use were those who were not in the best socioeconomic circumstances (young, not working or in school, lower income, etc.). These women engaged in contraceptive practices which left them vulnerable to unintended pregnancy and the adverse consequences associated with such fertility. Also, most noticeable from the summary table is the weakening of bivariate associations over time with the exception of race. Further analyses are needed to determine which variables have independent effects after controlling for other variables. Tests should also investigate whether these patterns differ by race and how that relationship may change over time.

Multinomial Logistic Regression

To better understand how various characteristics impact the association of race and the use of contraceptive strategies that are less effective at protecting against unintended pregnancy, the following multinomial logistic regressions investigate the relative risk of not using any contraception, using a less effective method, or using a condom compared to using an effective method. Before examining a pooled model of 1988 and 2011-2015 survey cycles, tests were run to investigate if the models' covariates had differing impacts on contraceptive practices within and across each racial group and time period. Although the multinomial logit runs all of the comparisons simultaneously, we present each set of contrasts with the reference category (more effective methods) in separate tables for ease of interpretation. Contrasts between non-use and more effective methods are presented in Table 3a,

between less effective and more effective methods in Table 3b, and between condoms and more effective methods in Table 3c.

Consistent with prior research, the strongest predictors of non-use relative to more effective method use are work/school status, marital/cohabitation status, parity, and medical services sought in the past 12 months. Nonetheless, these associations differ across race and survey cycle. In 1988, the relationship between variables with not using contraceptive and either working or being in school, taking a pregnancy test in the past 12 months, and having a pap smear in the past 12 months is similar for Black and White women (Table 3a). However, there are notable statistically significant differences among Black and White women's likelihood of not using a contraceptive method relative to a more effective method. Being married or currently cohabiting was associated with substantially lower odds in White women's non-use of a contraceptive method rather than a more effective method, while Black women showed no association. A more perplexing difference is the opposing relationship by race with the impact of children. Having one child was associated with lower odds of not using a contraceptive rather than an effective method for Black women, but higher odds of non-use for White women. It could be argued that the increased odds are picking up on ambivalent intentions to having another child, however, it does not explain the difference by race. Receiving education on birth control presented a surprising impact on Black women's odds of not using any contraceptive relative to a more effective method. Black women who received birth control education were 2 times more likely to not being using a method (RRR: 2.06, $p>0.05$). Oddly, such curriculum was associated with less protective contraceptive practices. Although this

relationship was not statistically significant for White women, the coefficient was in the expected direction of decreasing the likelihood of not using any method. The quality of this education was not measured, however in 1988, it may not have followed the guidelines for comprehensive sex education (Klein et al., 1994; SIECUS, 2004).

In 2011-2015, there are very few associations with contraceptive non-use for both Black and White women. At this time, White women who are married or cohabiting are associated with a lower likelihood of not using a contraceptive method, while there is no association among Black women.

Table 3a. Multinomial Logistic Regression: Non-Use vs More Effective Method Use, by Race and Survey Cycle (unweighted N= 2,598)								
	1988 (N= 1,369)		**2011-2015** (N= 1,229)		**Year Interaction**		**Race Interaction**	
	Black (N= 501)	**White** (N= 868)	**Black** (N= 392)	**White** (N= 837)	**Black**	**White**	**1988**	**2015**
Socio-demographics								
Age								
18-20	1.00	1.00	1.00	1.00				
21-23	0.82	0.83	0.87	1.25		+		
24-25	1.31	1.04	0.96	1.52				
Education								
Less than high school	1.00	1.00	1.00	1.00				
High school	0.85	0.78	0.63	0.73				
Bachelor's+	0.80	1.19	0.58	0.56				
Employment Status								
Not working or in school	1.00	1.00	1.00	1.00				
Working or in school	0.57*	0.55*	1.03	0.85				
Federal Poverty Level								
0-99	1.00	1.00	1.00	1.00				
100-199	1.31	1.26	0.63	0.73				+
200+	0.79	0.86	1.07	0.56				
Metropolitan Status								
Rural	1.00	1.00	1.00	1.00				
Urban	1.09	0.98	1.17	0.97				
Sexual & Reproductive								
Married and/or Cohabiting								
No	1.00	1.00	1.00	1.00				
Yes	0.86	0.19***	0.89	0.56*		**	**	
Number of Children								
None	1.00	1.00	1.00	1.00				

One	0.45**	1.87*	0.96	1.14			**	
Two+	0.79	1.70	0.89	1.27				
Birth Control Education								
Sex education								
No	1.00	1.00	1.00	1.00				
Yes	2.06*	0.85	1.39	0.94			*	
Talk w/ parents								
No	1.00	1.00	1.00	1.00				
Yes	0.67	0.76	0.88	1.07				
Respondent's Mother								
Teen mom								
No	1.00	1.00	1.00	1.00				
Yes	1.56+	0.80	1.12	1.05			+	
College degree								
No	1.00	1.00	1.00	1.00				
Yes	1.57	1.04	1.41	1.12				
Medical Services (past 12 months)								
Pregnancy test								
No	1.00	1.00	1.00	1.00				
Yes	2.03**	2.65***	0.77	1.08	*	+		
Pap smear								
No	1.00	1.00	1.00	1.00				
Yes	0.11***	0.29**	0.42*	0.66	*	**		
Pelvic exam								
No	1.00	1.00	1.00	1.00				
Yes	0.58	0.27**	0.64	0.44**		**		

+p<0.10 *p<0.05. **p<0.01. ***p<0.001.
Note: This table displays one of the sets of comparisons from the multinomial logit which simultaneously estimated all of the comparisons

In 1988 and 2011-2015, for both Black and White women, there are few relationships with using a less effective method (other than condoms) rather than a more effective method (Table 3b). Note that less effective methods include: diaphragm, sponge, withdrawal, fertility-based awareness, and spermicide –each of which has a substantially higher failure rate than the more effective methods. As seen in Table 1, these methods are also less commonly used. Therefore, women using these methods may differ from other women in subtle ways.

In 1988, statistically significant differences across race were in income and pregnancy scare. Among White women, being above the 200% poverty level and have taken a pregnancy test in the past 12 months are associated with an almost 3 times greater odds of using a less effective method rather than a more effective one (RRR: 2.87, $p<0.05$). These associations were not present for Black women. In 2011-2015, statistically significant differences across race were in the impact of being married or cohabiting and having a mother who had a child as a teenager. Both Black and White women had increased odds of using a less effective method if they were married or cohabitating. However, the magnitude for Black women was almost 5 times larger than for White women (RRR: 11.22, $p<0.001$ vs RRR: 2.28, $p<0.05$). Being married or cohabitating is likely associated with increased odds of using a less effective method, because these women feel more secure in their relationships and expected partner support in raising a child. Such sense of security may lessen motivation to use a more effective method. Yet, this rationale does not inspire an explanation for the larger impact on Black women's contraceptive choice than for White women. Another significant racial difference, in 2011-2015, was that having a

mother who was a teen mom increased the odds of using a less effective method by 3 times for Black women, but there was no association among White women.

Table 3b. Multinomial Logistic Regression: Less Effective Method Use[a] vs More Effective Method Use, by Race and Survey Cycle (unweighted N= 2,598)

	1988 (N= 1,369)		**2011-2015** (N= 1,229)		**Year Interaction**		**Race Interaction**	
	Black (N= 501)	**White** (N= 868)	**Black** (N= 501)	**White** (N= 868)	**Black**	**White**	**1988**	**2015**
Socio-demographics								
Age								
18-20	1.00	1.00	1.00	1.00				
21-23	2.44+	1.12	1.39	1.00				
24-25	1.97	1.00	0.82	1.99				
Education								
Less than high school	1.00	1.00	1.00	1.00				
High school	3.33+	0.71	1.01	2.06			*	
Bachelor's+	3.63	1.29	1.23	1.38				
Employment Status								
Not working or in school	1.00	1.00	1.00	1.00				
Working or in school	1.50	0.51+	1.66	0.89			*	
Federal Poverty Level								
0-99	1.00	1.00	1.00	1.00				
100-199	0.46	1.43	0.75	1.20				
200+	1.50	2.87*	2.27	0.79		+		+
Metropolitan Status								
Rural	1.00	1.00	1.00	1.00				
Urban	1.12	0.92	3.17	0.94				
Sexual & Reproductive								
Married and/or Cohabiting								
No	1.00	1.00	1.00	1.00				
Yes	0.43	1.08	11.22***	2.28*	***	+		*
Number of Children								

None	1.00	1.00	1.00	1.00				
One	0.89	0.87	0.88	1.19				
Two+	1.96	1.20	0.50	1.32				
Birth Control Education								
Sex education								
No	1.00	1.00	1.00	1.00				
Yes	1.09	0.64	1.90	1.08				
Talk w/ parents								
No	1.00	1.00	1.00	1.00				
Yes	0.88	0.69	0.84	0.66				
Respondent's Mother								
Teen mom								
No	1.00	1.00	1.00	1.00				
Yes	1.76	0.76	3.11*	0.64				*
College degree								
No	1.00	1.00	1.00	1.00				
Yes	2.88	1.53	0.40	0.62	*	+		
Medical Services (past 12 months)								
Pregnancy test								
No	1.00	1.00	1.00	1.00				
Yes	1.27	2.08*	1.05	0.72				
Pap smear								
No	1.00	1.00	1.00	1.00				
Yes	0.20*	0.63	0.66	0.63				
Pelvic exam								
No	1.00	1.00	1.00	1.00				
Yes	0.71	0.21**	0.45	0.47				

+p<0.10 *p<0.05. **p<0.01. ***p<0.001.

[a]Includes diaphragm, sponge, withdrawal, fertility-based awareness, and spermicide

Note: This table displays one of the sets of comparisons from the multinomial logit which simultaneously estimated all of the comparisons

The few associations with using a condom versus a more effective contraceptive method in 1988 and 2011-2015 are the same for Black and White women (Table 3c). The lack of statistically significant relationships is surprising as the difference in contraceptive practices by race are so large. To investigate if race is an influential determinant of condom use while holding all other factors constant is necessary. The tables (3a, 3b, and 3c) also show which associations have changed over time within race. It is clear that more factors were related to contraceptive practices in 1988 than in 2011-2015. However, further analyses are needed to explore if and how the associations impact the relationship of race and contraception over time.

Table 3c. Multinomial Logistic Regression: Condom Use vs More Effective Method Use, by Race and Survey Cycle								
	1988 (N= 1,369)		**2011-2015** (N= 1,229)		**Year Interaction**		**Race Interaction**	
	Black (N= 501)	**White** (N= 868)	**Black** (N= 501)	**White** (N= 868)	**Black**	**White**	**1988**	**2015**
Socio-demographics								
Age								
18-20	1.00	1.00	1.00	1.00				
21-23	0.61	0.56*	1.45	0.84	*			
24-25	0.87	0.55+	1.62	1.43				
Education								
Less than high school	1.00	1.00	1.00	1.00				
High school	1.27	1.18	1.50	0.61				*
Bachelor's+	2.08	1.85	1.11	0.48				
Employment Status								
Not working or in school	1.00	1.00	1.00	1.00				
Working or in school	0.63	0.67	0.66	0.93				
Federal Poverty Level								
0-99	1.00	1.00	1.00	1.00				
100-199	0.55	1.23	0.99	0.79				
200+	0.79	1.19	1.07	0.75				
Metropolitan Status								
Rural	1.00	1.00	1.00	1.00				
Urban	0.85	0.99	0.80	1.21				
Sexual & Reproductive								
Married and/or Cohabiting								
No	1.00	1.00	1.00	1.00				
Yes	1.19	1.20	1.14	1.06				
Number of Children								
None	1.00	1.00	1.00	1.00				

One	0.59	0.84	0.89	0.57				
Two+	0.57	1.25	0.57	0.88				
Birth Control Education								
Sex education								
No	1.00	1.00	1.00	1.00				
Yes	1.80	0.72	1.58	1.35			*	
Talk w/ parents								
No	1.00	1.00	1.00	1.00				
Yes	0.89	0.65*	0.76	0.77				
Respondent's Mother								
Teen mom								
No	1.00	1.00	1.00	1.00				
Yes	0.83	0.70	1.20	0.81				
College degree								
No	1.00	1.00	1.00	1.00				
Yes	1.83	1.16	0.67	0.85	+			
Medical Services (past 12 months)								
Pregnancy test								
No	1.00	1.00	1.00	1.00				
Yes	1.55	1.50	0.72	1.09				
Pap smear								
No	1.00	1.00	1.00	1.00				
Yes	0.30*	0.36*	0.54	0.52*	*	***		
Pelvic exam								
No	1.00	1.00	1.00	1.00				
Yes	0.29**	0.22***	0.53	0.74	+	***		

+p<0.10 *p<0.05. **p<0.01. ***p<0.001.
Note: This table displays one of the sets of comparisons from the multinomial logit which simultaneously estimated all of the comparisons

Race and Survey Cycle Interaction. The pooled (including 1988, 2011-2015, Black women, and White women) multinomial logistic regression included an interaction term of race and survey cycle. The interaction allowed for testing how the racial disparity in contraceptive practices compares across time. The regression analyses were performed step-wise (see appendices A2a-A2c). However, only the full models are presented because the interaction of race and survey cycle remained statistically significant at each step. The results of the entire multinomial logistic regression are given in Table 4 which shows contrasts between each contraceptive choice category with the reference category of more effective methods. While holding all other variables constant, looking across each category displays that in 2011-2015 women are employing more effective contraceptive methods than in 1988. Nonetheless, racial differences persist for each contraceptive practice.

In modeling non-use relative to a more effective method (Table 4, first column), the interaction reveals that the Black-White difference in 2011-2015 is larger than the Black-White difference in 1988. The impact of race on non-use (relative to a more effective contraceptive method) is 2.22 times greater in 2011-2015 than in 1988 ($p<0.000$). Those with a high school degree (RR: 0.71, $p<0.05$), working or in school (RR: 0.72, $p<0.10$), married or cohabiting (RR: 0.46, $p<0.01$), had talked with their parents about birth control (RR: 0.80, $p<0.01$), had a pap smear in the past 12 months (RR: 0.37, $p<0.001$), and had a pelvic exam in the past 12 months (RR: 0.47, $p<0.001$) each had a lower probability of not using any contraceptive method (than more effective methods).

Table 4. Multinomial Logistic Regression: Other Contraceptive Method Choices vs More Effective Method Use, Pooled 1988 and 2011-2015 sample (unweighted N= 2,598)			
	Non-Use vs More Effective Method	**Less Effective Method vs More Effective Method**	**Condom Use vs More Effective Method**
Socio-demographics			
Race			
White (ref.)	1.00	1.00	1.00
Black	0.95	0.99	0.77
Survey Cycle			
1988 (ref.)	1.00	1.00	1.00
2015	0.44***	0.45***	0.58**
*Race*Survey Cycle*			
Black*1988 (ref.)	1.00	1.00	1.00
Black*2015	2.22***	2.31*	3.07***
Age			
18-20 (ref.)	1.00	1.00	1.00
21-23	0.94	1.25	0.82
24-25	1.14	1.32	1.06
Education			
Less than high school (ref.)	1.00	1.00	1.00
High school	0.71*	1.17	1.00
Bachelor's+	0.72	1.30	1.02
Employment Status			
Not working or in school (ref.)	1.00	1.00	1.00
Working or in school	0.72*	0.95	0.74*
Federal Poverty Level			
0-99 (ref.)	1.00	1.00	1.00
100-199	1.16	0.92	0.90
200+	0.84	1.35	0.90
Metropolitan Status			
Rural (ref.)	1.00	1.00	1.00
Urban	1.01	1.05	1.02
Sexual & Reproductive			
Cohabiting			
No (ref.)	1.00	1.00	1.00
Yes	0.46***	1.63*	1.08
Number of Children			
None (ref.)	1.00	1.00	1.00
One	0.98	0.97	0.79
Two+	1.08	1.23	0.87
Birth Control Education			

Sex education			
No (ref.)	1.00	1.00	1.00
Yes	1.11	0.93	1.15
Talk w/ parents			
No (ref.)	1.00	1.00	1.00
Yes	0.80*	0.77	0.73**
Respondent's Mother			
Teen mom			
No (ref.)	1.00	1.00	1.00
Yes	1.08	1.11	0.87
College degree			
No (ref.)	1.00	1.00	1.00
Yes	1.20	1.03	0.96
Medical Services (past 12 months)			
Pregnancy test			
No (ref.)	1.00	1.00	1.00
Yes	1.49**	1.20	1.18
Pap smear			
No (ref.)	1.00	1.00	1.00
Yes	0.37***	0.59	0.44***
Pelvic exam			
No (ref.)	1.00	1.00	1.00
Yes	0.47***	0.42**	0.45***
*p<0.05. **p<0.01. ***p<0.001.			

Net of all other factors, the relative risk of using a less effective method relative to a more effective method (Table 4, 2nd column) for Black women in 2011-2015 compared to White women is 2.3 times higher than for Black women compared to White women in 1988 ($p<0.001$). The relative risk ratio for using a less effective method was higher among those married or cohabiting (RR: 1.63, $p<0.01$) and lower among women who had a pelvic exam in the past 12 months (RR: 0.42, $p<0.001$). In modeling condom use relative to more effective methods (Table 4, third column), the relative risk for Black women in 2011-2015 compared to White women is 3.07 times higher than for Black women compared to White women in 1988. The relative risk ratio for using a condom was lower among those who working or in school (RR:

0.74, $p<0.10$), talked with their parents about birth control (RR: 0.73, $p<0.01$), had a pap smear in the past 12 months (RR: 0.44, $p<0.001$), and had a pelvic exam in the past 12 months (RR: 0.45, $p<0.001$). Each of these variables are protective against unintended pregnancy and therefore favor more effective methods. Women who are working or in school face higher opportunity costs for an unplanned pregnancy. Women who spoke with their parents or had a pap smear or pelvic exam likely had the opportunity to receive contraceptive counseling that their counterparts did not. These insights likely led to greater odds of using a more effective method than a condom.

Decomposition

It is surprising that so few characteristics impact the relationship between race and contraceptive practice in 2011-2015. Research suggests that economic status is strongly related to contraceptive practices (United Nations, 1994; Martin, 1995; United Nations, 2008). Given the compositional changes among Black women over the past few decades, namely increases in income and education, it is even more startling that the Black-White gap is so large. It is possible that other factors are more influential of Black women's contraceptive practices. Also, the strides or the return on the investment of the economic achievements made by Black women may not weaken differences to that of White women enough to impact contraceptive practices. The Fairlie decomposition will allow us to determine the relative contributions of observed characteristics on disparities in contraceptive practices.

The Fairlie approach is a nonlinear decomposition of binary outcome differentials. Therefore, the statistical procedure is performed from a simple logistic regression

rather than the multinomial specification. The logistic regressions modeled for this analysis measured the association between respondent characteristics and 1) contraceptive use vs. nonuse and 2) condom use vs some other method among contraceptors. These were examined within and across race and survey cycle. The logistic regression yielded similar results as the above multinomial logistic regressions and, therefore, are only presented in the appendix.

The Fairlie decomposition analysis disaggregates the unadjusted race difference in the outcome measure into (1) a portion that can be "explained" by observed characteristics in the model and (2) the residual difference that cannot be explained by differences in observed characteristics. Tables 5 and 6 present the results of the Fairlie decomposition by the percentage of the race difference that is explained (due to differences in population of comparison groups) and unexplained (due to differences in behaviors when composition between groups are matched) by characteristics included in the model. Table 5, which focuses on contraceptive use versus non-use, reveals that there were only statistically significant racial differences in 2011-2015, but not in 1988. The model explained 23.2% of the 9.9% race difference in contraceptive use in 2011-2015. Essentially, only 23.2 percent of the difference could be accounted by compositional differences between Black and White women, while the other 76.8 percent is left unexplained.

Table 5. Decomposition of Explained Differences in Racial Disparity and Trends Over Time in Contraceptive Use vs. Nonuse

	Among Black Women: 1988 compared to 2015	**Among White Women: 1988 compared to 2015**
Difference	2.7	2.9
Total explained difference	9.4	9.2
Explained (population/compositional)	*Not stat. signif.*	*Not stat. signif.*
Unexplained (behavior)		
	Within 1988: Black compared to White	**Within 2015: Black compared to White**
Difference	4.5	9.9***
Total explained difference	10.11	2.3
Explained (population/compositional)	*Not stat. signif.*	23.2
Unexplained (behavior)		76.8
*p<0.05. **p<0.01. ***p<0.001.		

The decomposition results are more interesting when we focus on method choice than simply use versus non-use. Table 6 focuses on condom use vs some other contraceptive (excluding those who are not using a method). As shown in Table 6, and illustrated earlier, in 2011-15 White women were no more likely to choose condoms over other methods than they were in 1988, so there is no trend to explain. However, Black women saw a 14% increase in condom use compared with other methods, and almost two-thirds (62.9%) of this increase could be explained by the compositional shifts among Black women. Also shown in Table 6 are Black-White differences in 1988 and 2011-2015. The model explains 80.4% of the 5.1% race difference in condom use in 1988, but only 1.8% of the 11% race difference in 2011-2015. In 1988, the racial differences could largely be explained by differences in

characteristics captured in the model (80.4%), but in 2011-2015, the differences are overwhelmingly unexplained (98.2%).

Table 6. Decomposition of Explained Differences in Racial Disparity and Trends Over Time in Condom Use vs Other Methods

	Among Black Women: 1988 compared to 2015	**Among White Women: 1988 compared to 2015**
Difference	14.5***	1.6
Total explained difference	9.13	9.2
Explained (population/compositional)	62.9	*Not stat. signif.*
Unexplained (behavior)	37.1	
	Within 1988: Black compared to White	**Within 2015: Black compared to White**
Difference	5.1*	11.0***
Total explained difference	4.1	0.2
Explained (population/ compositional)	80.4	1.8
Unexplained (behavior)	19.6	98.2
*p<0.05. **p<0.01. ***p<0.001.		

Discussion

In this chapter, we sought to test how Black-White differences in contraceptive practices have developed over time. Given the rising economic status among Black women it was expected that the Black-White difference in practices would lessen over time. However, with the racial disparity in risk of STD contraction, it was also plausible that the Black-White gap could grow over time as more Black women have the competing goal of STD prevention and therefore may opt for the dual protection of condoms. In support of the latter hypothesis, in 1988, there were no significant Black-White differences in contraceptive use or method selection. However, by 2011-2015, the differences in use and method selection were prominent. During this time,

Black women were about 10 percent less likely than White women to use any method, and almost 18 percent less likely to use a more effective method.

A careful examination of rates for each contraceptive method revealed the important role of condoms during the observed time periods. In 1988, condoms were the second most popular method among Black and White women. At that time, condom use was a far runner up after pill use by 30 percent for both Black and White women. However, by 2011-2015, pill use dropped steeply for Black women as pill use increased and became the most popular method for Black women. Given the unique protection provided by condoms and the differing STD contexts by race, distinguishing condom use from other less effective methods was pertinent for exploring racial differences in contraceptive protections against unintended pregnancy.

Numerous studies have found the association of race and contraceptive practices remain statistically significant after controlling for key factors. This study tested if Black-White differences persist *over time* when accounting for sociodemographic, sexual, and reproductive characteristics. In support of hypothesis 2_a, the multinomial logistic regression revealed that the association of race held over time. Most shocking is that net of all factors, Black-White differences in 2011-2015 were 2 times larger in contraceptive non-use and less effective method use than in 1988 and 3 times larger in condom use relative to using a more effective method –with Black women more likely to not use a contraceptive method and more likely to use a condom.

Race remained statistically significant while few other variables impacted contraceptive practices. Women who were working or in school or had talked to their

parents about birth control were less likely to choose less effective methods compared with the more effective methods. Although married or cohabiting women were less likely to not be using a method, they were more likely to use a less effective method versus a more effective method. Albeit a possibly endogenous relationship, having had either a pap smear or a pelvic exam in the past 12 months was associated with decreased odds of not using a method, using a less effective method, or using a condom over a more effective method (as expected in hypothesis 2_b). Attending such gynecological appointments creates opportunity for contraceptive counseling. If women are not obtaining the recommended annual women's wellness checkup, they are less likely to engage with healthcare professionals about their reproductive goals, and therefore less likely to obtain the most effective contraceptive protection.

As these observed differences are across a long time period, the study used a decomposition analysis to investigate the contribution of population changes compared to changes in contraceptive decisions. The results revealed that although Black women experienced significant compositional change over time, much of the observed Black-White contraceptive differences across survey cycles could not be explained by sociodemographic, sexual, and reproductive characteristics (variables included in the model). The decomposition showed that differences in use of any contraceptive were only significant between Black and White women in 2011-2015. In 2011-2015, 76.8% of observed Black-White differences could not be explained. The analysis also found that differences in condom use versus some other contraceptive method varied across race and time. Among White women, changes over time were not statistically significant. On the other hand, the increase over time

in condom use among Black women was more due to changes in socio-demographic, sexual, and reproductive factors (61.6%) than other variables not included in the model (38.4%). Interestingly, the decomposition comparing Black-White differences in condom use over time found that in 1988, the difference was largely accounted by factors included in the model (78.3%). As shown in the appendix's (A6a) stepwise logistic model, sociodemographic differences lead this explanation –as theory would suggest (United Nations, 1994; Martin, 1995; United Nations, 2008). Yet, in 2011-2015, 98.1% of the difference in condom use between Black and White women could not be explained. In other words, Black-White differences in socioeconomic, sexual, and reproductive characteristics better explain Black-White differences in contraceptive practices during 1988 than in 2011-2015. Greater attention is needed to understand factors contributing to the recently observed Black-White differences in contraceptive use and method selection. Especially as racial differences are seemingly growing over time.

Limitations

Though this study was able to compare contraceptive practices across 27 years, limitations exist. By using a secondary dataset, the study's analysis was limited to the measures available. As this study emphasizes the importance of the sexual health context for understanding women's contraceptive practices, it would have been relevant to consider the degree of concern about STDs. Unfortunately, the NSFG has only one measure of STD concern and it is only asked to respondents who have not had sex. Although Black women have greater exposure to STDs and higher rates of

condom use (as supported by this study), without a measure of concern, it cannot be determined if the risk of disease is the main motivator for Black women's greater use of condoms and other less effective methods.

In addition, the NSFG has made several survey changes over the years. Specific variables were not included in each survey cycle. For example, the number of sexual partners could have helped gauge sexual context. However, the variable was not included in the necessary survey cycles for this analysis. This study's analysis could have benefited from including respondent's insurance status. However, that variable also was not available in the necessary survey cycles. Moreover, there are mixed findings regarding the impact of medical insurance status on contraceptive use (Jones & Sonfield, 2016; Pace et al., 2016; Bearak & Jones, 2017; Guttmacher Institute, 2016).

Conclusion

The association of race and contraceptive practices remains significant over time and its importance has grown more salient. In 1988, racial differences were mediated in part by socioeconomic, sexual, reproductive, and medical service differences. However, by 2011-2015, these factors did little to explain racial differences in contraceptive use in method selection (condom use vs other contraceptive methods). Not only did the association of race and contraceptive practices remain statistically significant, the Black-White gap in use and method selection substantially increased over time. In 2011-2015, Black-White differences in the use of any contraceptive method were 2 times larger and the differences in condom use were 3 times larger

than in 1988. This increase occurred, by way of Black women decreasing use of any contraceptive and increasing uptake of condoms while White women increased their use of more effective contraceptive methods. These stark changes by race over time have left Black women even more vulnerable to unintended pregnancy today than they were in prior decades.

The change in the Black-White gap over time was practically unshakeable. However, a few characteristics were statistically significantly associated with contraceptive practices. As suggested by this paper's conceptual model, opportunity costs were influential. Women who were working or in school were more likely to be using a more effective contraceptive method. The potential loss of economic mobility appears to be a motivator to practicing an effective strategy to reach one's reproductive goal (in this case, preventing or delaying pregnancy). Talking with parents about birth control was also associated with greater likelihood of using a more effective method. This was more influential than receiving formal sex education on the topic. It is possible that having such open communication with a parent fosters informed, even if at least anecdotally informed, decisions to protect against pregnancy. Furthermore, talking with parents allows for assistance with accessing the more effective contraceptive methods. This paper's population of interest are eligible for insurance coverage from their parents. Although talking about sex with parents is likely uncomfortable, media campaigns could be used to encourage conversations between parents and teens, not only about sex, but also birth control.

Medical services sought in the past 12 months substantively impacted contraceptive use and method selection. Although it is difficult for this analysis to

distinguish if women accepted a pap smear or pelvic exam when they visited a gynecologist to obtain contraceptive, it is recommended that women receive an annual well woman checkup. These checkups are the perfect time to initiate conversations about reproductive goals with a medical professional and receive contraceptive counseling. Initiatives to increase young women's attendance to these annual visits could result in more women employing better contraceptive practices to protect against unintended pregnancy. Furthermore, research has shown that Black women are less likely to seek reproductive services than are White women (Hall et al., 2012). Initiatives to increase annual visits could tailor communications to connect with Black communities.

Despite the insights gained from these few factors, race reigned as a determining factor in contraceptive practices. Further investigations are needed to uncover other factors possibly guiding contraceptive practices that are leaving Black women more vulnerable than White women to unintended pregnancy. There is much more to learn about the contraceptive decision-making of women most at risk of unintended pregnancy.

Chapter 6: Qualitative Data and Design

Qualitative Approach

This paper's quantitative analysis detailed the Black-White gap in contraceptive practices. It revealed that disparities in protection against unintended pregnancy are not only large and statistically significant, but they have grown over time. Although the analysis illustrates that the Black-White gap is 2-3 times larger in 2011-2015 than in the late 80s, there is little insight about the factors possibly contributing to these less effective choices. The paper's conceptual model posits that attitudes, experiences, and competing goals such as protecting against STDs could influence how women arrive at their contraceptive practices. Unfortunately, many of these elements were unmeasurable in the NSFG. On the other hand, qualitative methods could allow for the investigation of these factors to give greater insight into how women's contraceptive decision-making is experienced. Applying a qualitative method will serve as a tool of social constructionism that encompasses the context, process, and meaning of individual's experiences (Charmaz, 1990; Daly, 2007) –in this case, women's contraceptive use and method choice.

Narratives of an individual's life are better captured through an interactional exchange between interviewees and interviewers (Holstein & Gubrium, 2003).. I used in-depth interviews to further examine the factors involved in women's decision-making processes which lead to contraceptive behaviors that either protect against or leave one vulnerable to unintended pregnancy. The qualitative interviews also allowed me to explore issues that were left out of the quantitative analysis. The

following section details the research design for the qualitative portion of this paper's mixed-methods design.

Site

This research project took place in Philadelphia, PA. Given its specific population composition and natality rates, Philadelphia is a prime site for assessing the decision-making process of women's strategies to protect against unintended pregnancy. The 2013 population of Philadelphia was estimated as 1,556,052 (Philadelphia Department of Public Health, 2016). Making up 42% of the population, there are 648,495 non-Hispanic Blacks living in Philadelphia. Whites make up 36 percent of the population with Hispanics at 13 percent, and Asians at 7 percent.

In 2012, the most recent year of data available, the national teen birth rate was 26 births per 1,000 females age 15 to 19. At this time, Philadelphia had a teen birth rate of 47 per 1,000 (Szymkowiak & Mallya, 2015). Given that about 80-90 percent of nationwide pregnancies among adolescent and young women ages 15 to 24 are unintended (Finer & Zolna, 2011), it is likely that the overall unintended pregnancy rate in Philadelphia is also significantly higher than the national rate. Moreover, the adverse birth outcomes generally associated with unintended pregnancy are prominent in Philadelphia, especially among Black women. Philadelphia has the highest prevalence of low weight births and infant mortality among the 11 largest U.S. counties (Philadelphia Department of Public Health, 2013; 2016). About one in ten (10.9%) Philadelphia infants are born weighing less than 2,500 grams and for every 1,000 births, 10.7 babies die before the age of one. Compared to all other racial

groups, Black women have the highest rates of low birth weight, infant mortality, not receiving prenatal care, and higher order births (5 or more). To advance the understanding of unintended pregnancy, as well as improve the lives of women, children, and families, it is crucial to examine pathways that lead to contraceptive practices that leave at-risk women vulnerable to unintended pregnancy and the consequences detailed above. Black women in Philadelphia provide the precise opportunity to do so.

Sample

Sample eligibility was based on these 7 criteria: marital status, sex, age, race, sexual orientation, sexual experience, pregnancy desires, and fecundity. Eligible participants include never-married women age 18–25 years who self-identify as Black, have had heterosexual intercourse within the past 12 months, are not actively seeking to get pregnant, and are neither sterile nor surgically sterilized. Qualitative researchers have argued that 25–30 participants is the minimum sample size required to reach saturation and redundancy in grounded theory studies that use in-depth interviews (Charmaz, 2006; Dworkin, 2012; Roy et al., 2015). Following such a rule, I recruited and enrolled 30 participants.

Recruitment

The recruitment process had three steps. First, recruitment flyers that detail the project and sample eligibility were posted in specific neighborhoods and advertised on an online forum with specific community targets. West and North Philadelphia neighborhoods were specifically targeted because of their racial composition and

fertility characteristics. City planning districts show clear residential segregation by race, with Black residents comprising large portions in West and North Philadelphia. Furthermore, rates of higher order births, infant mortality, and low weight births are highest among Black women living in the North Philadelphia planning districts (Philadelphia Department of Public Health, 2014).

Second, when interested parties contacted me via email or phone, a screening process was performed to determine criteria to participate. If a woman was deemed eligible, we scheduled a time and location to conduct the interview. During that time, I answered any of the potential participant's questions as well as described my physical attributes. This was hoped to provide comfort to the potential participant as they were agreeing to meet with a stranger.

Third, after confirming the scheduled interview, I met with the participant at the agreed public location (i.e., a library, park, or cafe). We read through the consent materials, filled out a demographic survey, and began the interview. At the conclusion of the interview, I thanked the participant for their time, provided their incentive, encouraged them to refer friends, and answered any remaining questions.

Sample Stratification

A purposive sampling procedure was used to recruit participants. Quotas on personal characteristics were defined to ensure variation. I purposefully sought at least 5 women age 21 and younger, 5 mothers, and 5 cohabitors. These three attributes were selected because of their possible impact on contraceptive decision making.

Certain methods, particularly IUDs, have traditionally been thought of as most appropriate to women who have already had children (Luchowski et al., 2014), even

though the American College of Obstetricians and Gynecologists' (ACOG) guidance of long acting reversible contraceptives (LARC) includes nulliparous women (COGP, 2015 #642). Furthermore, having children can impact a woman's motivation to prevent or delay another pregnancy. Having the accounts of at least 5 women with children gives the opportunity to compare whether being a parent is associated with different decision-making processes than for childless women. Although this study's age range is narrow, much occurs between the ages 18 and 25. This specific developmental stage in the life course has been referred to as the transition into adulthood (Levinson, 1977; Hogan 1978, 1980; Marini 1984) or "emerging adulthood" (Arnett, 2000, 2007). Life course analysts explain that at this stage there is a gradual transition through different periods. Throughout this time, individuals make a number of significant transitions including leaving home, finishing school, starting work, marriage, and childbearing. Recently, these trajectories have grown more diverse with youth moving back and forth or combining higher education and employment, working in non-standard employment, and moving in and out of various unions such as cohabitation. As a 25 year old woman has had more lived experiences and occupies a different present context than an 18 year old woman, I would like to capture these differences to achieve a varied and "thick description" of contraceptive decision making across young adulthood. Because unintended pregnancy is highest among cohabitating women (compared to women in other types of unions) (Finer and Zolna, 2016), my sample includes both cohabiting and non-cohabiting women thereby allowing me to compare differences across relationship statuses, and especially the role of partner negotiation in contraception choice and fertility desires.

Sample Justification

Ideally, interviews would have been conducted with women from a range of racial backgrounds (e.g., Black, Hispanic, and, White women). It would be interesting to evaluate whether different decision-making processes explain racial differences in contraceptive behaviors. However, it would be a very difficult task to conduct enough interviews to sufficiently represent each racial category of women. While the goal of examining women who are most at risk, the qualitative interviews could sample Black and Hispanic women. However, I have settled on interviewing Black women only, in part because of my limited Spanish-language abilities. The rationale for sampling Black women is supported by past literature on contraceptive use and unintended pregnancy (Finer & Henshaw, 2006; Frost et al., 2007; Finer & Zolna, 2016; Mosher et al., 2012; Dehlendorf et al., 2014b). Previous research finds that although both Black and Hispanic women have lower contraceptive use and effective method choice than Whites, Black women experience higher rates of unintended pregnancy (Finer & Henshaw, 2006; Finer & Zolna, 2016; Mosher et al., 2012) and being Black remains predictive of contraceptive practices when holding other factors constant (Dehlendorf et al., 2014b; Frost et al., 2007).

Although the qualitative interviews were exclusively with Black women, the research design can be applied to all women. This work lays the groundwork for future examinations of possible racial differences in contraceptive decision-making. With a larger research team and more time and money, the work could significantly contribute to the understanding of contraceptive use and method choice –overall and racial differences.

Data Collection Procedures

Before each interview, participants were give written forms for providing informed consent and permission to audio record the interview, and they also completed a short questionnaire on their socio-demographic characteristics. The study protocol and interview instruments were reviewed and approved by the University of Maryland, College Park's Institutional Review Board. The interviews were conducted in public places near the participant's homes, during the summer months of 2016 and 2017. Each interview took approximately 40 and 75 minutes, with most lasting about 55 minutes. At the conclusion of the interview, participants received a $30 cash honorarium as compensation for participating.

Questions in the semi-structured interview guide were developed from empirical literature on sexual and reproductive health attitudes and behaviors. Experts in the field of fertility and reproductive health inequalities were consulted to lend face validity to the question guide. The guide was reviewed by Dr. Gladys Martinez, a researcher at the National Center for Health Statistics, fatherhood and family researcher Dr. Kevin Roy, and reproductive health inequalities researcher Dr. Anne Bell. During the interviews, respondents were asked a wide range of questions regarding fertility desires, sexual/reproductive/contraceptive history, sexual and reproductive health, contraceptive knowledge, and interpersonal relationships (see appendix for question guide). Participants were asked to describe feelings towards hypothetical situations with their last sexual partner. Respondents detailed feelings surrounding unintended pregnancy, circumstances where they do not use condoms,

and how they arrived at the decision to use, discontinue, and/or avoid specific contraceptive methods.

As a way to enhance rapport, the interview guide was designed so that topics move from less to more sensitive. Probes were used as necessary to focus the interview and clarify information provided.

All interviews were audio recorded and transcribed verbatim. Loss of confidentiality was minimized by storing data in the researcher's secure locked office. Data documents had study codes and pseudonyms to protect the identity of the interview participants. Transcripts and field notes were imported into NVivo 10 software for organizing the data, coding, and analysis.

Data Analysis

I utilized a modified grounded theory approach for data analyses (LaRossa, 2012). Derived from the triadic coding framework (LaRossa, 2005), I coded the data in three waves: 1) open coding, 2) axial coding, and 3) selective coding.

First, open coding involved reading each transcribed interview line-by-line to identify key indicators that provide insight to the project's goals (LaRossa, 2005). Two stages took place during open coding. In the first stage, I applied established codes or sensitizing concepts as explanatory variables which detail the decision-making process leading to contraceptive practices. The coding protocol was guided by the conceptual framework (described previously) which models contraceptive practices according to the theory of planned behavior. As emphasized earlier, intervening factors are the largest barrier between matched intentions and behaviors. Initial

coding focused on identifying the various intervening factors linked to contraceptive use, specifically identifying contraceptive attitudes, experiences with contraception, and competing goals such as concern for STDs. A second stage of open coding identified emergent codes. This step was an opportunity for discovery whereby. I created new codes to capture unanticipated findings and new insights associated with participants' contraceptive behavior.

The second wave of coding is axial coding (LaRossa, 2005) which includes a within and between case comparison and contrast of similarities and differences within one code. For example, readiness to become a parent is a code that is applied to all participant interviews, but the criteria and meaning may differ across participants. Also, readiness for parenthood is likely to have changed throughout a participant's life course.

In the last wave, I conducted selective coding (LaRossa, 2005), which focuses on a relevant and central concept for the core narrative focus of the analysis. I worked to develop a core category with dimensions describing the women's experiences. In order to construct meaning around how their experiences have shaped their contraception practices, I linked the concept to other sub-concepts.

Data Quality

Krefting's (1991) summary of Guba's model for assessing rigor in qualitative research was used as a standard to ensure quality in this study. Guba's model is especially useful for assessing data quality for this project, because it provides guidelines to evaluate the rigor of both quantitative and qualitative research. The

epistemological standards of this model include truth value, applicability, consistency, and neutrality (Krefting, 1991).

Truth Value

The strategy of credibility was used to obtain truth value, which closely translates to internal validity in quantitative analyses. It asks whether the researcher has established confidence in the truth of their findings. This is achieved by accurately capturing experiences as they are lived and interpreted by the participants. While collecting and analyzing the data, I checked my understandings with others, both in the field and laypersons. I wanted to ensure my interpretations of the collected narratives were not influenced by my own value of the circumstances described by respondents. Member checking and prolonged engagement were used to reach truth value in this project.

Applicability

Applicability is akin to the concept of external validity in quantitative research. As quantitative research generally emphasize generalizability, qualitative methods work towards fittingness and transferability. Transferability refers to how capably the study can be examined in different populations and contexts for future research studies (Krefting, 1991; Klopper & Knobloch, 2008). Although my qualitative interviews were exclusively with young Black women in Philadelphia, the research design can be effortlessly applied to any racial group of young women in any geographic location.

Consistency

Consistency considers whether findings are replicable with the same subjects or in a similar context. A strategy of consistency in qualitative work is dependability (Krefting, 1991), which in quantitative work deals with replicability and reliability. One way dependability can be directly ensured is by a dense description of the research methodology (Krefting, 1991; Klopper & Knobloch, 2010). This paper includes explicit details of the methods employed to conduct the study. Doing so increases the chances that if the study was repeated the same results would occur.

Neutrality

Neutrality refers to the freedom from bias in the research procedures and results (Sandelowski, 1986). This standard is most vital in positivistic research. Quantitative methodologies stress the importance of objectivity and distancing one's self from the research. However, qualitative work is cognizant that the research is a part of the data and sees the value of having diminished distance between researcher and participant (Krefting, 1991). Rich data can be gathered if there is a trust built between the researcher and participant (Lincoln and Guba, 1985). Which is often achieved through rapport building with repeated engagement with participants and/or by the context that shapes the lives of the participants in relation to the researcher.

Neutrality can be reached using the strategy of confirmability. Two processes are used to establish confirmability: confirmability audit and peer examination. An audit trail of raw data, field notes, records, and transcripts will be kept to validate the data (Guba & Lincoln, 1982). "An audit trail offers visible evidence that the researcher did not simply find what he or she set out to find" (Bowen, 2009). To

make sure the data speaks for itself, and is not based on biases and assumptions of the researcher, the insights of colleagues and mentors specializing in qualitative research will be called upon. I will discuss my research process and findings with neutral colleagues to engage different understandings and possibly identify negative cases.

Reflexivity

According to Krefting (1991), reflexivity is "an assessment of the influence an investigator's own background, perceptions, and interests have on the qualitative research process" (p. 218). To ensure credibility and confirmability, I reflected on how my characteristics and social position might shape the study's data collection, interpretation, and analyses (Daly, 2007). As I am a young Black heterosexual woman who was born and raised in Philadelphia, I shared many salient identifiers with the study participants. The only distinguishing characteristic between my participants and me was my socioeconomic status (SES). Understanding this possible impact, I adopted a conversation style (i.e., casual tone and using slang rather than academic/medical jargon) and dressed in jeans and a t-shirt in hopes that it would minimize SES as a barrier between the participants and myself. Overall, I believe my other commonalities trumped this difference. Many researchers have found their educational background creates a barrier to building trust with their participants. I portrayed myself more as a college student than a PhD candidate. Many of the women had attended at least one year of post-secondary education and were impressed that my academic work was driven by a topic concerning them. Rather than my education presenting a divide, it established another commonality between many of the interviewees and myself.

The women seemed comfortable when speaking with me about intimate topics such as sexual experiences and family desires. Many women disclosed that they lie to medical professionals or that no one person knows all that they had laid out, but they freely discussed the information with me. Previous research has found that peers are often consulted about contraception and sexual encounters (Hodgson et al., 2013; Levy et al., 2015). It could be that my age and the likelihood that I resemble a friend the participant has, made the women more open to conversing about personal encounters and feelings. Moreover, they understood that I would not disclose their identity. Therefore, anonymity may have acted as a protection to speak honestly. During the interview, women used terms of endearment often used with friends, like "girl" and "sis". Also, during the consent process, women asked questions about the research and me. At every interview, I disclosed that I am from Philadelphia, but go to school in Maryland. During the interview, this allowed women to mention locations and schools in Philadelphia without my having to interrupt for clarification on what type of school or whether they were referring to a gym or a store. This casual flow set the interview scene to feel more like two friends chatting than an interrogation.

Outside of demographic characteristics, personal experiences also impact interpretation and analysis. My friends and I have dated men from the same pool as my participants. Although some participants' stories sounded familiar and participants spoke to me as a friend, I actively worked to interpret and analyze the data critically from an emotionally removed standpoint. To ensure this project's rigor, I took reflexive memos after each interview. In these memos, I summarized a few

points about the interview's content as well as how the participant reacted to me and the general quality of the interaction. Also, as mentioned earlier, I discussed my research process and findings with neutral colleagues to compare different understandings. This helped me monitor my reflexivity and increase credibility and confirmability of the data.

Chapter 7: Competing Goals and Contraceptive Method Decision-making

Introduction

This chapter presents findings from the qualitative one-on-one interviews with Black women in Philadelphia. These interviews attempted to contribute to what little is known about how high-risk young adult women approach decisions about whether to use contraception and which method to select. Although the decision-making process has not been sufficiently examined, there is a growing body of research that has surveyed preferences about contraceptive features (Gilliam et al., 2009; Hodgson et al., 2013; Melo et al., 2015; Jackson et al., 2016; Marshall et al., 2016). Common factors that women usually consider are: effectiveness of the method, knowledge about the method, and experiential insight on side effects associated with the method (Gilliam et al., 2009; Hodgson et al., 2013; Melo et al., 2015; Marshall et al., 2016). Jackson et al. (2016) have found that Black and Latino women were more likely to report that protection against sexually transmitted diseases and having control over when and whether to use the method is an extremely important contraceptive feature than did their White and Asian counterparts.

It should be noted that the majority of the research exploring women's contraceptive preferences has been conducted via surveys in clinic or hospital-based settings. This information is especially insightful for informing providers of contraceptive counseling. However, such samples only include women who are already accessing health and/or family planning services. The experience of those who are early in the decision-making process, those who are resistant to using

contraceptives, and those who have decided to only use condoms are not included in such samples. The decision-making processes of these women are vitally important to preventing unintended pregnancy, as they are arguably at greater risk than women currently seeking family planning services.

The following reports on findings from interviews with Black women who were recruited from non-clinical settings. The interviews explored contraceptive preferences as well as the many intervening factors over the life course that have guided their contraceptive choices, and their potential vulnerability to unintended pregnancy. First, a decision-making schema is presented to highlight the criteria women considered when deciding whether to use any method, and how they selected which method to use. Then, differences between types of contracepting women are explored to distinguish pathways of varying protection against unintended pregnancy.

Research Questions

The objective of this project is to understand the determinants of contraceptive practices that leave at-risk women vulnerable to unintended pregnancy. To understand that risk, this chapter presents results to the following research question:

> **R_1:** Among high-risk women, how do competing goals and intervening factors impact women's decisions about contraceptive strategies to protect against pregnancy?

Findings

Table 7 describes the sample's demographic characteristics. Among the 30 participants, the mean age was 22 (range 18-25). Over half (17 out of 30) of the participants had experienced at least one unintended pregnancy. Of these 17 women, eight had children. Half (50%) of the sample members were not currently using any modern contraceptive, about a quarter (23%) were using a condom, and another quarter (27%) were using some other modern method (mostly the contraceptive pill). This breakdown in type of method users aided in understanding the nuances of strategies to protecting against unintended pregnancy. Women in this study discussed individual and interpersonal sources that influence their contraceptive decision-making. The decision to use a modern contraceptive and which method to select were entangled. In their deliberations, women weighed feelings toward available methods against not using a modern method altogether. The process of method selection and the subtle forces which differentiate women by method type are discussed below.

Table 7. Frequency Distribution of Young Adult Black Women at Risk for Unintended Pregnancy, by Selected Characteristics, In-depth Interviews, 2016 and 2017	
Socio-demographics	**Number of Participants**
Age	
18-20	7
21-23	12
24-25	11
Education	
Less than high school	3
High school	22
Bachelor's+	5
Employment Status	
Not working or in school	7
Working or in school	23
Sexual & Reproductive	
Cohabiting	
No	22
Yes	8
Number of Children	
None	22
One	7
Two+	1
Ever Experience Unintended Pregnancy	
No	13
Yes	17
Respondent's Mother	
College degree	
No	24
Yes	6
Contraceptive Practices	
Current Use	
None	15
Condom	7
Other Modern Method	8
Pill	5
LARC	2
NuvaRing	1

Decision-making Schema: Four Feature Criteria

Akin to findings from previous studies, women in this study decided on methods based on what worked best for them and "their body". Women referenced their bodies as a separate entity which was unique from the next woman. Yet, although women thought of their contraceptive decisions as based on their unique self, four themes were common among most decision-making processes. Surprisingly, none of the women listed effectiveness of the method as a deciding factor. Women decided on whether to use a contraceptive based on 1) a method's association with weight gain, 2) invasiveness, 3) understanding how the method works, and 4) required frequency of use. Detailing how women use these items as a checklist, 21 year old Erica, who recently started a serious relationship, explains why she chose the contraceptive pill:

> "I wasn't ready for nothing going up in me. I was just like, I have an alarm clock that will tell me when to take this. I don't need none of that in me. I don't want it. Cause I had friends who were on it before me and were telling me about the different side effects. And looking at the different side effects of birth control was just like ugh. The pill was the best one. Just taking it every day, so it's constant. You know it's in your system. I don't know what the hell this [implant] is doing in my arm. I'm not putting a female condom on, I'm not doing all that weird stuff. Just give me the regular pill. I go and get my prescription from the jawn when I'm about to run out. It's so easy. I don't have to worry about getting a shot. The depo makes your hips spread a lot. I don't want that. I like my shape. I don't want it; no, no."

With similar sentiments, 23 year old Chantell who just ended a long-term situation-ship, detailed her choice to use the contraceptive pill:

> "Well, I heard the shot, it gets you fat. The other ones like the patch and stuff, the five-year thing, no. I just don't feel like inserting anything in my body. So like the NuvaRing and all that stuff was no. so I'll just do it the normal way and just take [the pill] every day."

Women who were currently using a method and women who discontinued use shared similar approaches to selecting their method. The one differing criteria was the emphasis on frequency of use. Shamira, a 23 year old previous Depo-Provera user currently living with her boyfriend detailed her decision:

> "I was contemplating to myself "what should I get? Should I get the patch or this or that?". The patch sounds weird, like why am I wearing a band aide all day? The band aide is going to come off, I'm going to get pregnant. I'm not doing that. Then, I heard of the IUD. That was weird. Why are you putting something inside me? I didn't understand. You're going to put this Aries symbol looking thing inside? So, that's a no. Then it was the thing that goes in your arm. I'm thinking "is this surgery?" I'm not getting cut to not have a kid. Then lastly the pills. I can't even take vitamins daily. This is not going to work. I forget to take it and then I'm going to be pregnant. Depo was the least that you had to really try to worry about. I can get this one shot and be good for 3 months."

Another previous Depo-Provera user, 24 year old Kayla who is a religious woman in a 2-year long relationship, detailed a similar decision process:

> "I am bad about remembering. I'm like, "I know I'm not going to remember to take a pill and I'm definitely going to f*** around and get pregnant." So I was like, "No, that's not going to work for me." And I didn't trust the patch because I'm like, 'That's bulls***. Uh-uh." I'm like, "I need something that's going to be in my system ASAP.' So I'm just like, "Yeah, I'm not going to do that." At the time, they were still experimenting with the implants, so I was like, "Yeah, no, I'm not going to. Also, y'all not going to catch me with that inside me. No way, no how." So I was like, alright. This seems like the safer bet, because I just have to come every three months to get an injection and I'll be good. So I got on that."

As can be seen by these women's accounts, the factors considered were in relation to one's own feelings and the experience of peers or word of mouth –which supports previous research findings about peer networks' association with contraceptive decisions (Ali et al., 2011; Anderson et al., 2014). The four criteria considered by the women are expounded in their accounts. The fear of weight gain seemed to be associated with a specific method rather than contraceptives in general. Women spoke about Depo-Provera's impact on women's bodies, detailing weight gain and change in figure. Having a foreign object inside of the body was a turn off to the large majority of participants. For that reason, the NuvaRing and LARC methods were unacceptable for most women.

On top of wanting to avoid the side effects associated with specific methods and how invasive some methods are, women had concerns about how certain methods worked and the need to take the pill daily. Women's understanding of how a method

worked –"is it in my system"– was important. Participants seemed skeptical of how newer methods worked. This skepticism was largely directed towards the contraceptive patch and implant. Across this sample, the pill was widely accepted. During the interviews, women spoke of the pill as synonymous with birth control and referred to it as the regular method. Although women were open to this method, the challenge was remembering to take it consistently. Thus, contraceptive self-efficacy[3] was the differentiating factor between current users' and discontinuers' contraceptive decision-making. Differences across groups by method type will be further explored in the upcoming sections.

Discontinuers vs Current Users: Type of Method Matters

Ample time was spent at the axial coding stage of analysis in order to tease out differences between current users and those who have discontinued use without starting a new method. One diverging factor was the use of a specific method – DepoProvera. Of the 24 young women who have ever tried a hormonal contraceptive or IUD, 12 had tried Depo-Provera. Remarkably, all 12 of those women were no longer using that method. Moreover, among those 12 women, 10 were no longer using any method of modern contraceptive. This discovery led to a deeper investigation of women's experiences with the method. As earlier detailed in women's accounts of their contraceptive decision-making process, Depo-Provera was associated with weight gain. The association was enough for some women to avoid

[3] Contraceptive self-efficacy, commonly referred to as CSE, is the ability to take responsibility for sexual and contraceptive behaviors across a variety of situations (Levinson, 1995). A CSE scale has been developed and used to assess motivational barriers to contraceptive use among diverse samples of sexually active women and men.

trying the method. However, experiencing this side effect was enough to forego modern contraceptive altogether.

Aaliyah, a 25 year old mother of 2 who is cohabiting with her boyfriend, tells of her experience with Depo within the first round of the injection:

> "I tried Depo and it had me like 200 pounds and I couldn't do it. Yeah, heavy a little bit, I couldn't do it. I went from 115 to 150 within the first three months of the shot. Yeah, and after that I just kept gaining weight, and gaining weight, and I'm like, 'Oh, no!'"

She also explains why she has not tried a method since discontinuing DepoProvera: "I'm scared of the side effects. Like I'm so scared to try anything. There's so much stuff that goes wrong. And I'm the type of person that gets the side effects." Women who experienced weight gain when using Depo-Provera had a heightened sense of susceptibility to side effects of any other contraceptive methods. Their experience with Depo set off their general objection to all contraceptive methods. Similar to Aaliyah's experience, Carla and Kayla describe:

> "I don't believe in birth control. I don't know how that sounds, but I don't believe in taking the pill. I was on depo before when I was 17 and I gained 50 pounds in two months. Then all the symptoms and side effects. I know I'll be the one to get them. I'm not with it." – Carla
>
> "[Depo] is the devil's contraceptive. I was a twig. I got on Depo and I turned into a hippo. I always tell people to stay away from that crap. I'm done. Done with it all. I'm just going to end up with the side effects. I'd rather not deal." – Kayla

Not only did the participants gain weight while on the method, they each spoke about still carrying the weight despite discontinuation. This lingering physical outcome acted as a reminder of the side effects of contraceptive. Despite wanting to protect against unintended pregnancy, these women were not willing to risk their body again. This phenomenon supports the hypothesis that negative experiences with contraceptives serve as a deterrent to using any effective method to protect against unintended pregnancy. Unlike any other method, negative experiences with Depo-Provera set some women on the path to using either condoms or no method.

Condom Users vs Non-Users: Trust & Concern about STDs

Comparing condom users with non-users revealed a path of method dissatisfaction and partner trust which led to contraceptive strategies that leave women at greater risk to unintended pregnancy. Most women (24/30) in the sample had tried a hormonal method or IUD. Those who were no longer using such a method had immediately turned to condoms. Condoms were thought to be less of a hassle, because they are free of side effects –which each of these women cited as reason for discontinuing their previous method. Women explained:

> "Birth control comes with side effects and I was not with it after that. I was like, I'll just use condoms." –Jasmine, Depo-Provera and contraceptive pill user
>
> "I just stick to condoms. They're perfect. I don't get side effects from that so…" –Aaliyah, previous Depo-Provera user

> "For me, no. I don't think so. I think I'm done. The side effects were a lot. The depression from that mess… I'm solely relying on condoms." –Aisha, previous contraceptive pill user

Women were also comfortable with condoms, because of their protection against STDs. The concern of STDs was prevalent among this group of women. Even those who specifically say they were not worried about STDs spoke about getting tested regularly. Knowing their status was understood as a way of protecting their status:

> "Yeah, I get tested. I know they say you should get tested every 3 months, but I'm not that. I just get tested after every partner. Just to make sure. Like if I ever come back with something, it was you. I just want you to know it was you." –Briana, contraceptive pill user

> "I'm very straight forward and blunt. I took him to the doctors and he got tested for everything. I get tested every 3 months, so I knew my history already. He had to get his. You have to stay protected out here." –Dominique, withdrawal user

> That has always been a thing for me. I was always cautious. Asking 'so you're not screwing nobody else, right? This is it?'. I would always ask. Even that is not enough. I always get checkups. Yes, every 6 months I get tested. – Jasmine, withdrawal user

Knowing their sexual health status was not the sole protection against STDs. Trust and partnership were important for women's decision to have unprotected sex. As expounded by Chantell (contraceptive pill user), women were sure to use protection with new partners:

> "If I know you for a long time and we've been talking for a long time, then okay…. Like more than a month or so. But if I know you like I know who you are, I know where you came from, and like then, "Okay, I somewhat trust you." But if I just met you and I don't know you at all, then of course we're going to have protection. Or I don't plan to take you serious or it's just nothing. If I know that won't last long, then yeah."

Even when using a hormonal or IUD contraceptive, women were sure to use protection with new partners. Najah exclaims, "I definitely use condoms, period. IUD or no IUD. You can't trust.". Najah was not in a relationship. During the interview she detailed how she has contracted STDs in the past. She explained that she was young and didn't respect herself. In more recent years, she has been assertive in making decisions to protect her sexual and reproductive health.

For the large majority of women who were using condoms, dissatisfaction with a hormonal method and/or having sex with a new partner was the motivation for relying on this method. Although condoms were used for their dual protection against unintended pregnancy and STDs, once trust was established in a relationship, condoms were thought of as "no longer necessary" or as Jasmine, a newly single mom, (current condom user) explained, "At first we were using condoms, but once you trust someone I guess that just flies out the window." This rationale was common among women in committed relationships:

> **"**I think when you're in a relationship with somebody, trust is the biggest thing. So if you can't trust them, you shouldn't be with them. Considering the fact that I know I can trust him and that I go to the doctors regularly, it's… It

sounds dumb, but my ways have worked so well for so long. I can hear myself talking and I'm like "you sound dumb". But it works! Being with that one person that you trust, before you start a relationship and having sex, you get tested and they get tested. If yall don't use condoms and someone pops up with a STD you know you're not having sex with anyone, you know who it is." –Shamira, withdrawal user

"We never think about using a condom. I mean we're together and we're planning on getting married, so… It actually took us a while. I think it was probably like six months, like once we started living with each other. That's when we stopped" –Aaliyah, withdrawal user

"Well, if I had other partners, I would definitely always use protection. It's because we've been together so long, I don't. When we first got together, we used it probably two or three months. I always made sure I was safe before we stopped." –Shante, contraceptive pill user

"Since we were in a relationship, we stopped using condoms. Because me and him were in a relationship, I didn't feel we needed to. We used the pull out method –which, you know, wasn't 100% effective."–Dominque, withdrawal user

As expounded in the quotes above, the dual protection of condoms is lost once a monogamous relationship is built. Women referred to feeling safe with the fidelity of their relationship and, therefore, thought STD contraction was not a risk. The thought of condoms as protecting against pregnancy was now overlooked. The shift to thinking of condoms as solely protecting against STDs then left these women

vulnerable to unintended pregnancy as they were mostly relying on withdrawal. In general, the differentiating factor between condom users and non-users is developing trust with a sexual partner. These groups are not as different from one another as much as they are a step in the process leading to the other (condom use to non-use).

Unintended Pregnancy: Framing Current Risk

Thus far, this chapter has focused on how women at highest risk of unintended pregnancy arrive at their contraceptive decisions. The relationship of perceived risk and contraceptive choice is often assumed. However, this analysis tested such assumption by scrutinizing if and how risk of unintended pregnancy is comprehended in relation to contraceptive practices among this group of women. This section presents findings on respondent's experience with and framing of unintended pregnancy.

Despite not wanting to be pregnant, the idea of planning a pregnancy was foreign to most women. Even when planning a pregnancy was a personal goal, it was considered an unlikely achievement. Kiana who is single and dating explains, "Ideally I would like to actively and consciously make a child. But that's not realistic, because most people are not actively consciously made." The idea and observed experience that most pregnancies are unplanned trumped personal goals. Similar to Kiana, when asked when she would like to start having children, Tyra who is cohabiting with her partner replied "Maybe in a couple years, but I can't really control that. It's just something that happens. I have never heard of anyone in my family plan their pregnancies. They were all really surprised."

Planning a pregnancy and preventing pregnancy were framed as differing acts or at least never connected by the respondent's accounts. Respondents were aware that measures could be taken to avoid pregnancy, but were not sure that a pregnancy could be planned. Even so, very few women spoke about their risk of unintended pregnancy in relation to their contraceptive practices. In fact, many women didn't consider modern contraceptive until they were confronted with an unintended pregnancy. In my sample, 17 out of 30 women had experienced at least one unintended pregnancy. All but one of these women described feeling shocked when they found out they were pregnant. A missed period signaled that women could possibly be pregnant. If that did not raise suspicion, experiencing symptoms did. Some women explained that a change in appetite signaled "something was wrong":

> "I ended up getting pregnant unexpectedly a year into our relationship. I was puking. Everything I used to love eating, I hated. That's when I knew something wasn't right. I thought I was dying. I had never been pregnant prior to that. Never had a pregnancy scare prior to that, so I was freaking out. I asked my mom to go to the hospital because I seriously thought I was dying. We went and they were like 'holly hell you are 10 weeks pregnant' and I was shocked. It was not expected, but it was another chapter in my life." –Jasmine, current condom user
>
> "When I found out, it was shocking. Well, I'm not going to lie, I didn't know. He knew. It was really weird. One day we were eating and I kept picking only at the onions. . He was weirded out and asked 'why you just keep eating the onions? Are you pregnant?'. I swore I wasn't. He kept saying I was. I took a

test and he was right. I was 19. I wasn't having babies, so I didn't know. For 3 whole years I never got pregnant. I didn't think I could." –Shamira, withdrawal user

Both Jasmine and Shamira speak about the shock of finding out they were pregnant, because they had never been pregnant before. Although it could be considered faulty reasoning, this notion rang true among those who had experienced an unintended pregnancy. Finding out about the pregnancy made women realize that they were always at risk. For many, it was not until getting pregnant that modern contraception became a concern. Shante who has a family and is cohabiting with her boyfriend, describes when she found out she was pregnant with her toddler and how she started using the implant after:

"I was shocked! I didn't want any kids. I always thought I wouldn't have kids, but stuff happens. Then it was kind of awkward to tell my mom I was pregnant, because we never talked about sex or birth control and stuff like that. When I got pregnant, [the doctors] told me about the implant and I looked into it. They were telling me about it at the hospital. Before I got pregnant, I didn't know anything about it."

Similarly, Najah describes her first time considering contraceptives –which was after the birth of her son. She explains,

"I started about 2 months after the birth of my son. I knew I didn't want to have any more children. I don't believe in abortion, so I had to do something. I chose an IUD, because it's for 5 years. And I heard really bad stuff about the depo. I heard it makes a lot of blood clots. Then there are people who gain

weight. I've seen it. After the baby, I just started Googling. The IUD, I heard no bad reports from Black women. So I got that."

The confrontation of an unintended pregnancy initiated thoughts to use a modern contraceptive to protect against it happening again. In regard to their concerns about unintended pregnancy at the time of interview, their level worry did not differ across type of contraceptive method users. While women who were currently using a hormonal method or IUD have a more effective strategy to avoid unintended pregnancy, they were not noticeably more motivated than other groups. When asked about a hypothetical pregnancy that respondents found out about today, most women explained they would be unhappy or have mixed emotions:

"It would be a lot. Two emotions. I know it's a blessing, so I guess after I was shocked and sad and everything, I would probably accept it, but I would definitely be upset." –Shante, contraceptive pill user

"I wouldn't be too happy, because being a single mom is hard as it is. I think I would have his help and support, but a baby itself is expensive. They're cute, but they are expensive. I wouldn't be happy." –Dominque, condom user

"Oh my god. It would change everything. I would be terrified. I think I would feel the emotions of what am I going to do, how is that going to affect the things I have done, and where will I be in the future? Scared…" –Shardae, condom user

"It depends on who it is by. That's real because I feel like I would be chilling if I had the proper support and a person to do that with. So if it was by someone who would do what I need done in every way –mentally,

emotionally, spiritually, financially– then yes, I'd be happy. If not, I'm going to Planned Parenthood." –Aisha, condom user

Interestingly, feelings toward the hypothetical pregnancy did not align with general feelings about the impact of such a pregnancy on the respondent's life goals. Women had a clear idea of what they wanted to achieve before having children, but some also thought an unintended pregnancy would not ruin their plans. Some women even asserted that it would make them work harder to reach their goals. Stacey, a single woman who is currently using the contraceptive implant proclaims:

> "I feel like [finding out I was pregnant] would just motivate me to move faster with my plan and probably would pick up another job so I can get a little bit more stable and have at least some sort of extra income. Because right now I am making just enough to be like satisfied like I'm not struggling. But I'm not over, so I would have to make sure I had enough income."

Dominque is a current condom user who has already had to maneuver reaching goals with having a child earlier than desired. Like Stacey, she explains how it could be a motivator:

> "It wouldn't interfere with my goals… I wouldn't be happy, but I would feel as though I know what I need to do. It would actually push me more to reach my 5 year goals. I think it would push me more. I would already know what needs to be done"

Although expecting to reach their goals, women acknowledged that they would have to make adjustments. Kayla, who is currently using withdrawal, illustrates this by stating, "I would probably have to work ten times harder and probably have to

organize things a little different to incorporate that child, but nope, I am still graduating and I am still getting my house." This adjusting and added difficulty to achieve goals was not ideal for everyone. Contraceptive pill user, Maya outlines the expected difficulties:

> "It definitely would be hard to finish school. Having a kid is so much work. Like you have to find somewhere for them to go when you go and do something. You can't exactly take them to school with you. They'll be crying in class and you can't really have that in class, so it's kind of like my life would stop."

Not only concerned with difficulty of meeting goals, as withdrawal user Shamira details, women were also concerned that having a baby would impact how well they performed their goals. She explains:

> "There are some girls out here that can have a baby or 3 and still go to college and work. Have 2 jobs, get a degree, and go nowhere with it. You know, people do that. That's fine, but I don't want to be like them. I want to get my degree and actually be able to use my degree. What I actually want to do, I can't be in the house or anything. I can't be in the house with a baby or trying to find someone to watch a kid. So it's like I have to wait."

Those who expected the unintended pregnancy would jeopardize their 5 year goals, spoke about terminating the pregnancy. The possible consequences of an unintended pregnancy were weighed against abortion; when asked about a hypothetical pregnancy, most women brought up abortion without prompt. Abortion was thought

of as a fallback to protect their reproductive and life goals, however some women were more open to the idea than others. Jasmine, a condom user, explains:

> "I am pro-choice, but me personally I do not believe in abortions. So I would be disappointed in myself. Like I said before, I want to be stable in life before having another kid… but I'd be like let's do this. It's kid number 2 and earlier than I expected, but let's get it done. What other choice is there?"

Illustrating the other side of the spectrum is Briana, who is a contraceptive pill user, insisted:

> "I mean if I was to get pregnant right now, I would probably have an abortion. To each their own. If you feel that you can take care of a kid, go ahead. But me, I'm not ready for kids, so I would have an abortion. I don't look at it like that. Some people look at it as you're killing a life, but I feel as though if you bring a life into this world and you're not prepared to take care of it, you're doing just as much damage."

As can be inferred from Briana who is in a relationship that is growing more serious, the rationale of having an abortion was not only to protect the woman's own life, but also to protect the child from a life of hardship. With similar sentiments, Sabrina (current withdrawal user) who has a daughter and is trying to build an amicable relationship with the father, divulges:

> "If I was pregnant today, I would get an abortion. Just because I am pro-choice. I'm against abortion for myself, *but* I also know that from a mature standpoint that with everything that I'm trying to do, I could not have another baby. Why would I do that to have [a child] in a life where they just going to

struggle? Then, I'm going to struggle cause I have 2 kids instead of 1 to worry about."

Freda, a current condom user, who had terminated a pregnancy 2 years prior to the interview also acted with concern for the life of the child. She explains,

"I was 17. I'm 19 now and it's not that much of a difference, but I was young. I didn't have a job I was still in school and stuff like that. I just couldn't do it. I didn't want to bring a baby into the world like that. It's not just because it's embarrassing. It's not that. I just wouldn't be able to provide the life that I always wanted. So we would probably be in and out of Welfare. I don't want to do that. It's not to going to be easy, but I don't want it to be too hard. Doing that would make it too hard on them. They wouldn't be able to grow up right."

The women who considered terminating the hypothetical pregnancy were mostly women who had never had an abortion. In my sample, one-third (36.7%) of women had experienced an elective abortion. These women stressed the trauma of the event. Most women explained the pain and psychological impact during and after terminating their pregnancy:

"I didn't get the normal abortion. I got the pill. So basically it's a miscarriage and then a period. It's still some cramping. The period lasted like a month afterward. My boyfriend was in the house some of the time, but not most of the time. After that you get this psychological problem. Not everybody, but I did. I was super depressed and sad. It was so weird. I would really cry for like an hour at night time. Maybe every other night. I can't do that again." – Shamira, withdrawal user

> "I had one before and I'll never do it again. Yeah, like some people have depression or feel some type of way. I mean I think about it, but I don't really like get emotional. Well, I try not to get emotional. But I told myself I would never do that again so that was a lesson learned." –Chantell, contraceptive pill user

In addition to the physical and psychological aspect of terminating a pregnancy, women also listed the financial and social elements involved in shaping the experience as a lesson learned. Aisha, a current condom user, perfectly expounds this notion:

> "So last year, I had just turned 24 and I found out I was pregnant by my boyfriend at the time. I just didn't see it with him, so I went on down there and… Before that experience, I was very passionate about getting the word out about access. That hasn't changed, but what has is that I think we need more truth telling around the experience of getting an abortion. I consider myself a womanist and what I see is that far-right feminist say 'oh it's just a medical thing. It's fine. You can do it', then I also hear from other folks that it is a major emotional and psychological thing. I definitely see that more, but I also see that it is a medical decision. There are symptoms and side effects, *and pain*. A lot of things. Also, just dealing with the social aspect of doing it. Even logistically. The fact that I had to take a week off from work and I didn't want to tell my White male bosses that I needed a week off for an abortion. It was only because of my class status and where I was in my organization that I could mystically take a week off for a 'procedure' and that be it. But I know

> the sisters working down at the shop rite or whatever can't do that. So it definitely needs to be more conversation about how to make it logistically possible and how to offer real support and truth telling behind the experience."

Experiencing the abortion disturbed these women. To avoid such feelings again, abortion was then framed as a lesson learned. Women did not want to face this circumstance again. Yet, such an experience was not associated with using an effective strategy to prevent another unintended pregnancy, thereafter. Among the 11 women who had an abortion, only 3 were using a hormonal method or IUD at the time of interview. The remaining women were vulnerable to having another unintended pregnancy and would likely carry it to term.

Discussion

The findings in this chapter revealed pathways of ineffective strategies to protecting against unintended pregnancy via contraceptive decision-making, method discontinuation, and comprehension of risk.

Previous research has investigated contraceptive preferences by asking women which features are most important to them. However, on the basis of this study, it appears that young Black women do not arbitrarily decide features they like and dislike. When making contraceptive decisions, these women worked within the confines of available methods. Each contraceptive method has its own combination of features which women evaluate. Women had four criteria to selecting a method, they questioned: 1) Is it associated with weight gain? 2) Is it invasive? 3) Do I understand how it works? 4) Will I have to take it every day? It is surprising that effectiveness of

the contraceptive was not a priority, because this is a top preference found in other research (Gilliam et al., 2009; Hodgson et al., 2013; Melo et al., 2013; Marshall et al., 2016). When detailing their thought-process to method selection, not a single respondent mentioned effectiveness. Moreover, the set of criteria listed above excludes most of the more effective contraceptive. These standards are leading to choices that are less protective against unintended pregnancy.

Weight gain was only associated with Depo-Provera. Depo is a semi long acting reversible contraceptive with a 6% failure rate. However, women avoided the method because of the fear of weight gain. The method was infamous among this group of women. Those who avoided the method had heard numerous stories of women they knew who tried the method and gained significant weight. These women stressed about not wanting to change their body shape. Most of those who did use the method shared accounts of weight gain that has stuck with them ever since. Women's concern of invasiveness was attributed to all methods that would require a foreign object in their body. This included the Nuvaring, IUD, and implant, all of which are methods with a high effectiveness level, with 9%, 0.2%, and 0.05% failure rates, respectively. Not understanding how a method works was generally geared towards the contraceptive patch. Women didn't understand how it was "in their system". Despite not being convinced of its effectiveness, the contraceptive patch has less than a 10% failure rate. The last question women posed when considering which method to select was related to frequency of use. This was directed towards the contraceptive pill. The pill was widely accepted among this group of women, however some were reluctant to use the method because they believed they would not remember to take it

every day, thereby exposing them to an unintended pregnancy. Based on these criteria, few contraceptive methods are left and they each have a low effectiveness level.

Another pathway which is leaving women vulnerable to unintended pregnancy is method discontinuation. Findings revealed a common 2-step process of discontinuation: first was experiencing side effects and second was building trust in a relationship. Most women had tried a hormonal or IUD contraceptive. Those who were no longer using such a method had stopped because of experiencing side effects. Discontinuing a method without switching to a new method was unique among women who were using Depo-Provera. All but one woman, who used Depo-Provera had discontinued the method because of weight gain. After this, these women thought they were prone to the side effects of all other contraceptives. These women, and discontinuers of other methods, switched to condoms. Condoms were thought of as a safer bet, because they are free of side effects. The hesitance women developed towards hormonal contraceptive led them to condoms. However, many women eventually discontinued that method too.

Trust in relationships made women feel condoms were no longer necessary. This notion was true even among women who were using condoms as their most effective contraceptive. Although condoms were thought to be a method to protect against pregnancy –particularly among those who discontinued a hormonal method– their utility was clouded once a monogamous relationship was established. Women were adamant about using condoms with new partners or partners they did not trust. While trust was reason to believe risk of contracting STDs was lower, the risk of

unintended pregnancy was still high. Women's trust in their relationship led to relying on withdrawal which is not an effective strategy to protect against unintended pregnancy. In my sample, a few women experienced unintended pregnancy via this pathway of method discontinuation. This theme is evidence that, among the women sampled, the goal to protect against STDs appeared to be considered more important than the goal of pregnancy prevention. Women remained more cognizant and strategic in protecting against STDs than they were of pregnancy. The choice to stop using condoms once trust was gained was a decision concerned about STDs and not about pregnancy.

With contraceptive decision-making less concerned with effectiveness level of the method and there being more than one pathway of using a less effective contraceptive, the risk of unintended pregnancy is high among this group of women. Yet, respondents did not think of their risk any differently across contraceptive methods. At the time of interview, each respondent did not want to become pregnant, yet few (8 out of 30) were using a more effective contraceptive strategy to protect against unintended pregnancy. To better understand motivations to prevent pregnancy, feelings toward a hypothetical pregnancy were explored. When asked "how would you feel if you found out you were pregnant today?", most respondents explained they would not be happy. Negative feelings about a hypothetical pregnancy were shared by most women, from those using a modern method to those using withdrawal as their most effective contraception. Even the expected difficulty of having a/nother child at that moment was similar. Although women were split with some believing the pregnancy would motivate them to achieve their goals and others

thinking a baby would interfere with their goals, this divide did not differ across type of contraceptive users. Those with contraceptive practices that are more exposed to unintended pregnancy were part of the majority who detailed having a negative experience with a modern contraceptive (which led to using condoms or withdrawal). Negative experiences (or fears of them) were more important to these women than was avoiding an unplanned pregnancy. Women appeared discouraged as they stressed that living with the side effects of contraceptives for the number of years they wanted to prevent pregnancy was too taxing. Unfortunately, that meant using a strategy that left them at high risk of an unintended pregnancy and its consequences.

This study also found that realizing the risk of unintended pregnancy came too late for some women. Using a modern contraceptive to avoid unintended pregnancy did not become a goal until after women experienced an unintended pregnancy. Women were in relationships and having unprotected sex, but never fathomed the possibility of getting pregnant until it happened. Unintended pregnancy was common among this sample of women –17 out of 30 had experienced one. Although most of these women began using a modern contraceptive after having their child or terminating the pregnancy, few were still using a method at the time of interview. Most of these women discontinued their modern method due to side effects, and proceeded to use condoms until they felt they could trust their partner to be monogamous, and then ultimately, stopped using any method (other than withdrawal). This type of process clearly put many women at risk for another unintended pregnancy.

Limitations and Strengths

A strength of the study was its use of in-depth interviews, which allowed for exploring the trajectory and context of contraceptive strategies more fully than quantitative methods would have permitted. This study had some limitations. It used a sample of young women living in Philadelphia and results may differ elsewhere. Furthermore, the study focused on Black women for recruitment. Women from other racial/ethnic groups may face a differing set of circumstances and experiences which impact their contraceptive decision-making. Future research involving more young women in other racial groups could explore the possible differences in factors which impact contraceptive practices. Nonetheless, information from Black women in this study enhanced our understanding of the context in which large numbers of women employ less effective contraceptive strategies of protecting against unintended pregnancy. As this group is at highest risk of unintended pregnancy, knowledge about their contraceptive decision-making could aid in building strategies to help more women reach their reproductive goals.

Conclusion

Findings from this research highlight how using the best contraceptive strategy to avoid pregnancy is challenged by women's method selection criteria, negative experiences with preferred methods, and building trust in a relationship. Overall, at each step of this process, women were using less effective strategies than they might have chosen to protect against pregnancy. Efforts to keep women protected from both STDs and unintended pregnancy could focus on the duality of condoms. Safe sex campaigns emphasize that condoms are the best strategy to protect against STDs, but

never mention pregnancy. Women understood this duality until a relationship was established. Public health messages reframing condoms as a strategy that protects both sexual and reproductive health, could increase the proportion of women not using any modern contraceptive method. While condoms may not be the most effective at protecting against pregnancy, it is better than solely using withdrawal –as many women in this research experienced their unintended pregnancy while relying on the method. It may also be a more acceptable suggestion to women who have discontinued hormonal methods because of experiencing side effects.

Although the effectiveness level of a method was not considered when women deliberated over which contraceptive to choose, women were open to one effective method in particular –the pill. Taking the method the same time every day was hard for some women to remember. Women knew this would make the method ineffective and for that reason they avoided or stopped using it. Ironically, this framing of concern was not applied to other methods, such as condom use and withdrawal – which are already less effective methods. Helping women increase their contraceptive self-efficacy by suggesting approaches for consistent and correct use of the contraceptive pill would equip more women to use more effective strategies to protect against pregnancy.

Chapter 8: Discussion and Conclusion

The objective of this research project was to examine the determinants of contraceptive practices that leave at-risk women vulnerable to unintended pregnancy. A mixed methods approach was used to examine racial differences in this process over time and, in a more recent context, to explore factors involved in women's contraceptive decision-making. This chapter provides an overview of the important insights and contributions of this work. Overall, this project excelled at providing insights to women's use of less effective contraceptive methods. Findings feature pathways to condom use, reasons for contraceptive non-use, experiences leading to method discontinuation, and perceived risk of unintended pregnancy. Themes are presented with the support of both methodologies as they worked in concert to build a better understanding.

Condom Use

The most significant and overarching finding from this research is that Black women appear to be more successful at protecting themselves from contracting STDs than they are at protecting against unintended pregnancy. In this paper's conceptual framework, concern of STDs is presented as a competing goal to using the most effective contraceptive methods. Previous research attempting to understand the Black-White gap in contraceptive practices ignores the other health goals women may be juggling. Considering how women may select a contraceptive method based on other concerns than unintended pregnancy better mirrors a decision-making process

and allows room for the rationale of less effective method choice among those at-risk of unintended pregnancy.

In this paper, I first looked across a half-century of data from the NSFG that reveals overwhelming evidence that the Black-White gap in contraceptive protections against unintended pregnancy has grown over time. When holding all other variables constant, in 2011-2015, the Black-White gap in condom use relative to more effective method use was 3 times larger than the Black-White gap in 1988. This dramatic increase was practically unmovable and few factors were statistically significantly related to contraceptive practices. The decomposition analyses revealed that we only understand about 2% of the difference between Black and White women's use of condoms versus more effective contraceptive methods in 2011-2015. It is scary that less is known about the gap today than was in the past, especially because of the magnitude of the difference that currently exists. If socio-demographics, sexual, and reproductive characteristics do not help to explain these differences, more work is needed to understand women's decision-making leading to their contraceptive choices. Quantitative work will not do it alone.

The qualitative portion of this research built on these findings by providing insights into the reasoning behind the observed contraceptive practices of young Black women, especially the use of condoms to the exclusion of many other modern methods The first insight is regarding selection criteria for contraceptive methods. Most research concerned with contraceptive choices among at-risk women focuses on the likelihood of using the most effective methods. However, the women interviewed for this project were not concerned with typical use failure rates. Women wanted to

know: 1) Is the method associated with weight gain? 2) Is it invasive? 3) Do I understand how it works? and 4) Will I have to take it every day? This set of trepidations essentially excluded the most effective of methods; women were left with either using the pill or condoms. The second insight on condom use provided by the qualitative interviews is dissatisfaction with a hormonal method. Women explained that they decided to rely solely on condoms after experiencing unbearable side effects from their contraceptive. Condoms were framed as a safer bet because they were free of side effects and protective against STDs. Most women in the sample stressed the use of condoms with new partners regardless of hormonal method use. Hence, moving to only using condoms was a comfortable choice among this group of women. However, most women discontinued using condoms after the first month of a relationship, and then relied on withdrawal as their only method.

This research illustrated that between 1988 and 2011-2015 the decrease in more effective method use among Black women was largely picked up by condom use. As Black women became better protective against contracting an STD, they became more vulnerable to unintended pregnancy. Health interventions should better survey women's health goals by offering strategies to meet most, if not all, of those objectives. Simply encouraging the use of more effective methods not only ignores other healthy behaviors, it may also be a wasted effort. As described in this paper, many Black women did not desire methods that require a foreign object in the body, thereby largely ruling out LARCs which are the most effective reversible contraceptives available. Women's accounts also detailed a cultural distaste for Depo-Provera which is a semi-LARC with a low failure rate.

Given this group of women's contraceptive preferences, what methods are effective at helping them reach their reproductive goals? These women are more likely to be attracted to the contraceptive pill. The method was often referred to as the "normal" way of protecting against unintended pregnancy. The one reservation women expressed was with its consistent use. Contraceptive counseling that offers strategies for remembering to take the pill on time may encourage more women to use such an effective method. Suggesting the pill alongside condoms may be most successful for achieving both goals (pregnancy and STD prevention).

Non-Use

Similar to condom use, the quantitative portion of this research reveals an increase in the Black-White gap in not using any contraceptive method. When holding all other variables constant, in 2011-2015, the Black-White gap in non-use relative to more effective method use was 2 times larger than the Black-White gap in 1988. Such an increase does not readily offer a logical explanation. However, I argue that non-use may partially reflect the discontinuation or inconsistent use of condoms.

Insights from the qualitative research illustrates the common navigation from condoms to withdrawal once a trusted relationship was developed. Trust in a partner muddled the perceived dual-protection of condoms. Most women began solely relying on condoms after dissatisfaction with a hormonal method. They explained that condoms meant protecting against both pregnancy and STDs without the risk of side effects. However, once they developed a monogamous relationship, condoms' utility shifted. These women no longer felt at risk of STDs and ceased condom use. Unfortunately, concern of pregnancy was not considered when making this decision.

For me, this pathway to non-use is suggestive that the increase in non-use between Black and White women, between 1988 and 2011-2015, may be led by the increased race difference in condom use over time. Also, this further supports the overarching contribution that Black women are more successfully protecting against STDs than they are against unintended pregnancy. Among the women interviewed, trusting a partner led to 4 women contracting an STD. However, such trust led to many more unplanned pregnancies (24 pregnancies among 17 women). Future research should examine women's contraceptive history leading to current method selection to wholly understand less effective strategies to protecting against unintended pregnancy.

Negative Experiences: Depo-Provera

A great deal of research that explores contraceptive use only examines the methods women are currently using. Knowing what women are currently doing to protect against pregnancy informs the researcher about current risk. However, it provides little insight into why the current method has been selected. Someone currently using a diaphragm could have been using the contraceptive pill a month before being surveyed. Reasons for the switch could include preferences or circumstances, such as a change in health insurance. Understanding how women arrived at their method choice, especially those who are less protected against pregnancy, can highlight where public health efforts could be focused. The qualitative portion of this project allowed for looking across Black women's contraceptive history which was especially informative on the move from an effective contraceptive to less effective methods. This project found that one method was powerful enough to dissuade use of any other effective method thereafter: Depo-Provera.

The injectable contraceptive, Depo-Provera, became available in the United States in 1992. At the time, it was the longest acting reversible contraceptive (LARC). Like current debates about LARCs (Gomez et al., 2014; Higgins et al., 2016), this method was heavily promoted for minority women. Eugenic motivations have been used to explain the pattern and prevalence of racial disparities in Depo-Provera (Scully, 2004; Volscho, 2011). The perceived harm surrounding this method is so strong among Black women that an Anti Depo-Provera Clergy Coalition exists. The method is associated with weight gain –especially among Black women (Polaneczky & LiBlanc, 1998). However, the most pressing issue with the method are the associated health dangers. Black Box warnings from the FDA are mandates to notify patients on the significant risks associated with a drug. In 2004, the FDA released such warnings about Depo-Provera on it causing loss in bone mineral density and recommending use of no longer than 2 years. This warning further fueled the debate as women had already been subjected to these effects for 12 years and the method has continued to be suggested to minority women.

Racial differences in Depo-Provera use were also captured in this project. The quantitative analyses show that in the 2011-2015, Black women were using Depo-Provera at a rate almost 3 times higher than White women. In the qualitative portion, although no women were using the method at the time of interview, 40 percent of the sample had tried Depo-Provera and *every* participant had heard a horror story of someone's experience. As mentioned earlier, women shared an understanding that Depo-Provera could make you gain weight or change your physique. Most of the interviewed women who had tried Depo-Provera had reported significant weight gain

while on the method (11 out of 12). Women detailed how they looked before, during, and after use. These women were frustrated that they still struggled with the weight despite no longer using the method. The weight acted as a reminder of contraceptive's side effects. Many of these women swore off contraceptives as they were convinced that they were more susceptible to the side effects of *any* method. Essentially, this shared experience put women at risk of unintended pregnancy, as they saw no choice but to use less effective contraceptive strategies of protection (condoms or withdrawal). Knowing why someone is resistant to contraceptives or specific methods is pertinent information for helping women select a method to protect against pregnancy.

Framed Risk of Unintended Pregnancy

A great deal of research has sampled women at risk of unintended pregnancy, yet few studies have explored women's perception of being "at-risk". The qualitative interviews in this study unmasked how high-risk women comprehended and framed their risk to unintended pregnancy. By conventional definitions (Brown & Eisenberg, 1995; Santelli et al., 2003), the women in this study were all at-risk of an unintended pregnancy, though many women described not being cognizant of their risk until it was a reality. More than half (56.7%) of the sample had an unplanned pregnancy, yet all but one explained being shocked to find out. Many of these women gave faulty reasoning for not realizing their risk to unintended pregnancy. They explained that because they had never been pregnant, they didn't fathom their risk of pregnancy. Women were in relationships, having sex, and not using effective contraceptives, but the risk was not recognized. Previous research finds that belief that they could not get

pregnant is a common reason for unprotected sex among women (Nettleman et al., 2007; Ayoola et al., 2007; Biggs et al., 2013). However, the offered reasoning in this study was a bit different. Women weren't under the impression that they were sterile; instead, the thought of pregnancy just never came to mind.

I believe this unawareness of risk reveals an issue of self-efficacy, or a person's belief in their ability to accomplish a task. It can play a major role in how people approach goals, tasks, and challenges. Even among those with the goal to have a child at a defined time, there was this idea that pregnancy cannot be planned. There was conflict in this notion, because women were aware that measures could be taken to avoid pregnancy, but they were still not convinced that pregnancy could be intentional. They referred to the many mothers they knew who had never planned their pregnancies. With no peer examples of planned pregnancy, women presented their reproductive goals as hopes. Those who didn't think of their risk until confronted with pregnancy, may have never been told that it could be planned. Media campaigns could work to promote women as having power in many avenues and among those, choice of pregnancy should be one. Reminding women, especially high-risk women, of their control may be necessary as they may not have been told before engaging in unprotected sex that puts them at risk.

Conclusion

The insights provided by this rigorous mixed-methods analysis have shed light on the disparities in contraceptive practices that women use to protect against unintended pregnancy and the challenges that high-risk women face to employing better contraceptive practices. Overall, the findings call for a rethinking of contraceptive

interventions for women at high-risk of unintended pregnancy. More recent Black-White differences in contraceptive use are substantial and significantly larger than they were decades ago. Black women are at much greater risk to unintended pregnancy than compared to their White counterparts. If we ignore this dramatic increase in the Black-White gap in protection against unintended pregnancy, we run the risk of allowing the inequity to continue to grow worse.

The one-on-one interviews with Black women highlighted the perceived barriers to using more effective contraceptive methods to protect against unintended pregnancy. This project identified those barriers as the criteria involved in contraceptive method selection, method discontinuation and the temporary use of condoms, and the comprehension of risk. Increasing women's self-efficacy could be the best aid to helping women utilize more effective contraceptive strategies to reach their reproductive goals. Pushing the most effective contraceptive methods on high-risk women will do little to decrease rates of unintended pregnancy, if those methods are objectionable. Interventions must work within the confines of what women/patients want or do not want in a contraceptive method. Patient centered strategies have been proven more successful at protecting individual's health (Griffin et al., 2004; Wolf et al., 2008; O'Brien et al., 2010). Ensuring women have access to their desired methods (in this case the pill and condoms) as well as providing tools for consistent use of those methods is likely the better approach.

Appendices

Table A1. Percentage Distribution of Young Adult Women at Risk for Unintended Pregnancy, by Selected Characteristics, National Survey of Family Growth, 1988 and 2011–2015 (unweighted N= 2,598)

	1988			**2011-2015**		
	Total (n=1,369)	**Black** (n=501)	**White** (n=868)	**Total** (n=1,229)	**Black** (n=392)	**White** (n=837)
Socio-demographics						
Age						
18-20	35.7	35.3	35.9	36.7	37.8	36.2
21-23	37.3	38.7	36.4	44.3	41.3	45.6
24-25	27.0	26.0	27.7	19.0	20.9	18.2
Education						
Less than high school	18.9	22.9	16.7	14.0	17.9	12.2
High school	73.6	73.7	73.5	72.4	74.7	71.3
Bachelor's+	7.5	3.4	9.8	13.6	7.4	16.5
Employment Status						
Not working or in school	24.3	31.7	20.1	22.5	27.3	20.2
Working or in school	75.7	68.3	79.9	77.5	72.7	79.8
Federal Poverty Level						
0-99	25.9	42.7	16.2	35.2	50.3	28.2
100-199	22.0	23.2	21.3	22.7	23.9	22.1
200+	52.1	34.1	62.4	42.1	25.8	49.7
Metropolitan Status						
Rural	20.5	15.2	23.6	17.7	9.9	21.4
Urban	79.5	84.8	76.4	82.3	90.1	78.6
Sexual & Reproductive						
Married and/or Cohabiting						
No	63.9	80.2	54.5	70.5	82.1	65.0
Yes	36.1	19.8	45.5	29.5	17.9	35.0
Number of Children						
None	59.8	43.7	69.1	61.2	43.9	69.3
One	25.0	33.1	20.3	19.0	26.8	15.4
Two+	15.2	23.2	10.6	19.8	29.3	15.3

Birth Control Education						
Sex education						
No	25.4	23.2	26.7	25.2	25.8	25.0
Yes	74.6	76.8	73.3	74.8	74.2	75.0
Talk w/ parents						
No	42.7	33.7	47.9	33.9	38.8	31.5
Yes	57.3	66.3	52.1	66.2	61.2	68.5
Respondent's Mother						
Teen mom						
No	59.2	46.3	66.7	65.5	50.3	72.6
Yes	40.8	53.7	33.3	34.5	49.7	27.4
College degree						
No	87.9	93.6	84.6	75.9	82.9	73.1
Yes	12.1	6.4	15.4	24.1	18.1	26.9
Medical Services (past 12 months)						
Pregnancy test						
No	77.2	74.2	78.9	64.6	57.6	67.9
Yes	21.8	25.8	21.1	35.4	42.4	32.1
Pap smear						
No	18.0	13.37	20.6	39.9	34.7	42.4
Yes	82.0	86.6	79.4	60.1	65.3	57.6
Pelvic exam						
No	19.6	18.4	20.3	39.4	37.8	40.1
Yes	80.4	81.6	79.7	60.6	62.2	59.9
Type of Contraceptive Use						
More Effective	56.9	58.3	56.2	57.3	45.2	62.9
Less Effective	7.5	6.4	8.1	5.5	6.6	5.0
Condom use	13.9	10.9	15.6	16.9	21.2	14.9
Non-Use	21.6	24.4	20.1	20.3	27.0	17.1

Table A2a. Stepwise Multinomial Logistic Regression: Non-Use vs More Effective Method, Pooled 1988 and 2011-2015 sample (unweighted N= 2,598)				
	Race Alone	**Interaction of Race and Year**	**Socio and Sexual/Repro**	**Birth Control Education, Mother's Characteristics, and Medical Services**
Socio-demographics				
Race				
White (ref.)	1.00	1.00	1.00	1.00
Black	1.55***	1.17	0.85	0.95
Survey Cycle				
1988 (ref.)	1.00	1.00	1.00	1.00
2015	0.95	0.76*	0.71*	0.44***
*Race*Survey Cycle*				
Black*1995 (ref.)		1.00	1.00	1.00
Black*2015		1.88**	2.09**	2.22***
Age				
18-20 (ref.)			1.00	1.00
21-23			0.79	0.94
24-25			0.99	1.14
Education				
Less than high school (ref.)			1.00	1.00
High school			0.62**	0.71*
Bachelor's+			0.56*	0.72
Employment Status				
Not working or in school (ref.)			1.00	1.00
Working or in school			0.69**	0.72*
Federal Poverty Level				
0-99 (ref.)			1.00	1.00
100-199			1.16	1.16
200+			0.82	0.84
Metropolitan Status				
Rural (ref.)			1.00	1.00
Urban			1.05	1.01
Sexual & Reproductive				
Cohabiting				

No (ref.)			1.00	1.00
Yes			0.45***	0.46***
Number of Children				
None (ref.)			1.00	1.00
One			0.91	0.98
Two+			0.93	1.08
Birth Control Education				
Sex education				
No (ref.)				1.00
Yes				1.11
Talk w/ parents				
No (ref.)				1.00
Yes				0.80*
Respondent's Mother				
Teen mom				
No (ref.)				1.00
Yes				1.08
College degree				
No (ref.)				1.00
Yes				1.20
Medical Services (past 12 months)				
Pregnancy test				
No (ref.)				1.00
Yes				1.49**
Pap smear				
No (ref.)				1.00
Yes				0.37***
Pelvic exam				
No (ref.)				1.00
Yes				0.47***
*p<0.05. **p<0.01. ***p<0.001.				

Table A2b. Stepwise Multinomial Logistic Regression: Less Effective Method Use vs More Effective Method Use, Pooled 1988 and 2011-2015 sample (unweighted N= 2,598)				
	Race Alone	**Interaction of Race and Year**	**Socio and Sexual/Repro**	**Birth Control Education, Mother's Characteristics, and Medical Services**
Socio-demographics				
Race				
White (ref.)	1.00	1.00	1.00	1.00
Black	1.10	0.76	0.92	0.99
Survey Cycle				
1988 (ref.)	1.00	1.00	1.00	1.00
2015	0.74+	0.56**	0.61	0.45***
*Race*Survey Cycle*				
Black*1995 (ref.)		1.00	1.00	1.00
Black*2015		2.41*	2.48*	2.31*
Age				
18-20 (ref.)			1.00	1.00
21-23			1.14	1.25
24-25			1.23	1.32
Education				
Less than high school (ref.)			1.00	1.00
High school			1.01	1.17
Bachelor's+			0.99	1.30
Employment Status				
Not working or in school (ref.)			1.00	1.00
Working or in school			0.91	0.95
Federal Poverty Level				
0-99 (ref.)			1.00	1.00
100-199			0.90	0.92
200+			1.34	1.35
Metropolitan Status				
Rural (ref.)			1.00	1.00
Urban			1.09	1.05
Sexual & Reproductive				
Cohabiting				
No (ref.)			1.00	1.00

Yes			1.58*	1.63*
Number of Children				
None (ref.)			1.00	1.00
One			0.95	0.97
Two+			1.12	1.23
Birth Control Education				
Sex education				
No (ref.)				1.00
Yes				0.93
Talk w/ parents				
No (ref.)				1.00
Yes				0.77
Respondent's Mother				
Teen mom				
No (ref.)				1.00
Yes				1.11
College degree				
No (ref.)				1.00
Yes				1.03
Medical Services (past 12 months)				
Pregnancy test				
No (ref.)				1.00
Yes				1.20
Pap smear				
No (ref.)				1.00
Yes				0.59
Pelvic exam				
No (ref.)				1.00
Yes				0.42**
*p<0.05. **p<0.01. ***p<0.001.				

Table A2c. Stepwise Multinomial Logistic Regression: Condom Use vs More Effective Method Use, Pooled 1988 and 2011-2015 sample (unweighted sample N= 2,598)				
	Race Alone	**Interaction of Race and Year**	**Socio and Sexual/Repro**	**Birth Control Education, Mother's Characteristics, and Medical Services**
Socio-demographics				
Race				
White (ref.)	1.00	1.00	1.00	1.00
Black	0.66*	0.68*	0.67*	0.77
Survey Cycle				
1988 (ref.)	1.00	1.00	1.00	1.00
2015	1.21+	0.85	0.87	0.58**
*Race*Survey Cycle*				
Black*1988 (ref.)		1.00	1.00	1.00
Black*2015		2.93***	2.95***	3.07***
Age				
18-20 (ref.)			1.00	1.00
21-23			0.70*	0.82
24-25			0.94	1.06
Education				
Less than high school (ref.)			1.00	1.00
High school			0.89	1.00
Bachelor's+			0.80	1.02
Employment Status				
Not working or in school (ref.)			1.00	1.00
Working or in school			0.71*	0.74*
Federal Poverty Level				
0-99 (ref.)			1.00	1.00
100-199			0.90	0.90
200+			0.90	0.90
Metropolitan Status				
Rural (ref.)			1.00	1.00
Urban			1.05	1.02
Sexual & Reproductive				
Cohabiting				
No (ref.)			1.00	1.00

Yes			0.99	1.08
Number of Children				
None (ref.)			1.00	1.00
One			0.73*	0.79
Two+			0.74	0.87
Birth Control Education				
Sex education				
No (ref.)				1.00
Yes				1.15
Talk w/ parents				
No (ref.)				1.00
Yes				0.73**
Respondent's Mother				
Teen mom				
No (ref.)				1.00
Yes				0.87
College degree				
No (ref.)				1.00
Yes				0.96
Medical Services (past 12 months)				
Pregnancy test				
No (ref.)				1.00
Yes				1.18
Pap smear				
No (ref.)				1.00
Yes				0.44***
Pelvic exam				
No (ref.)				1.00
Yes				0.45***
*p<0.05. **p<0.01. ***p<0.001.				

Table A3. Logistic Regression of Contraceptive Nonuse vs Use, Odds Ratio, by Year and Race, National Survey of Family Growth (unweighted N = 2,598)				
	1988 (N= 1,369)		**2011-2015** (N=1,229)	
	Black (N= 501)	**White** (N= 868)	**Black** (N= 501)	**White** (N= 868)
Socio-demographics				
Age				
18-20	1.00	1.00	1.00	1.00
21-23	0.85	0.96	0.76	1.28
24-25	1.29	1.19	0.82	1.34
Education				
Less than high school	1.00	1.00	1.00	1.00
High school	1.55	1.03	1.76	1.53
Bachelor's+	1.13	0.78	0.98	1.21
Employment Status				
Not working or in school	1.00	1.00	1.00	1.00
Working or in school	0.60*	0.67	1.17	0.86
Federal Poverty Level				
0-99	1.00	1.00	1.00	1.00
100-199	1.51	1.17	0.64	1.43
200+	0.77	0.74	0.95	0.95
Metropolitan Status				
Rural	1.00	1.00	1.00	1.00
Urban	1.12	0.99	1.18	0.94
Sexual & Reproductive				
Married and/or Cohabiting				
No	1.00	1.00	1.00	1.00
Yes	0.89	0.18***	0.63	0.52**
Number of Children				
None	1.00	1.00	1.00	1.00
One	0.49*	2.00*	1.01	1.24
Two+	0.82	1.57	1.09	1.27
Birth Control Education				
Sex education				
No	1.00	1.00	1.00	1.00
Yes	1.83*	1.00	1.15	0.89
Talk w/ parents				
No	1.00	1.00	1.00	1.00
Yes	0.70	0.87	0.97	1.16
Respondent's Mother				
Teen mom				
No	1.00	1.00	1.00	1.00
Yes	1.53+	0.91	0.97	1.14
College degree				
No	1.00	1.00	1.00	1.00

Yes	1.19	0.93	0.97+	1.19
Medical Services (past 12 months)				
Pregnancy test				
No	1.00	1.00	1.00	1.00
Yes	1.87**	2.24***	0.85	1.09
Pap smear				
No	1.00	1.00	1.00	1.00
Yes	0.20***	0.43*	0.54+	0.77
Pelvic exam				
No	1.00	1.00	1.00	1.00
Yes	0.78	0.55+	0.84	0.48**
+p<0.10 *p<0.05. **p<0.01. ***p<0.001.				

Table A4. Logistic Regression of Condom Use vs Other Method Use (among contraceptors), Odds Ratio, by Year and Race, National Survey of Family Growth (unweighted N= 2,598)

	1988 (N= 1,369)		**2011-2015** (N=1,229)	
	Black (N= 501)	**White** (N= 868)	**Black** (N= 392)	**White** (N= 837)
Socio-demographics				
Age				
18-20	1.00	1.00	1.00	1.00
21-23	0.52+	0.60+	1.28	0.86
24-25	0.77	0.61	1.48	1.37
Education				
Less than high school	1.00	1.00	1.00	1.00
High school	0.42	0.65	0.75	2.05
Bachelor's+	0.46	0.78	1.27	1.19
Employment Status				
Not working or in school	1.00	1.00	1.00	1.00
Working or in school	0.50+	0.80	0.68	0.91
Federal Poverty Level				
0-99	1.00	1.00	1.00	1.00
100-199	0.59	1.25	1.05	0.83
200+	0.68	1.16	0.86	0.75
Metropolitan Status				
Rural	1.00	1.00	1.00	1.00
Urban	0.88	1.09	0.73	1.26
Sexual & Reproductive				
Married and/or Cohabiting				
No	1.00	1.00	1.00	1.00
Yes	1.58	1.12	0.77	0.95
Number of Children				
None	1.00	1.00	1.00	1.00
One	0.51	0.85	0.86	0.55+
Two+	0.49	1.47	0.60	0.82
Birth Control Education				
Sex education				
No	1.00	1.00	1.00	1.00
Yes	1.89	0.80	1.55	1.34
Talk w/ parents				
No	1.00	1.00	1.00	1.00
Yes	0.82	0.73	0.75	0.78
Respondent's Mother				
Teen mom				
No	1.00	1.00	1.00	1.00
Yes	0.69	0.76	0.97	0.89
College degree				
No	1.00	1.00	1.00	1.00

Yes	1.10	1.12	0.66	0.89
Medical Services (past 12 months)				
Pregnancy test				
No	1.00	1.00	1.00	1.00
Yes	1.32	1.33	0.72	1.07
Pap smear				
No	1.00	1.00	1.00	1.00
Yes	0.38+	0.39*	0.55	0.56*
Pelvic exam				
No	1.00	1.00	1.00	1.00
Yes	0.30*	0.32**	0.57	0.76
*p<0.05. **p<0.01. ***p<0.001.				

Table A5a. Stepwise Logistic Regression of Contraceptive Nonuse vs Use, Odds Ratio, by Year and Race, National Survey of Family Growth 1988 (unweighted N= 1,369)				
	Race Alone	**Socioeconomic Factors**	**Sexual/Reproductive Health**	**Birth Control Education, Mother's Characteristics, and Medical Services**
Socio-demographics				
Race				
White (ref.)	1.00	1.00	1.00	1.00
Black	1.28*	1.07	0.86	0.97
Age				
18-20 (ref.)		1.00	1.00	1.00
21-23		0.66**	0.80	0.87
24-25		0.80	1.07	1.09
Education				
Less than high school (ref.)		1.00	1.00	1.00
High school		0.61**	0.62**	0.75
Bachelor's+		0.67	0.60	0.86
Employment Status				
Not working or in school (ref.)		1.00	1.00	1.00
Working or in school		0.78	0.63*	0.64*
Federal Poverty Level				
0-99 (ref.)		1.00	1.00	1.00
100-199		1.14	1.36	1.37
200+		0.64*	0.78	0.82
Metropolitan Status				
Rural (ref.)		1.00	1.00	1.00
Urban		1.16	1.05	1.04
Sexual & Reproductive				
Cohabiting				
No (ref.)			1.00	1.00
Yes			0.35***	0.34***
Number of Children				
None (ref.)			1.00	1.00

One			0.93	0.96
Two+			0.99	1.07
Birth Control Education				
Sex education				
No (ref.)				1.00
Yes				1.21
Talk w/ parents				
No (ref.)				1.00
Yes				0.76+
Respondent's Mother				
Teen mom				
No (ref.)				1.00
Yes				1.11
College degree				
No (ref.)				1.00
Yes				0.99
Medical Services (past 12 months)				
Pregnancy test				
No (ref.)				1.00
Yes				2.03***
Pap smear				
No (ref.)				1.00
Yes				0.71***
Pelvic exam				
No (ref.)				
Yes				
*p<0.05. **p<0.01. ***p<0.001.				

Table A5b. Stepwise Logistic Regression of Contraceptive Nonuse vs Use, Odds Ratio, by Year and Race, National Survey of Family Growth 2011-2015 (unweighted N= 1,229)				
	Race Alone	**Socioeconomic Factors**	**Sexual/Reproductive Health**	**Birth Control Education, Mother's Characteristics, and Medical Services**
Socio-demographics				
Race				
White (ref.)	1.00	1.00	1.00	1.00
Black	1.80***	1.68**	1.54**	1.65**
Age				
18-20 (ref.)		1.00	1.00	1.0
21-23		0.79	0.89	1.03
24-25		0.82	0.93	1.07
Education				
Less than high school (ref.)		1.00	1.00	1.00
High school		0.71+	0.70+	0.70
Bachelor's+		0.59+	0.58+	0.58
Employment Status				
Not working or in school (ref.)		1.00	1.00	1.00
Working or in school		0.98	0.92	0.97+
Federal Poverty Level				
0-99 (ref.)		1.00	1.00	1.00
100-199		1.01	1.03	1.05
200+		0.90	0.89	0.90
Metropolitan Status				
Rural (ref.)		1.00	1.00	1.00
Urban		1.02	1.01	0.96
Sexual & Reproductive				
Cohabiting				
No (ref.)			1.00	1.00
Yes			0.53**	0.56**
Number of Children				
None (ref.)			1.00	1.00
One			1.01	1.13

Two+			0.95	1.17
Birth Control Education				
Sex education				
No (ref.)				1.00
Yes				0.96
Talk w/ parents				
No (ref.)				1.00
Yes				1.08
Respondent's Mother				
Teen mom				
No (ref.)				1.00
Yes				1.08
College degree				
No (ref.)				1.00
Yes				1.36+
Medical months)				
Pregnancy test				
No (ref.)				1.00
Yes				0.96
Pap smear				
No (ref.)				1.00
Yes				0.70+
Pelvic exam				
No (ref.)				1.00
Yes				0.59*
+p<0.10 *p<0.05. **p<0.01. ***p<0.001.				

Table A6a. Stepwise Logistic Regression of Condom Use vs Other Method Use (among contraceptors), Odds Ratio, by Year and Race, National Survey of Family Growth 1998 (unweighted N= 1,369)

	Race Alone	**Socioeconomic Factors**	**Sexual/Reproductive Health**	**Birth Control Education, Mother's Characteristics, and Medical Services**
Socio-demographics				
Race				
White (ref.)	1.00	1.00	1.00	1.00
Black	0.69*	0.68*	0.73	0.94
Age				
18-20 (ref.)		1.00	1.00	1.00
21-23		0.55**	0.56**	0.58*
24-25		0.66*	0.68	0.68
Education				
Less than high school (ref.)		1.00	1.00	1.00
High school		0.99	0.95	1.15
Bachelor's+		1.25	1.13	1.58
Employment Status				
Not working or in school (ref.)		1.00	1.00	1.00
Working or in school		0.72	0.67+	0.63*
Federal Poverty Level				
0-99 (ref.)		1.00	1.00	1.00
100-199		0.94	0.90	0.95
200+		0.99	0.94	0.97
Metropolitan Status				
Rural (ref.)		1.00	1.00	1.00
Urban		1.01	1.01	1.02
Sexual & Reproductive				
Cohabiting				
No (ref.)			1.00	1.00
Yes			1.13	1.21
Number of Children				
None (ref.)			1.00	1.00

One			0.74	0.73
Two+			0.83	0.95
Birth Control Education				
Sex education				
No (ref.)				1.00
Yes				1.01
Talk w/ parents				
No (ref.)				1.00
Yes				0.74+
Respondent's Mother				
Teen mom				
No (ref.)				1.00
Yes				0.75
College degree				
No (ref.)				1.00
Yes				1.12
Medical Services (past 12 months)				
Pregnancy test				
No (ref.)				1.00
Yes				1.29
Pap smear				
No (ref.)				1.00
Yes				0.38**
Pelvic exam				
No (ref.)				1.00
Yes				0.33***

Table A6b. Stepwise Logistic Regression of Condom Use vs Other Method Use (among contraceptors), Odds Ratio, by Year and Race, National Survey of Family Growth 2011-2015 (unweighted N= 1,229)

	Race Alone	**Socioeconomic Factors**	**Sexual/Reproductive Health**	**Birth Control Education, Mother's Characteristics, and Medical Services**
Socio-demographics				
Race				
White (ref.)	1.00	1.00	1.00	1.00
Black	1.86***	1.72**	1.80**	1.99***
Age				
18-20 (ref.)		1.00	1.00	1.00
21-23		0.71+	0.84	1.03
24-25		0.97	1.27	1.49
Education				
Less than high school (ref.)		1.00	1.00	1.00
High school		0.87	0.81	0.82
Bachelor's+		0.73	0.60	0.67
Employment Status				
Not working or in school (ref.)		1.00	1.00	1.00
Working or in school		0.88	0.81	0.82
Federal Poverty Level				
0-99 (ref.)		1.00	1.00	1.00
100-199		0.90	0.88	0.92
200+		0.87	0.80	0.79
Metropolitan Status				
Rural (ref.)		100	1.00	1.00
Urban		1.15	1.11	1.10
Sexual & Reproductive				
Cohabiting				
No (ref.)			1.00	1.00
Yes			0.82	0.87
Number of Children				
None (ref.)			1.00	1.00

One			0.69	0.72
Two+			0.62+	0.69
Birth Control Education				
Sex education				
No (ref.)				1.00
Yes				1.43+
Talk w/ parents				
No (ref.)				1.00
Yes				0.77
Respondent's Mother				
Teen mom				
No (ref.)				1.00
Yes				0.94
College degree				
No (ref.)				1.00
Yes				0.82
Medical Services (past 12 months)				
Pregnancy test				
No (ref.)				1.00
Yes				0.92
Pap smear				
No (ref.)				1.00
Yes				0.51**
Pelvic exam				
No (ref.)				1.00
Yes				0.73

Appendix 7. Interview Question Guide

Background

Let me begin by asking you some questions about where you live and you family…

1. How long have you lived in Philly? Are most of your family from here?
2. In as much detail as possible, tell me about your family and life growing up
    a. How many siblings do you have?
3. Did your family size growing up influence your own desire to have children?

Future Desires

4. Are you working or in school?
    a. What kind of job do you have/ would like to have?
    b. What are you studying?
5. 5 years from now, where do you see yourself?
    a. Where would you like to be? What would you like to be doing?
    b. What about 10 years from now? How do you envision your life?
6. Thinking to the future, let's say age 50, describe your ideal life and family.

Past Sexual Behaviors

Tell me about when you first started becoming sexually active…

7. How old were you?
    a. What made you ready to lose your virginity at that time?
8. Did you use protection or birth control then?
9. Were you friends sexually active at the time?
    a. Did that influence your decision to have sex?

Family Desires

10. Do you have children?
    a. When did you have your [first] child?
    b. Think back to when you first found out. What was going through your mind? How did you feel?
11. Looking to the future, do you want to have (a/nother) baby at some time?
    c. When?
    d. :: if childless :: Do you think you can have children?
12. If today you found out you were pregnant, how would you feel?
    a. Earlier you mentioned you want to see yourself [insert response from B6] in five years. Would having a child now affect achieving that?
13. Are you currently in a relationship/dating/seeing someone?
    a. Do you two talk about the future?
    b. How would they feel if you were pregnant right now?
    c. Have you ever had a pregnancy scare with this partner? How did that go? How did you feel? Them?
14. How often do you have sex?
    d. When is the last time you had sex? Was it with [insert person from Q4]?

15. Did you use protection?
    a. :: if birth control:: What kind? Did he know you were on birth control?
    b. :: if condom was used :: Did you ask for a condom to be used?
    c. :: if nothing :: Why didn't you use anything?

STD Contraction & Protection

16. Describe the circumstances of when you have unprotected sex. Walk me through when/why you wouldn't use a condom.
17. Are you concerned about STDs?
18. If you found out you had a STD, like chlamydia, how would you feel?
    a. Would you know where to go for help?
19. What if you found out you had HIV or AIDS?
20. Enough with the hypotheticals, have you ever been tested for an STD?
    a. How often? When was the last time?

Contraceptive Use/ Birth Control

21. How do you feel about birth control?
22. Where have you gotten information about birth control?
23. Please name all the birth control methods that you know about
    a. What do you know about these methods? How did you hear about them?
    b. Do you know anyone who uses or has used them?
24. There are birth control methods that can go in your arm or uterus and protect against pregnancy for several months or even years. How do you feel about that?
    a. Think you would ever try it?
25. Have you ever tried birth control? What kinds have you tried?
    a. If you no longer use them, why did you stop?
    b. Are there any methods you would never try? What are they and why?
26. Are you currently using a method of birth control?
    a. How do you like it?
    b. Where did you get it from?
27. What made you choose [this/not to use a] method?
    a. :: if using :: What things did you consider? Did you talk to anyone before making your decision?
    b. :: if using :: Is there a method you would like to use? Is anything preventing you from using that method?
    c. :: if not using:: Is anything preventing you from using birth control?
28. Could you describe what you'd want in a perfect method of birth control?
29. Thinking of conversations you've had, who have you talked to about birth control?
    a. Do you talk about this with your friends and/or family? What do you talk about, how do those conversations go?

b. Do you talk about it with [people/the person] you have sex with? How have the men you've been with feel about using protection or you being on birth control?
    i. Has a sexual partner ever refused to not use a condom? Please detail that experience.

30. If you ever needed to take "the morning after" pill, how would you get it?
31. How do you feel about abortion?
32. Do you know anyone who has had an abortion?
    a. If you ever wanted to get one, how would you complete that process; where would you start?
        i. Would you tell anyone? If yes, how do you think they would react?

Healthcare and Provider Relationships

33. Where do you get most of your medical care?
    a. What services have you received at this place?
    b. :: if no answer :: If you get hurt where would you go for help?
34. Have you ever seen a gynecologist or had a pap smear?
    a. When was your last visit? Describe your last visit.
        ii. What did you go for? What did you and the doctor talk about? What questions did you ask one another?
    b. :: if no or visit was over a year ago :: Why haven't you been [in so long]? What would make you go for a visit?
35. Do you trust your healthcare provider?
36. Without you asking, has a healthcare provider ever suggested you get on birth control?
    a. Would you please describe that experience? What were you at the doctors for when they made this suggestion? What type of birth control was mentioned? Did you take the doctor's suggestions?
37. Have you ever felt that a medical provider was pushing you to do something that you didn't want to do? Tell me about the experience
    a. Why do you think the doctor made this recommendation?
38. Have you ever felt uncomfortable, judged, or had a bad experience during a visit related to birth control, STD testing, or pregnancy?
    a. What happened?

Patient Preferences

I want to ask you about your preferences during a gynecologist visit…

39. When you visit a clinic, how much control do you want over the final choice/decision –whether it's a procedure, tests, birth control, etc.?
40. Describe the ideal relationship you would like to have with a gynecologist or family planning health provider?

Scenarios

The last few questions are scenarios. I will describe a situation and you tell me how you feel, would handle it, or what advice you would give…

41. Alicia is a young girl in high school who just started having sex. She wants to start using birth control, but doesn't want her parents to find out that you are sexually active. What do you think she should do?
42. Monica and her boyfriend have been together for 3 months. He starts requesting that they stop using condoms… you're on the phone with Monica and she says this. What is your advice?
43. Shanice is a freshman in college. She has been drinking, partying, and has multiple sex partners…

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