

Economic and racial differences in women's infertility experiences

by

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DEDICATION

This work is dedicated to Ben and Noah. You are my world and I love you.

TABLE OF CONTENTS

	Page
LIST OF FIGURES	v
LIST OF TABLES	vi
ACKNOWLEDGEMENTS	viii
ABSTRACT	x
CHAPTER 1: INTRODUCTION	1
Rationale for the Proposed Study	1
The Present Study	3
Focus and Central Aims	4
Dissertation Organization	6
CHAPTER 2: LITERATURE REVIEW	7
What does it mean to be infertile?	8
Theoretical Framework	12
Economic Status and Infertility Experiences	18
Race, Ethnicity, and Infertility Experiences	25
Intersection of Class and Race in Infertility Experiences	26
Women's Infertility Experiences: Conceptualizing Four Realms	28
Controls	40
Review of Models and Hypotheses	44
Summary of Hypotheses	51
CHAPTER 3: METHODOLOGY	53
Data	53
Study Procedure	53

Planned Missing Study Design	54
Analytic Sample	55
Analytic Samples	56
Measures	58
Analytic Approach	70
CHAPTER 4: WHO ARE INFERTILE WOMEN IN AMERICA? A DEMOGRAPHIC PROFILE	72
Comparison with The National Survey of Family Growth	78
CHAPTER 5: ECONOMIC STATUS, RACE, ETHNICITY, AND FERTILITY SALIENCE	97
CHAPTER 6: RELATIONSHIPS BETWEEN ECONOMIC STATUS, RACE, ETHNICITY, AND SELF-PERCEPTION OF INFERTILITY	114
CHAPTER 7: RELATIONSHIPS BETWEEN ECONOMIC STATUS, RACE, ETHNICITY, AND MEDICALIZED INFERTILITY EXPERIENCES	126
CHAPTER 8: RELATIONSHIPS BETWEEN ECONOMIC STATUS, RACE, ETHNICITY, AND CHILDLESSNESS DISTRESS	136
CHAPTER 9: SUMMARY AND CONCLUSIONS	147
REFERENCES	160
FIGURES	172
TABLES	180

LIST OF FIGURES

	Page
Figure 1. Diagram of Helpseeking Model for Infertility from White et al. (2006)	172
Figure 2. Factors associated with fertility salience	172
Figure 3. Factors associated with self-perception of infertility	173
Figure 4. Factors associated with Medicalized Infertility Experiences	173
Figure 5. Factors associated with Childlessness Distress	174
Figure 6. Sample selection for demographic profile of infertile women (unweighted)	175
Figure 7. Flow of fertility salience sample selection and other key variables (unweighted)	176
Figure 8. Flow of self-perception of infertility sample selection (unweighted)	177
Figure 9. Flow of medicalized infertility experiences sample selection (unweighted)	178
Figure 10. Flow of childlessness distress (unweighted)	179

LIST OF TABLES

	Page
Table 3.1. Summary of Exploratory Factor Analysis Results for Economic Status Measure	180
Table 3.2. Frequency Distribution of Level of Medical Help Encountered (N = 2,033)	181
Table 4.1. Demographic Characteristics of Infertile Women Age 25 to 45 in the United States	182
Table 4.2. Comparison of Selected Demographic Characteristics of Infertile Women in the National Survey of Fertility Barriers and the National Survey of Family Growth	184
Table 4.3. Bivariate Relationships between Economic Status and Demographics/Controls, Weighted	185
Table 4.4. Bivariate Relationships between Race/Ethnicity and Demographics/Controls	187
Table 5.1. Demographic Characteristics of Fertility Salience Subsample	189
Table 5.2. Description of Fertility Salience Subsample	191
Table 5.3. Bivariate Relationships between Economic Status and Fertility Salience	192
Table 5.4. Bivariate Relationships between Race/Ethnicity and Fertility Salience	193
Table 5.5. Multivariate Relationships between Economic Status, Race/Ethnicity, and Fertility Salience	194
Table 6.1. Description of Self Perception of Infertility Subsample	196
Table 6.2. Bivariate Relationships between Economic Status and Self-Perception of Infertility	198
Table 6.3. Bivariate Relationships between Race/Ethnicity and Self-Perception of Infertility	198
Table 6.4. Multivariate Relationships between Economic Status, Race/Ethnicity, and Self-Perception of Infertility	199
Table 7.1. Percent Distribution of Medicalized Infertility Experiences	201
Table 7.2. Description of Infertile Women by Level of Medicalized Infertility Experiences	202
Table 7.3. Bivariate Relationships between Economic Status and Medicalized Infertility Experiences	205

Table 7.4. Bivariate Relationships between Race/Ethnicity and Medicalized Infertility Experiences	205
Table 7.5. Multivariate Relationships between Economic Status, Race/Ethnicity, and Medicalized Infertility Experiences	206
Table 8.1. Demographic Characteristics of Childlessness Distress Sample of Infertile Women	208
Table 8.2. Bivariate Relationships between Economic Status and Childlessness Distress	210
Table 8.3. Bivariate Relationships between Race/Ethnicity and Childlessness Distress	210
Table 8.4. Multivariate Relationships between Economic Status, Race/Ethnicity, and Childlessness Distress	211
Table 9.1. Summary of Empirical Support for Hypotheses from Full Regression Model Results	213

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ABSTRACT

Infertility has been identified as a highly significant social issue and a public health priority. However, those experiencing infertility are typically thought of and portrayed by the media as middle-class White women and couples seeking medical treatment. In fact, the majority of social science literature regarding infertility has focused on this same population while demographic differences in infertility experiences, particularly by economic status and race, have not been the subject of comprehensive study.

Guided by the concepts of stratified reproduction, intersectionality, and an infertility helpseeking framework, this dissertation examined the relationships between economic status, race/ethnicity, and four types of infertility experiences using nationally representative cross-sectional data from the National Survey of Fertility Barriers. The sample is drawn from women who meet the medical definition of infertility of having regular, unprotected sex for twelve months or more without conceiving (N = 2,443). The literature suggests that infertility may be experienced differently by marginalized groups as they are embedded in classist and racist contexts and that being non-White, with access to fewer economic resources, may have multiplicative effects on women's infertility experiences, both medical and non-medical.

Results indicate that the demographic picture of infertility includes women of all economic statuses and race/ethnicities at similar levels. Furthermore, there are significant relationships between economic status, race/ethnicity, and women's infertility experiences. Joint effects explain fewer differences in experiences than an index of economic status indicators (income/poverty status, insurance status, receipt of public assistance, and economic hardship). Controlling for various life course, fertility history, and certain predisposing and enabling

conditions reduces the differences in infertility experiences between Whites, Blacks, and Hispanics.

Multivariate results suggested that neither economic status nor its joint effects with race were significantly associated with fertility salience (the thoughts, feelings, and plans infertile women have about having children). However, analyses indicated significant racial differences in certainty of pregnancy intent, importance of motherhood (both higher among Whites) and messages from parents (higher among Blacks and Hispanics than Whites). Economic status explained greater differences in self-perception of infertility and the propensity for medicalized infertility experiences (both outcomes were positively associated with economic status) than did race, with the exception that infertile White women were significantly more likely to think of themselves as having trouble getting pregnant than infertile Black and Hispanic women. Results indicated no significant joint effects of economic status and race on self-perception and level of medicalized infertility help (i.e. talking with a doctor, testing, and treatment). Finally, no significant economic or racial differences in childlessness distress were found. However, analysis indicated support for hypothesized joint effects in that positive association between economic status and childlessness distress is weaker among White women than among Black women. This final result should be interpreted with caution, however, as this subsample was limited to 295 childless women.

This research has important implications for both extending the notion of stratified reproduction as well as broadening our understanding of the demography of infertility. The present findings are useful for both the social sciences/public health and the medical and helping professions focused on addressing unmet needs across the infertile population.

CHAPTER 1: INTRODUCTION

Infertility, generally defined as difficulty producing a biological child, remains a highly significant social issue. For instance, the Centers for Disease Control and Prevention (CDC) consider infertility a “public health priority” (CDC, 2010b; p. 3; King & Davis, 2006; Macaluso et al., 2010) among others such as food safety, heart disease, and stroke. Infertility is often thought of as a problem affecting middle-class White women (Bell, 2009), a belief reinforced by media depictions and the fact that most infertility research consists of clinic-based samples of educated, high-income women. However, numerous studies indicate that low-income and non-White women have similar or even higher rates of infertility (Chandra, Martinez, Mosher, Abma, & Jones, 2005; Greil, Slauson-Blevins, & McQuillan, 2010; Inhorn, Ceballo, & Nachtigall, 2009; Shanley & Asch, 2009, Wellons et al., 2008). Yet, few empirical studies have focused specifically on the infertility experiences of these groups (for exceptions see Bell, 2009; 2010; Inhorn et al., 2009; and Jain, 2006). Attention has mainly been devoted to infertility’s social-psychological variables such as distress, identity transformations, and infertility’s relationship to social roles and encounters with medical services (Greil, 1997; Matthews & Matthews, 1986; McQuillan, Greil, White, & Jacob, 2003). Again, a majority of this literature is focused on upper-middle class White women. Meanwhile, variations in structural aspects of infertility (such as social class and racial differences) have received comparatively less focus.

Rationale for the Proposed Study

Research regarding disparities in infertility experiences has important implications for addressing health inequalities (Jain, 2006). This research is useful as it has the potential to shape social conditions and public discussion that may lead to increased access to infertility treatments and general support for women from at-risk populations (Greil, McQuillan, Shreffler, Johnson, &

Slauson-Blevins, 2010). Moreover, how women of low economic status and non-White women experience infertility is important for both policy makers and health professionals. Interest groups continue to lobby state legislatures for mandated coverage of infertility procedures (Bitler & Schmidt, 2006; Shanley & Asch, 2009), which is particularly timely as the United States moves forward with changes in health care coverage and the Affordable Care Act of 2010.

The literature has largely overlooked the infertility experiences of low-income and non-White women including unmet fertility desires, how they perceive their own in/fertility, and their personal feelings about having fertility problems. However, previous research has addressed persistent economic and racial disparities in medical service use for infertility. These disparities are particularly evident in the unbalanced use of assisted reproductive technology (ART) although overall its use nearly doubled between 1998 and 2007 (CDC, 2010). Smith et al. (2011) examined differences in rates of ART by economic status, yet their analytic sample was limited to households with annual incomes greater than \$60,000, leaving women in poorer households unstudied.

Most attention to poor and non-White women's fertility has been directed toward *preventing* them from having children (Davis, 1970; Shapiro, Fischer, & Diana, 1983) as opposed to their experiences when they cannot have a desired biological child. Furthermore, portrayals in both media and medical facilities typically depict only White, middle-class women and couples seeking infertility help (Franklin, 1990). This contributes to the stereotype of low-income women being both excessively fertile and unfit to mother (Bell, 2009, 2010; Ceballo, 1999). Because research has failed to account for persistent economic, racial, and ethnic disparities in a spectrum of infertility experiences, a comprehensive examination is needed.

This study approaches these disparities using the framework of *stratified reproduction*, or the ways in which membership in particular social locations (class, racial/ethnic, gender, etc.) combined with other social, economic, and political forces are associated with differences in one's experience of reproduction (Colen, 1995; p. 78, Rapp, 2001). King and Davis (2006), researchers from the Center for Population Research of the National Institutes of Health, summarized findings from a scientific workshop held in 2005 to spur collaboration between clinicians and social scientists addressing infertility prevention and treatment. Based on reports from clinic samples, interviews, and nationally representative data, King and Davis (2006) suggested that disparities in infertility exist at various levels including the likelihood of facing infertility, difference in diagnosis by income, race or ethnicity, access to resources (income and insurance coverage) in obtaining treatment, and response to and outcomes of treatment. Yet few empirical studies have comprehensively examined these disparities since this special workshop.

The current study is grounded in the literature suggesting that future scholarship should venture even deeper into the race and class-based inequalities that exist within the American experience of infertility and various approaches to its treatment (Bell, 2010; Inhorn et al, 2009; Shanley & Asch, 2002). Of particular interest in the present study are low-income and non-White women.

The Present Study

The current study examines economic, racial, and ethnic differences in women's infertility experiences using the National Survey of Fertility Barriers (NSFB). The NSFB is particularly beneficial for studying women across the economic spectrum as it (a) conceptualizes infertility outside of the medical setting, expanding beyond clinic-based samples to include women who may have not received a medically infertile diagnosis or may have not received

treatment, (b) contains an oversample of minorities, and (c) contains a large set of economic indicators, including household income, poverty status, receipt of public assistance, insurance coverage, and economic hardship. Providing information about infertility across the economic spectrum and variations by race and ethnicity will raise awareness about inequality in a central aspect of reproductive health. Laws that mandate access to quality fertility care may lead to more equitable access to treatment in spite of economic status and consequently decrease health disparities and other demographic inequalities in the well-being of infertile women and couples.

Focus and Central Aims

This dissertation has two main goals. The first goal is to describe the sociodemographic characteristics and infertility experiences of a recent cohort (2009) of infertile women in the United States, focusing specifically on their economic status, race, and ethnicity. I use the NSFB's definition of infertility, which measures failure to conceive after being sexually active in each of the past twelve months without using contraception. Women's economic status is assessed in a number of ways: income, poverty, receipt of public assistance, insurance coverage, and economic hardship. The demographic characteristics and infertility experiences of White, Black, and Hispanic women are compared. I examine four types of infertility experiences: (a) fertility salience, (b) self-perception of infertility, (c) medicalized infertility experiences, and (d) childlessness distress.

In this study, fertility salience refers to the thoughts and plans a woman has about having (a) child(ren) or not. This concept is measured in terms of, her *fertility desires* (if she would *like* to have a(nother) baby), her *pregnancy intent* (if she actually *intends* to have a child and the *certainty* with which she intends), the importance the woman ascribes to motherhood, and social

messages to have children (how important she thinks it is to her partner and her parents that she has a child).

The second dependent variable, self-perception of infertility, refers to a woman's awareness about her in/ability to conceive or have a baby. In this study, self-perception of infertility is measured in terms of whether or not the respondent thought she has had trouble getting pregnant or may have had a fertility problem.

The third dependent variable, medicalized infertility experiences (MIEs), are those that align with the American biomedical model of health and illness, view medical professionals as having the authoritative knowledge to treat infertility, and consider the "sick-role," or how the person experiencing infertility becomes the passive subject in doctor-patient interactions (Greil, 2002). In this study, MIEs are defined and measured in terms of medical helpseeking (i.e. Andersen, 1968; Pescosolido, 1992) including talking with a doctor or clinic, testing, treatment, and pregnancy outcomes.

The fourth dependent variable, childlessness distress, is defined as the extent of negative feelings among infertile women about their own infertility. For the current study, childlessness distress is measured in terms of women's negative feelings about being childless (e.g., feeling cheated by life, inadequacy, or failure as a woman).

The second goal of the study is to examine the relationship between women's economic, and racial and ethnic characteristics and the four types of infertility experiences described above (fertility salience, self-perception of infertility, medicalized infertility experiences, and childlessness distress) in a multivariate context. Because race, ethnicity, and economic status have been found to have different effects on infertility experiences (Greil, McQuillan, Shreffler, Johnson, & Slauson-Blevins, 2011), I examine both the independent and joint effects of these

variables. These analyses also account for factors that might affect the relationship between these characteristics and these four aspects of infertility. The study includes three groups of controls. First, I control for “life course” factors including age, relationship status, and household composition. Second, I control for fertility history variables including if a woman has ever tried to conceive for 12 months or more without getting pregnant, parity (ever given birth), ever miscarried (or stillbirth), and the number of biological children reported. Third, I account for “predisposing and enabling conditions” including education, employment, depression, self-esteem, social support, internal health locus of control, subjective health, and ethical concerns about ART, as these variables have been theoretically and empirically linked to infertility experiences (White et al., 2006).

Dissertation Organization

This dissertation is organized in the following manner. Chapter 1 provides an introduction to the study. Chapter 2 includes a discussion of main concepts, the theoretical framework, a review of the literature guiding the current study, and specific hypotheses. Chapter 3 includes the methodology of the study, including a description of the NSFB, the analytic samples, procedure, dependent and independent variables, controls, and analytic approach. Chapter 4 presents a demographic profile of a recent cohort of infertile women in the United States and a comparison with similar data from the National Survey of Family Growth (NSFG). Chapter 5 examines the relationship between women's economic status, race, ethnicity and fertility salience. Chapters 6-8 present results of examining the relationships between the main independent variables and self-perception of infertility, medicalized infertility experiences, and childlessness distress, respectively. Finally, Chapter 9 includes a summary of the results, limitations of the study, and implications for future research.

CHAPTER 2: LITERATURE REVIEW

According to the Centers for Disease Control and Prevention (CDC), infertility is considered a public health priority in the United States (Macaluso et al., 2010; King & Davis, 2006). Some studies have found that low-income and non-White women have higher rates of infertility (Chandra et al., 2005; Inhorn, et al., 2009; Shanley & Asch, 2009). However, these marginalized groups underutilize medical services and assisted reproductive technologies (ARTs) compared to higher-income White women (Greil et al., 2011). The majority of empirical studies about infertility use clinic-based samples, leaving the experiences of women outside the medical setting (i.e. those not receiving treatment) largely unstudied. Moreover, even less is known about demographic differences in other infertility experiences such as fertility desires, self-perception, and childlessness distress. The present study adds to the literature by using nationally representative data to examine economic, racial, and ethnic differences in four realms of infertility experiences among women in the United States. I examine differences in fertility salience, self-perception of infertility, medicalized infertility experiences, and childlessness distress across the economic spectrum with a specific focus on low-income and non-White women.

Chapter Outline

This review of literature begins with the conceptualization and measurement of infertility. Second, I provide an overview of the theoretical frameworks that guide the present study. Third, I present background literature regarding the intersection of economic status and the social context of motherhood in the United States, the medicalized process of infertility, and how economic status measures relate to this and other infertility experiences. Fourth, I discuss the literature regarding infertility, race, and ethnicity. Fifth, I discuss the four realms of infertility

experiences that comprise the focal dependent variables of the current study. These include factors associated with (a) fertility salience, (b) self-perception of infertility, (c) medicalized infertility experiences, and (d) childlessness distress within a social context that emphasizes motherhood. In these paragraphs I also present the literature that relates economic status, race, and ethnicity to the focal dependent variables. Sixth, I examine the literature related to three types of control variables: (a) *life course factors* including age, relationship status, and household composition; (b) *fertility history* including having tried to conceive, ever given birth, ever miscarry/stillbirth, and number of living biological children; and (c) *predisposing and enabling factors* including psychosocial, health, and other demographic variables. Finally, I review the conceptual models for the present study and outline specific hypotheses for the dissertation.

What does it mean to be infertile?

Infertility. The concept of infertility has been defined in various ways (see Weller, 2012). The National Survey of Fertility Barriers measures infertility as failure to conceive after being sexually active in each of the past twelve months without using contraception, despite whether trying to conceive or not. In contrast, the National Survey of Family Growth (NSFG), a main data source for the study of women's (in)fertility (supported by the CDC) generally defines infertility as failing to conceive after having regular intercourse for one year, and specifically states:

A woman is defined as infertile at time of interview if, during the previous 12 months or longer, *she and her husband or partner were continuously married or cohabiting*, were sexually active each month, had not used contraception, and had not become pregnant.

[italics added] (Chandra et al., 2013, p. 2)

However, this is limiting in that the CDC does not track 12-month infertility among single, unpartnered women. Rather, the measure in the NSFB allows infertility to be tracked in this demographic of unpartnered women, and more closely coincides with the American Society for Reproductive Medicine (ASRM), who defines infertility as a disease “of the reproductive system that impairs one of the body's most basic functions: the conception of children” (ASRM, 2013, para. 1). Because of this improvement in the NSFB, I present demographic characteristics of infertile women including those who are single and unpartnered.

The rationale behind including unpartnered women in this study is twofold. First, infertility within this population has been largely unexamined. Second, single women are increasingly deciding to pursue motherhood without a partner, especially non-White women (Hertz, 2006). Moreover, single women are historically restricted from infertility treatment (Liu, 2009). This dissertation aims to examine infertility across the economic spectrum comprehensively and therefore gives attention to women of various races/ethnicities, economic statuses, and relationship statuses whose fertility may come into question as they attempt to conceive a child. Furthermore, this dissertation focuses on experiences of non-White women and those of lower economic status, groups that are less likely to be married and are more likely to be single, and omitting them from the study would create a biased sample. This also includes women experiencing primary infertility (i.e., women who have never had a child), and secondary infertility (women who have given birth to at least one child).

While the present analysis considers women infertile by meeting the above medical definition of trouble getting pregnant, much infertility literature actually deals with the demographic term *impaired fecundity*, which can be thought of as trouble having a baby. The subtle but important difference here is that infertility refers only to difficulty getting pregnant

while impaired fecundity (tracked) signifies trouble with either getting pregnant or maintaining a healthy pregnancy through to a live birth (Chandra et al., 2013). For example, a woman who has gotten pregnant twice and had subsequent miscarriages or stillbirths is technically not infertile, but rather has impaired fecundity. This makes the rate of impaired fecundity actually higher than that of infertility (Chandra et al., 2005). The NSFG has tracked infertility only in married (and cohabiting) women since 1973 and has tracked impaired fecundity among all women ages 15-44 since 1982.

Moreover, *primary infertility/impaired fecundity* refers to physical difficulties among those who have not had a live birth (nulliparous), while *secondary infertility/impaired fecundity* occurs among those who have had at least one biological child and are experiencing physical difficulties with having another child¹ (Chandra et al., 2013). The literature reviewed here covers both infertility and impaired fecundity and includes women who have trouble getting pregnant or carrying a baby to term (whether or not they have had a child). In the current study, I include respondents with both primary and secondary infertility so all groups of infertile women are accounted for.

Consistent with the literature reviewed for this study it is also necessary to distinguish the medical terms infertility and impaired fecundity, from social *involuntary childlessness*.

Involuntary childlessness refers to women who may or may not be biologically infertile but have unmet childbearing desires for personal reasons such as a not being married, knowing that offspring would inherit a genetic disease, or other particular cultural contexts (Letherby, 2002).

¹ Analyses of NSFG data suggest that primary infertility should be considered infertility with no pregnancies and secondary infertility should be defined as infertility among women who have been pregnant regardless of the pregnancy outcome because women who have conceived (whether or not they had a live birth) showed more similar levels of fertility-specific distress and helpseeking to those who have had a child than those who have never conceived (Greil, Johnson, McQuillan, & Lacey, 2011).

Infertility and involuntary childlessness are not mutually exclusive, but rather suggest different circumstances and contexts that sometimes overlap (Matthews & Matthews, 1986 as cited by Letherby, 2002). Because my interest is in medicalized infertility experiences, I include those who meet the medical definition of infertility at the time of the survey, whether or not they are socially construed as “involuntarily childless.” However, when analyzing factors associated with childlessness distress, I include childless infertile women who have both or either situational and/or biomedical barriers to fertility, by limiting the sample who have no biological, adopted, step, foster, or other children.

Prevalence of infertility. The prevalence of infertility has been assessed using a variety of measures, however, both the NSFB and NSFG confirm that over half of women aged 25-45 have experienced an episode of medical infertility at some point in their reproductive lives (Greil, McQuillan, & Slauson-Blevins, 2011; Chandra & Stephen, 2010, respectively).

According to the most recent NSFG report (Chandra et al., 2013) among *all* American women ages 15-44, the rate of impaired fecundity (trouble with either getting pregnant or maintaining a healthy pregnancy through to a live birth) remains at about 11%, or about 6.7 million. The proportion of *married* women experiencing difficulty getting pregnant with their first child (primary infertility) has increased significantly since 1965 (17%) to 41-46%, which is consistent with delayed childbearing trends.

The NSFG reports no significant differences in rates of either infertility (trouble getting pregnant after trying for 12 months) or impaired fecundity (trouble with either getting pregnant or maintaining a healthy pregnancy through to a live birth) by percent poverty level. However, Bitler and Schmidt (2006), using pooled data from four NSFG waves (1982-2002) reported significant racial differences in overall rates of impaired fecundity. Black (19.8 %) and Hispanic

(18.2%) women reported significantly higher rates than White women (6.9%). Chandra et al., (2013) reported that between 2006-2010, similar percentages (10%-12%) of Hispanic, non-Hispanic White, and non-Hispanic Black women had impaired fecundity compared to only 6.7% of Asian women. Within racial and ethnic groups, primary infertility also varied by educational attainment. Twice the percentage of Black women aged 22-44 with less than a bachelor's degree experienced impaired fecundity compared to their higher-educated counterparts (26% and 13% respectively). Similar patterns were found among non-Hispanic White women, while educational attainment did not produce significant differences among Hispanic groups (as shown in Table 1).

Theoretical Framework

Infertility, while experienced personally by individuals and couples, is situated within a social context. This context may include several interacting factors that shape the experience of infertility, such as socioeconomic status, race and ethnicity, culture, gender, and age. In spite of this reality, much of the literature, which is largely from a medical perspective, has ignored factors that together influence infertility experiences. In the section that follows, I discuss two theoretical perspectives that underscore how multiple, intersecting factors contribute to infertility experiences in a social context, as well as a specific model about infertility that together frame the basis for the current study.

Intersectionality. Researchers have only relatively recently acknowledged that infertility is more than an upper-middle class phenomenon. As a result, there has been no consistent theoretical framework with regard to studying economic and race-based disparities in infertility experiences. While psychological perspectives have often been used (i.e. Loftus, 2003; Greil, 1997; Matthews & Matthews, 1986; McQuillan, Greil, White, & Jacob, 2003), sociological and feminist theories can bring additional perspectives to bear on infertility scholarship. For instance,

Greil, Slauson-Blevins, and McQuillan (2010) have called for continued advancement of specifically sociological approaches to investigating infertility as opposed to solely biomedical or psychological. A sociological perspective acknowledges that infertility is situated within particular social contexts with several structural factors that affect individuals' experiences. The directive is clear: "Future research must conduct *intersectional* analyses to understand how medical, motherhood, and class ideologies are navigated by and applied to women differentially according to shifting dynamics of power and identity" (Bell, 2009, p. 705, emphasis added).

One school of thought useful for the current study, characterized by intersections of inequality, is Black feminist epistemology, the core themes of which emphasize *intersections of oppression* organized in the U.S. "matrix of domination" (Collins, 2000). Patricia Hill Collins (2000) explained that the sexual politics regulating Black womanhood are essentially exploitations of social class, institutionalized racism, and gender oppression. In her words, instances of "intersectionality... remind us that oppression cannot be reduced to one fundamental type, and that oppressions work together in producing injustice" (Collins, 2000, p.18). Furthermore, anthropologist Rayna Rapp (2001) noted how feminists' attention to inequalities in reproductive experiences has exposed disparities in women's health issues more broadly. Situating infertility research within this framework offers an important perspective for the present study. The current research recognizes that neither race/ethnicity nor economic indicators alone explain disparities in infertility experiences, and therefore examines how these factors interact to affect infertility experiences.

Stratified reproduction. A related useful framework, *stratified reproduction*, originally coined by Shellee Colen in the mid 1980s, refers to the fact that "physical and social reproductive tasks are accomplished differentially according to inequalities that are based on

hierarchies of class, race, ethnicity, gender, place in a global economy, and migration status and that are structured by social, economic, and political forces” (Colen, 1995; p. 78). Stratified reproduction acknowledges both the sexual politics and the political economy stemming from critical second-wave feminist notions of separating (biological) childbearing and domestic labor (social reproduction) from the “natural” and concentrating on critical, social scientific analysis. This conceptualization includes both micro-level interactions (i.e. negative experiences at medical facilities or with health care providers) as well as structural forces (i.e. political effects of a global economy and persistent structural inequality).

For instance, although these circumstances are perhaps a far cry from the eugenics movement of the early 1900s that targeted the poor for compulsory sterilization (Davis, 1970; May, 1995), some parallels can be drawn. Thirty-one states legalized eugenics programs in the twentieth century, which resulted in the involuntary sterilization of thousands of men, women, and children. For example, from 1929 to 1975 North Carolina extended the power to social workers, who could recommend any of their clients for sterilization if deemed "necessary" (Schoen, 2005). Such social policies have been constructed in historically class- and race-specific ways and serve to regulate who should and should not reproduce along these constructed sociodemographic dimensions (Bell, 2009).

There are still remnants of this movement. First, the generalized image in the contemporary American version of stratified reproduction is that poor and non-White women are *hyperfertile*, or abundantly fecund and burdened with too many children (Ceballo, 1999). Secondly, these women are among those labeled unfit to mother (McCormack, 2005; May, 1995). In the same way, involuntary sterilization shifted in the mid 1900s from affecting White, institutionalized “feebleminded” individuals to targeting low-income women of color on public

assistance (May, 1995). This pervasive thinking not only deems it unnecessary to devote attention to poor and non-White women's infertility, but it holds that fertility among these groups should be prevented rather than assisted.

Scholars caution that both economic barriers and pervasive assumptions about who is worthy of parenthood need to be addressed in order to increase infertility solutions for marginalized populations (White et al., 2006). Infertility is a fitting issue by which to investigate several elements of stratified reproduction such as the gendered nature of reproductive medicine in the American healthcare system, the interplay between social structure and individual agency (Greil, Slauson-Blevins, & McQuillan, 2010) and various aspects of parenting and motherhood in contemporary family life.

Infertility helpseeking model. Finally, this study draws from White et al.'s (2006) framework of the process by which women seek medical help for infertility. (This model became the basis for the NSFB survey design; see Figure 1). White et al. extended previous theoretical models of health care access and utilization (i.e. Andersen, 1968 & Pescosolido, 1992) as they applied to medical helpseeking. Andersen's (1968) model considered utilization of health services as a cognitive function of three factors: (a) perceived and evaluated need (such as perception of a problem or an existing health condition); (b) predisposing factors (i.e. age, gender, socioeconomic status, health beliefs); and, (c) enabling factors (insurance, poverty status, actual access to medical care, and other individual, family, and community resources). Pescosolido's (2011) more recent network-episode model (NEM) of health care services utilization considers that decisions to seek help might not be voluntary or based on individual cost-benefit analysis, but rather within the context of social relationships. As individual experiences symptoms, the perception of an illness interacts with one's social network to lead to

whether or not one seeks medical treatment. Examples of these social factors include emotional support from family and friends, encouragement from others to seek medical help, and commonly held beliefs and perceptions within one's social network about medical professionals and institutions.

Drawing from these established theoretical models, there are several unique contributions of White et al.'s (2006) model for understanding infertility. First, it included both treatment seekers and those who do not seek help. It also incorporated a long time frame for helpseeking to encompass various life course factors (i.e. relationship status changes). Finally, it acknowledged the cognitive element in that recognizing fertility problems may be more difficult than other chronic conditions because the first 'symptom' is the continuation of a menstrual cycle, and women can attribute lack of conception to factors such as mistimed intercourse, stress, and aging (White, McQuillan, & Greil, 2006).

Using a pilot study with a sample of Midwestern women (N = 196), their two-step model tested (directly and indirectly) the effects of four groups of factors on two dependent variables: perception of fertility problems and seeking medical help for infertility. Perception of a problem was measured by the question "Do you think of yourself as someone who has - or has had - fertility problems?" Seeking medical help was assessed in terms of whether or not the respondent consulted a doctor about fertility problems or had any pregnancies resulting from medical treatment. I describe how I have utilized and expanded upon White et al.'s. (2006) model for the current project below.

The first of White et al.'s (2006) independent variables was *symptom salience*, "conceptualized as the degree to which the symptoms interfere with personal plans" (p. 1033) and assessed whether a woman was trying to get pregnant at the time of her infertility episode,

her intent to have a(nother) baby and how sure she was that she would have children. The current study builds on these concepts but refers to such factors as part of *fertility salience*, which is defined as the thoughts and plans a woman has about having (a) child(ren). In contrast to White et al., fertility salience avoids the negative connotations associated with “symptom” used in a disease model-approach.

The second group of factors in White et al.'s (2006) model, *life course factors*, was measured by age in years, ever-married status, and parity. The current study controls for these variables as they have been significantly linked to helpseeking and fertility distress. The current study also diverges from the helpseeking model to include household composition in this group of controls, as presence of children can influence fertility decision making (Stewart, 2002). The third group of variables in White et al.'s (2006) model, *individual and social cues*, were comprised of the value of motherhood (measured by a 5-item scale), religiosity, and whether or not the partner wanted (more) children. As noted before, the current study considers the respondent's importance of motherhood and perceptions of her partner's fertility desires as part of *fertility salience*. In addition to the partner's desires, I also include how important the woman thinks it is to her parents that she has a child to operationalize social messages to have children, following McQuillan et al. (2012). Religiosity is excluded from the current study since in prior studies it showed no significant relationship to the dependent variables of interest (Greil, McQuillan, Benjamins, Johnson, Johnson, & Heinz, 2010).

The fourth and final group of factors in White et al.'s (2006) model were *predisposing and enabling factors*, which included total family income, expressive social support (8-item scale), internal health locus of control (5-item scale), subjective health, ethical concerns about ART (5-item scale), education, and minority status (non-Hispanic White vs. all other). In present study

income and race/ethnicity are focal independent variables, the effects of which are examined separately and jointly. The other predisposing and enabling factors from White et al.'s (2006) model are included in the current study as controls. In addition, I account for the women's fertility histories, controlling for whether or not they have ever given birth (parity), whether they have ever miscarried or had a stillbirth, and whether or not they have living biological children.

Furthermore, the present study builds on this model and focuses specifically on an *array* of economic conditions, as opposed to just income, and *multiple* racial and ethnic groups, as opposed to just White versus "other." Moreover, the present study examines their joint effects of women's infertility experiences. I also include more extensive measures of medicalized infertility experiences, moving beyond helpseeking to examine demographic differences in testing, treatment, and outcomes.

In sum, intersectionality, stratified reproduction, and White et al.'s (2006) model of infertility helpseeking provide the theoretical underpinnings for the current study. As I assess economic, racial, and ethnic differences, I account for the role of life course factors, fertility history, and predisposing and enabling conditions (i.e. education, employment, social support, health factors) vis-à-vis four realms of women's infertility experiences. These experiences include fertility salience, self-perception of infertility, medicalized infertility experiences, and childlessness distress as discussed later in this chapter. In the immediately following section, I address how economic status, race, and ethnicity relate to women's infertility experiences generally.

Economic Status and Infertility Experiences

The United States' "motherhood mandate" (Russo, 1976) and pronatalist social context emphasizing parenthood remains strong in spite of diverse cultural variations and a higher

acceptance of childless couples. In fact, many women without children, including women of color, remain feeling stigmatized if they are not mothers (i.e. Clark, 2012). Moreover, the pervasive American model is an *intensive mothering* ideology, whereby exclusively women take on self-sacrificing, time-consuming, wholly child-centered, emotionally involved role in parenthood (Hays, 1996). This framework by definition precludes low-income women who are expected to prioritize full-time employment (if an economically beneficial marriage is out of reach) to provide for her family (Arendell, 2000). Furthermore, intensive mothering requires middle-class resources (Fox, 2006) and without these resources, even the potential to intensively mother a biological child is essentially absent in the lives of low-income infertile women who cannot afford medical infertility treatment. This is significant because the importance of motherhood has been found to be fairly consistent across social class indicators (McQuillan et al., 2008). The negative effects of infertility (i.e. great distress) could be exacerbated when medical help is economically out of reach (Bell, 2009, 2010). Therefore it is important to briefly review the social and economic history of the medicalization of infertility as it intersects medical helpseeking across the economic spectrum.

Medicalization of infertility. Beginning in the 1980s, infertility, among other aspects of reproduction, underwent *medicalization*, or the process by which the medical model became the dominant framework through which people experienced infertility (Greil, 1991). No longer were women simply labeled “barren.” Rather, these individuals and couples could receive a medical diagnosis as a possible explanation for their condition. For this reason, until recently, most studies of infertile women in the United States have been based on clinic samples that have sought and likely received treatment. This population included women who desire pregnancy, have the resources to seek treatment, and feel comfortable in a biomedical setting (Greil &

McQuillan, 2010). Because assisted reproduction is economically and racially stratified, these samples have essentially overlooked the experiences of women who have not sought treatment (because they do not have the financial resources, or desire help, or identify as infertile) (Greil & McQuillan, 2010).

Once infertility is thought of in a medical context, as it is now, many people begin to see it as a potentially solvable problem and go to great lengths to overcome it. Longitudinal, qualitative interviews with 132 couples and 11 women who experienced infertility revealed that once infertility is medically diagnosed, Americans (who are financially able) may take the pursuit of pregnancy to extremes, in spite of high-risk procedures and possible limited likelihood of success (Becker & Nachtigall, 1994). Respondents' personal narratives reflected strong cultural mandates about norms, values, rights, and responsibilities associated with the pursuit of (biological) parenthood. One woman described her feelings after pursuing additional treatments after five years of infertility treatments:

... if we stop now, I will always wonder, 'What if we had tried that?' Maybe we will be in the 20 percent who have success with IVF. Maybe we will get pregnant. I can't rationalize not doing it. Maybe nothing will come of it. But if we don't try, we'll never know. (Becker & Nachtigall, 1994, p. 514)

How people perceive medicine's role in infertility does not seamlessly parallel that of other medicalized experiences. For instance, the extent to which childbirth is medicalized is sometimes considered unnatural and therefore undesirable. Feminists often critique medicalized childbirth as a microcosm of the larger capitalist culture whereby the system of medical professionals, technology, and pharmaceuticals disempower women in what is essentially a

natural process (Fox & Worts, 1999). However, some literature has suggested that beliefs about childbirth experiences vary by social class (McIntosh, 1989; Nelson; 1983).

With infertility, the story is somewhat reversed. The “natural” state of infertility, that is, without medical intervention, is generally viewed as undesirable. Shanley and Asch (2009) asserted that medicalization masks the social and economic structures that contribute to disparities in infertility experiences in the first place vis-à-vis cultural variations, environmental concerns, and as form of social control (in preventing poor women from having more children). Much of the previous infertility literature assumes that when medical treatment is financially out of reach, women’s well being is negatively affected. Yet interviews with low-income infertile women have illustrated a (partially) different story (Bell, 2010). Women are often active agents in their infertility experiences by utilizing social support and other alternative methods to “cope” with infertility. Through this approach, the feminist perspective recognizes where women are empowered to operate both within and outside of medical technology to navigate their infertility. Nevertheless, the present study examines potential economic variations in each of the steps associated with medicalized infertility experiences.

The relationship between economic status, health, and utilization of health services is well documented (Braveman, Cubbin, Egerter, Williams, & Pamuk, 2010; Link & Phelan, 1995; Riegle & Stewart, 2013). Of particular importance in the present study, income and health insurance have been significantly associated with the likelihood of seeking medical treatment for infertility (Chandra & Stephen, 1998; White, McQuillan, & Greil, 2006), but other associations have been ignored. For instance, no studies have specifically examined the relationship between insurance status and fertility salience or childlessness distress. White et al.’s (2006) infertility helpseeking model embedded income in an assortment of other predisposing and enabling factors

associated with helpseeking for infertility. However they failed to specifically examine other individual economic factors (i.e. health insurance status, receipt of public assistance) that may shape infertility experiences. The current study fills this gap.

Braveman et al. (2010) demonstrated the persistent gradient patterns in the relationship between economic status and health outcomes (i.e. the most adverse health indicators were found among the poorest groups while general health improvements were found at each higher level of economic advantage). Yet this study failed to use other measures of economic hardship over and above income and education levels. Its authors cite this as a limitation and suggest the true magnitude of socioeconomic disparities in health, and across racial and ethnic groups in particular should be explored using more diverse indicators, such as those provided in the NSFB. In order to fill the gap in the literature about infertility experiences across the economic spectrum, the current study examines the effect of a broader range of economic variables including income, poverty status, receipt of public assistance, health insurance coverage, and economic hardship indicators as discussed in the following section.

Income and poverty status. The literature suggests that financial struggles with infertility experiences exist for people at a variety of income levels (Staniec & Webb, 2007). In addition to income, women's economic status is assessed in the current study in terms of household income as a percentage of Federal Poverty Levels. Bell's (2010) qualitative study revealed the "double burden" faced by infertile low-income women. Not only must they cope with the pains of infertility itself, but they also must deal with the knowledge that many treatment options are unavailable to them. Additionally, they face a stigma associated with poor women. For instance, Michelle, a 25-year-old, single, Black woman had not been to the doctor to talk about her infertility because in her experience, they "try to talk you out of getting pregnant"

anyway (Bell, 2009, p. 698). Another qualitative study that explored low-income women's fertility expectations revealed similar messages low-income women receive about *preventing* their fertility (Bute & Jensen, 2010). Judy, a Caucasian (Bute, 2012) mother of three below 200% of the poverty line described:

By the time I had my youngest one, he kept encouraging sterilization and all this other stuff. And it's like, 'I'm not married to you. You don't have the right to decide what I need, or what I don't need and stuff.' So they were kinda pushin' the sterility... was tellin' everybody that, they need to go and have their tubes tied and everything like this, 'cause there was too many kids born to people who don't want 'em. And here I've always fought for my kids and stuff. (Bute & Jensen, 2010, p. 686).

Public assistance. Variables such as whether or not an individual is receiving public aid or welfare are often used as criteria for research participants in studies about low-income women's experiences (i.e. McCormack, 2005). However women who have received, versus not received, welfare have not been compared when studying infertility. Welfare may have an effect on infertility experiences above and beyond income because of the stigma experienced associated with receipt of welfare (Bell, 2009).

Health insurance coverage. Similar to public aid, receiving Medicaid can also affect women's infertility experiences both because it does not cover infertility treatments, and due to the stigma it carries. For instance, Keisha, a single Black, 33-year-old was specifically told that she should not be pursuing medical help with infertility as a Medicaid recipient. Keisha, who had a miscarriage at age sixteen, described her interaction with physicians:

They-they just-they just seem like they just didn't want me to have any kids (laughs) at all. At all. And that was sad. They, you know, they scared me into even trying to have

any more. They tried – they tried to get me not to even have any more...Never again...
Because they scared me and it was just-just crazy. (Bell, 2010, p. 639).

The correlation between income, poverty, and lack of private health insurance is well-established, however lack of insurance may have an independent effect on women's infertility experiences. The literature on insurance status as a predictor of having medicalized infertility experiences is inconclusive. On the one hand, in Staniec and Webb's (2007) analysis, having private insurance had no significant effect on couples seeking medical advice or treatment for infertility. In contrast, Stephen and Chandra (2000) found that insurance coverage had a significant positive effect on treatment seeking. A more recent study found that low-income Latino women and men (82% of which were uninsured) sought basic infertility testing and treatment at a large university research hospital clinic that provided free and low-cost care. Nevertheless, the effect of insurance status on other types of infertility experiences (fertility salience, self-perception of infertility, and childlessness distress) remains unexamined.

Economic hardship. I know of no studies that examine a broad range of economic indicators in relation to infertility experiences, yet researchers have suggested this as a limitation in health research (Braveman et al., 2010). Economic hardship is used in the present study to assess financial difficulty beyond income-based measures. Economic hardship is typically assessed by measuring the extent to which people have trouble paying for housing, food, clothing, medical care and other necessities (i.e. Pearlin et al. 1981), and incorporates the public's experience of subjective satisfaction with income and community norms (Mirowsky & Ross, 1999). Therefore, given its interest in economic status, race and ethnicity, the current analysis includes items from an economic hardship scale (i.e. whether respondents have had trouble paying bills or buying food, etc.).

Index of economic status. Because multiple economic indicators are available in the NSFB, the present study explores the possibility of significant differences in the predictive power of economic factors individually (income, poverty, public assistance, health insurance status, and economic hardship) and in the form of an index. Later in this chapter, I review the existing literature on economic status (various measures) and the four dependent variables of interest in the present study.

Race, Ethnicity, and Infertility Experiences

The book “Budgeting for Infertility” depicts a healthy White baby on its cover grasping a bottle made of U.S. bills (Sterling & Best-Boss, 2009). This common portrayal perpetuates the dominant narrative that those struggling with infertility ideally seek a White infant. Images such as this maintain the cultural assumption that there is no need for social concern of infertility in low-income and non-White women. White et al.’s (2006) model for infertility helpseeking is limited for understanding the role of race/ethnicity in infertility experiences as race is not a central focus of the model. However, existing literature continues to illuminate the theoretical need to examine racial and ethnic effects on an array of infertility experiences.

Culley, Hudson, and Van Rooij (2009), compiled a comprehensive volume with respect to ethnicity, culture, and infertility in a global context. This volume explored how race and ethnicity shape infertility experiences and the quest for reproductive technology in industrialized and developing societies and suggested, “ethnic minorities such as African Americans, Latinos/as, and Arab Americans are “despised as reproducers in a racist/classist/xenophobic society” (Inhorn et al., 2009, p. 194). Similarly, over forty years ago, Angela Davis noted that “while women of color are urged, at every turn, to become permanently infertile, White women enjoying prosperous economic conditions are urged, by the same forces, to reproduce

themselves... a fundamental reproductive right of racially oppressed and poor women is at stake” (Davis, 1970; p. 221). Both of these sources point to the racially stratified reproduction that persists today.

However, awareness and recognition of non-White infertility is increasing. Regina Townsend is the founder of *The Broken Brown Egg*, an organization and social media presence dedicated to advocating for awareness of infertility among the African American community.

Ms. Townsend’s website introduction is revealing:

Being a Black woman, I quickly found, was a very quiet life in infertility. I believe that should change, so that no one else will have to feel like the lone wolf of their family.

Infertility is lonely enough without feeling like a minority inside of a minority. (Voice Behind the Egg, 2013, para. 1)

Considering the prominent role in race and ethnicity in the notion of stratified reproduction, the present study closely examines these effects in relation to infertility experiences as well as economic status as noted below. In the of the present study, I maintain consistency with the U.S. Census measurement of race/ethnicity and include non-Hispanic White, non-Hispanic Black, and Hispanic as the main categories (due to larger Ns) in the analyses. Therefore, while ethnicities could vary within each of the three larger racial groups, the way people self-identified at the time of the survey is maintained throughout the study.

Intersection of Class and Race in Infertility Experiences

As many public health researchers (Braveman et al., 2010), feminist scholars (e.g. Collins, 1990), and other social scientists have argued, race and class are entangled. According to LaVeist (2005), accounting for this confounding of race and socioeconomic status is a key to advancing research on health inequalities. Indeed, sociologists have argued that neither class nor

race should be uniformly relied upon for predicting various outcomes, but should be considered in relation to one another (Braveman et al., 2010; Wilson, 1978). Taken together, the literature on economic status and race with regard to infertility experiences suggests that both of these characteristics are important, however I know of no previous studies that have examined these joint effects on various infertility experiences in any comprehensive manner.

Theories of intersectionality suggest that women who are members in multiple marginalized groups (i.e. non-White *and* low-income) have essentially different life experiences over and above those if they were members in either one less-privileged group or another (i.e. non-White *or* low-income) (Davis, 1970; Collins, 1990). The effects on her in/fertility experiences are likely to be multiplicative, not just additive. For example, how a poor Hispanic woman experiences her fertility in the American social structure has the potential to be vastly different than a White, middle-class woman. Stratified reproduction suggests that the poor Hispanic woman's in/fertility experiences are also different from poor women of other races and wealthier Hispanic women. To that end, the current study jointly examines the role of economic and racial and ethnic factors on the dependent variables of interest.

Studies have offered strong evidence that income and private health insurance contribute to race disparities in infertility treatment (Bitler & Schmidt, 2006; Greil et al., 2011; Jain, 2006; Jain & Hornstein, 2005). The aforementioned qualitative study with Latino infertility patients (Becker et al., 2006) points to the fact that in North America, low-income infertility experiences are often intertwined with the experiences of being non-White. For instance, Hispanic women had particularly high rates of unintended pregnancy among women below 100% poverty, but among women at or above 100% poverty, Black women had the highest rates (Hayford & Guzzo, 2010).

The associations between economic status and race and ethnicity may be confounded and further analysis is needed to reveal these relationships. Greil, et al. (2011) argued that the “disappearance” of race effects after enabling factors (such as income, insurance, education, and social support) are controlled for in some studies does not mean that race is not significantly related to infertility treatment but, rather, that lack of resources is an important causal link between race and treatment. Although these studies contribute to the basis of intersectional research, no studies have specifically examined joint effects of economic, racial, and ethnic status on a broad range of infertility experiences, as in the present study.

Women's Infertility Experiences: Conceptualizing Four Realms

In this dissertation, I examine the following four realms of women's infertility experiences: (a) fertility salience, (b) self-perception of infertility, (c) medicalized infertility experiences, and (d) childlessness distress. In this section, I explain each of these realms and review the empirical research regarding how they relate to economic status, race, and ethnicity.

Fertility salience. This section conceptualizes the factors that contribute to fertility salience and reviews the literature associated with economic, racial, and ethnic variations in these factors. In this dissertation, fertility salience refers to the thoughts and plans a woman has about having a child (or more children if she has had a previous child). This concept is measured in terms of the woman's *fertility desires* (if she would *like* to have a(nother) baby), her *pregnancy intent* (if she actually *intends* to have a child and the *certainty* with which she intends), the importance she ascribes to motherhood, and social messages to have children (how important she thinks it is to her partner and her parents that she has a child). No matter how infertility is defined, women typically must *desire* parenthood as a social role before they identify themselves as infertile or seek treatment (Greil, McQuillan, & Slauson-Blevins, 2011).

White et al.'s (2006) model proposes that there is a causal relationship between women's economic status, race/ethnicity, and fertility salience, but this relationship remains untested. I know of no representative studies that specifically examined economic or racial and ethnic differences in fertility desires alongside these other measures of fertility salience. The current study closes this gap.

Economic status and fertility salience. I am unaware of studies that specifically explore economic effects on fertility salience, yet the literature suggests economic patterns in pregnancy intent, fertility desires, and importance of motherhood. Women below the poverty line have five times as many unintended births as women at incomes twice the poverty level or higher (Finer & Henshaw, 2006). Regional samples of pregnant women have yielded similar results. Low-income women are less likely to have wanted/planned pregnancies (Bryant et al., 2010; Maxson & Miranda, 2011). Radecki and Beckman (1992) found that future childbearing intentions of low-income women were highly associated with current parity regardless of economic status, marital status, or race and ethnicity. The effects of both personal motivation and economic status on childbearing intentions were stronger for nulliparous women than women with children. This signifies the importance in accounting for number of previous births in the current analysis.

It is also possible that economic status may not affect fertility salience. McCormack (2005) studied the effects of stratified reproduction on a group of 34 mothers receiving public assistance. While these women experienced stigma as a result of their welfare status, they all shared a similar intensive mothering ideology to women in other social classes, suggesting that motherhood is important whether one receives public assistance or not. More recently, data using the NSFB confirmed that the importance of motherhood varies little by social class factors (i.e. education level; McQuillan, Greil, Shreffler, & Tichenor, 2008). These studies support further

examination of the relationship between economic status and fertility salience, as well as joint effects of economic status and race.

Race/ethnicity and fertility salience. Data from the NSFG demonstrate racial and ethnic disparities in pregnancy intent. Non-White women are less likely to have wanted/planned pregnancies (Bryant et al., 2010; Maxson & Miranda, 2011). There are also more planned births among White women than Black or native-born Hispanic women (Hayford & Guzzo, 2010). The present study builds on these findings to assess possible racial/and ethnic differences in fertility salience.

McQuillan et al.'s (2010) initial findings revealed that White women have higher odds of trying *not* to get pregnant than being okay either way compared to non-Whites but that women with higher levels of economic hardship had higher odds of trying not to conceive compared to being okay either way. This signifies the importance of examining joint effects in the present models. Moreover, women who self-identify as having a fertility problem (vs. those that do not) and Black women (vs. White) had higher odds of trying to conceive compared to being okay either way. The current study explores these significant differences further to investigate whether variation in infertility experiences might be due to pregnancy intent variations over and above differences otherwise attributable to economic status, or race and ethnicity.

McQuillan et al. (2008) found that importance of motherhood was higher among White women compared to Black and Hispanic women. This may reflect a social structure in which White women are more likely to endorse and have support for the conventional ideology of intensive mothering (Collins, 2000). However, a more recent study of Black and Hispanic childless women contradicts the notion that non-White women reject the notion of intensive, exclusive mothering. For example, Clark's (2012) non-White participants reported intentionally

waiting to pursue motherhood at a time where they could uphold ideals of raising them in a more traditional stable, two-parent home. They valued motherhood to a great extent, but also valued education and career pursuits. These non-White women felt judged by their families and social networks for not being a mother, but seemed to expect that criticism and did not let it affect their desire to have children in the future. However, whether economic status affects these findings has yet to be studied. Based on this literature, the current study investigates the interactions between economic status and race and ethnicity in the importance of motherhood as a key component of fertility salience.

Self-perception of infertility. Identifying oneself as infertile is an important part of the complex process of infertility. “Infertility is best understood as a socially constructed process whereby individuals come to regard their inability to have children as a problem, to define the nature of that problem, and to construct an appropriate course of action” (Greil, Slauson-Blevins & McQuillan, 2011; p. 141). In other words, perception of an infertility problem is critical to subsequent infertility experiences, such as seeking medical help. However economic, racial and ethnic differences in self-perception have been largely overlooked in the literature with exceptions noted below.

Economic status and self-perception of infertility. White et al., (2006) failed to find a significant relationship between economic status (measured only by family income) and self-perception as infertile, suggesting similar rates of infertility perception across income groups. Polis and Zabin (2012) conducted one of the few studies specifically on self-perception of infertility using a sample of unmarried young adults regardless of whether or not they received an infertile diagnosis. Of the women in their sample 19% believed they were very likely to be infertile. Also, compared to women who did not receive public assistance within the last year,

women who did receive assistance had the highest odds of thinking they might be infertile. Because little else is known about economic status and self-perception of infertility, the current study further examines possible economic variations.

Race/ethnicity and self-perception of infertility. White et al., (2006) failed to specifically explore racial and ethnic differences in self-perception of infertility in their infertility helpseeking model. In their discussion of the social construction of infertility, Griel, Slauson-Blevins, and McQuillan (2010) acknowledged “defining oneself as infertile involves not simply negotiations between the individual and medical professionals but also negotiations within the couple and, possibly, the larger social networks.” A woman’s culture, race, ethnicity, and relationship all may influence her self-perception, however, the literature has largely overlooked this relationship and presents contradictory information.

On one hand, Black women may be more likely than White women to self-identify as infertile, or notice a fertility problem, due to the pervasiveness of the idea that they are hyperfertile (Ceballo, 1999) or because they feel that their fertility is a given (Inhorn et al, 2009). Polis and Zabin (2012) found Hispanic women had higher odds of perceiving possible infertility than White or Black women. In fact, a third of the Hispanic women in their sample thought they were “very likely” to be infertile whereas Whites were the least likely to perceive infertility compared to their non-White counterparts.

On the other hand, White women may perceive infertility more than non-Whites. McQuillan et al. (2010) found that White women have higher odds of trying not to get pregnant while Black and Hispanic women were more likely ambiguous and “okay either way” as to whether they got pregnant or not, suggesting they would be less likely to notice a fertility problem or lack of conception. This parallels the research that suggests Black and Hispanic

women hold a more fatalistic (if it's God's will) view about conception, increasing the likelihood that they might not as quickly perceive a fertility problem. Because the literature has failed to systematically explore racial and ethnic differences in self-perception of infertility, the present study addresses this gap.

Medicalized infertility experiences. The focal variable in White et al.'s (2006) model of infertility helpseeking is that of medicalized infertility experiences. However, their study is limited in that they only considered if a woman talked to a doctor or if any pregnancies resulted (unspecified) medical treatment. The current study improves on this by expanding the concept of medicalized fertility experiences to include both (a) medical helpseeking (talking with doctor or clinic, testing, and treatment that may include ART²) and (b) outcomes of the treatment (See Figure 4). Existing studies point to persistent economic and racial disparities in rates of helpseeking and receipt of infertility services (Bitler & Schmidt, 2006; Greil et al., 2011; White et al., 2006). The 2002 NSFG revealed disparities in percentages of women who have ever had medicalized infertility experiences such as medical advice, testing (for either partner), ovulation drugs, surgery, artificial insemination, and ART (Chandra et al., 2005).

Economic status and medicalized infertility experiences. Perhaps the most literature on socioeconomic status measures and infertility deals with medical treatment (or the lack thereof). White et al. (2006) found that income was a significant correlate of medical helpseeking in all models. Staniec and Webb's (2007) analysis of nationally representative data (NSFG) found that income significantly affected the likelihood of individuals to seek medical help for infertility.

² One form of medical treatment is *assisted reproductive technology* (ART). According to the CDC's (2009) definition, ART encompasses all fertility treatments that handle both eggs and sperm together. This can include surgically removing eggs from ovaries, joining eggs with sperm in a laboratory setting, returning the fertilized eggs to the woman or a surrogate's body. ART treatments do not refer to those in which only sperm are handled (i.e. artificial insemination) or a woman's use of fertility drugs to increase egg production (CDC, 2010a).

Results indicated that various forms of financial access significantly influenced “middle of the road” treatment options such as testing and medication.

Bell’s (2009, 2010) qualitative study focused on low-income infertile women. Of her 20 participants, all annual household incomes were under \$35,000, eleven were unemployed, and eight received no education beyond high school. Results indicated that not only financial barriers contributed to low-income women’s underutilization of medical treatments for infertility, but also the medicalization of infertility itself that acted as a social control mechanism. For instance, participants’ shift-work jobs prevented access to standard appointment times, an example of classism. Bell’s participants pointed to the sequencing and scheduling of appointments as barriers to treatment because they require work flexibility that women with low-wage jobs are unlikely to have. For example, Nicole, a married, White, 28-year old recalled difficulties in keeping regular physician appointments for infertility as they are typically structured around a middle-class work schedule:

It’s like they don’t understand that, you know, we can’t just always pay \$20 all the time or \$25 every time just to have an appointment just to talk to you for two seconds... they always want you to have an appointment in the middle of the day and, you know, well, you know, I go to work to be able to afford this appointment... it’s very frustrating... I just let it go for the most part. (Bell, 2010, p. 637)

The current study examines income and poverty status, public assistance, insurance status, and economic hardship in relation to each of these medicalized infertility experiences including helpseeking (talking with a doctor or clinic) testing, treatment, and outcomes.

Race/ethnicity and medicalized infertility experiences. Race and ethnicity effects on medical helpseeking and treatment are perhaps the most studied area of marginalized infertility

experiences. According to Chandra et al., (2005) non-White women were significantly less likely to report ever receiving medical infertility treatment. Black women were 29% less likely than White women to report having ever had infertility treatments, with similar yet slightly less significant differences in rates between Hispanics, other races, and Whites (Bitler & Schmidt, 2006).

McCarthy-Keith et al. (2010) found that equal access to clinic-based treatment for American military women (funded by a Federal program) increased participation in ART for Black women, but not Hispanic women when compared with non-White ART use in the general population. This suggests that decreasing costs may only partially explain increased ART use among some non-White groups but not all. Jain (2006) studied socioeconomic differences based on the race and ethnicity of infertility patients presenting to a large fertility center in a state with mandated insurance coverage of infertility treatment. Despite the mandated coverage, racial disparities persisted. White, highly educated, wealthy women were much more likely to receive treatment than non-White women of lower socioeconomic status. Additionally, the length of time before African American women sought care was significantly longer than White women.

Empirical evidence from the NSFB indicates associations between race/ethnicity and medical treatment for infertility (Greil, et al., 2011). Black and Hispanic women were less likely than Asians and Whites to have had medical testing and treatment. Path analysis revealed indirect relationships between race/ethnicity and medical infertility services that were partially mediated by income, education, and private insurance. While this evidence suggested that Black and Hispanic women are less likely to seek and receive medical help for infertility than their White and Asian counterparts, Staniec and Webb (2007) found that after controlling for income and insurance coverage, non-Whites were found to be no less likely to seek infertility services

than their White counterparts. These mixed findings warrant further analysis to clarify the effects of race and ethnicity on infertility testing and treatment.

Another aspect of medicalized infertility experiences is outcome of treatment (pregnancy and having a baby). The NSFG provides clinic-based data on the outcomes of assisted reproductive technology. Success rate reports are to be interpreted with caution, however, as many factors contribute to the outcomes of ART procedures such as the quality of the staff and services provided by individual clinics. Black women have been found to have less successful pregnancy outcomes (fewer live births and higher rates of miscarriage) after ART than White women in a controlled equal access-to-care setting (Feinberg, Larsen, Catherino, Zhang, & Armstrong, 2006). Wellons et al. (2012) reviewed outcomes of in-vitro fertilization from seven different clinical studies reporting outcomes of infertility treatments to the Society for Assisted Reproductive Technology (SART). In each of the studies examined, Whites had the highest rates of live births following ART, followed by Asian and Hispanic women. Black women had the lowest rate of live births after treatment. However, more than 35% of studies reported to SART were inconclusive as they failed to contain the mandatory racial/ethnic information of patients. The small amount of literature regarding disparities in treatment outcomes has failed to examine any differences by economic status of the mother. The current study overcomes this limitation.

Childlessness distress. Childlessness concerns are highest among those with a biomedical barrier to fertility, or those who have the least control over pregnancy (McQuillan, Greil, Shreffler, Wonch-Hill, Gentzler, & Hathcoat, 2012). In the present study, childlessness distress captures the negative emotional effects that *involuntarily* childless women experience and is measured by how women feel (i.e. inadequacy or failure) about not having children. In contrast to the previous three dependent outcomes being examined in current study, this section

of analysis focuses solely on concerns among women without children for two reasons. First, while research has studied fertility specific distress among women with both primary and secondary infertility (i.e. Greil, McQuillan, Lowry, & Shreffler, 2011), studies suggest women with primary infertility (childless), and particularly those who have never conceived, have higher distress levels than those who have had a child (Greil, Johnson, McQuillan, & Lacey, 2011). Second, this focus is important because American women and couples live in a pronatalist social context where parenthood continues to be an expected part of the life course (McQuillan, et al., 2008). In spite of diverse cultural variations and a higher acceptance of childless couples, the American “motherhood mandate” (Russo, 1976) remains dominant and stigmatizes people without children (i.e. Clark, 2012). To address these factors, I examine economic, racial, and ethnic differences in women’s feelings specifically about being childless (i.e. inadequacy or a failure as a woman).

Economic status and childlessness distress. While individual effects of the intensive motherhood mandate can play a large part in childlessness distress (Fox, 2006), the literature fails to systematically address demographic variations. Bell’s (2009; 2010) interviews with low-income women revealed their infertility as particularly distressing, yet these findings are not generalizable. I only know of one representative study that specifically addresses feelings about childlessness as an outcome.

McQuillan et al. (2012) used NSFB data to examine the association between reasons for childlessness (voluntary, no barrier, situational barrier, or infertility) and childlessness concerns. While the data supported internalized importance of motherhood as an important mediator between childlessness type and childlessness social distress, results indicated no significant direct or indirect effects of race/ethnicity on distress. Moreover, the study failed to explore

variations by specific elements of economic status. The current study aims to further investigate any possible differences in the association between these factors and feelings about childlessness, as well as interactions effects between economic status and race/ethnicity.

Race/ethnicity and childlessness distress. The few qualitative studies that have explored infertility among marginalized groups described similar experiences of distress among non-White women versus White (Becker et al., 2006; Ceballo, 1999; Culley et al., 2009; and Inhorn et al., 2009). Previous literature has examined race and ethnicity in relation to the importance of motherhood (i.e. McQuillan et al., 2008) and decisions to remain childless (Yang & Morgan, 2003), which might speak to women's feelings about being involuntarily childless. Yet previous research has not specifically examined racial and ethnic variations in childlessness distress and the literature relating this topic appears mixed.

On one hand, Black women may have greater opportunities to parent socially, referred to as "othermothering" (James, 1993), and may therefore experience fewer negative emotions related to biological childlessness. On the other hand, non-White women might have greater childlessness distress. Interviews with Black infertile women revealed how they assumed their fertility was a given and therefore experienced fertility problems as particularly devastating (Inhorn et al., 2009) suggesting that Black women would experience greater childlessness distress. The authors also suggested that Black infertile, childless women might experience greater social isolation and feelings of loneliness than White women due to stereotypes about Black women's sexuality and public images of infertility focused almost exclusively on White couples. Previous studies show that Black women themselves had internalized these stereotypes and found them particularly distressing (Ceballo, 1999). Moreover, research suggests that Black

women perceived higher average social messages (important to woman's partner/parents) to have children than White women or women of other races (McQuillan et al., 2012).

Clark's (2012) study stands out in its examination of Black and Hispanic childless women. While her participants did feel criticized and judged by family and social networks for not having children, they did not let that dissuade their future childbearing plans. Notably, these participants were not likely medically infertile; they simply had yet to actively pursue their fertility. In contrast, the current study explores individual and joint effects of economic status, race, and ethnicity on childless distress in infertile women.

Edin and Kefalas (2005) have suggested that low-income Black and Hispanic mothers value motherhood more than middle-class women of other races, which would suggest higher levels of childlessness social distress (i.e. more negative feelings about holiday get-togethers or family gatherings with children present) among non-Whites. However, McQuillan et al. (2008) found higher importance of motherhood among White women compared to Black and Hispanic women. Others (Collins, 1990; Landry, 2002) have suggested that Black women have long rejected the notion of intensive mothering characterized by the "cult of domesticity" so pervasive in some White women's lives which might lead to more equitable feelings about being childless across racial and ethnic lines. However, Clark's (2012) non-White participants idealized stable, two-parent families and delayed childbearing to pursue education and career prospects that would better position them for intensive mothering ideals.

Inhorn et al.'s, (2009) interviews with Black infertile women revealed their infertility as particularly distressing in the context of being viewed as hyperfertile. Interviews with Latino/a women and men, who were predominantly Catholic, reinforced the notion that it was their duty to God to have children. Low-income Arab American infertile couples in the study expressed

grave concern about financial limitations as well as the future of their marriages in ethnic enclaves where their fertility as a couple was scrutinized. Clearly, more work is needed to tease out any clear patterns in infertility-specific childlessness distress with regard to economic status, race, and ethnicity.

Controls

The infertility helpseeking model (White et al., 2006) accounts for several other variables that are important to consider in any investigation about infertility experiences. For instance, an extensive body of literature examines factors associated with fertility desires and decision-making such as relationship status (Guzzo & Hayford, 2012), family structure (i.e. the presence of stepchildren; Stewart, 2002), fatalistic attitudes (belief in God's will, acceptance with life circumstances), and subjective social standing (participant's self-comparison with others) (Bryant, Nakagawa, Gregorich, & Kuppermann, 2010). When analyzing factors in the above models (Figures 2-5), the present study accounts for factors in these three groups: *life course factors* (age, relationship status, and household composition), *fertility history* (tried to conceive, parity, ever miscarry/stillbirth, and living biological children), and *predisposing and enabling conditions* (education, employment, depression, self-esteem, social support, internal health locus of control, subjective health, and ethical concerns about ART).

Life course factors. The social context in which women make decisions about their health is very important (Pescosolido, 1992). For infertility in particular, a woman's experience over the life course can be significantly associated with how she experiences infertility. A young, unmarried woman without prior births might feel very differently about not getting pregnant after having unprotected intercourse than would an older remarried woman with a stepchild but no biological children. Therefore, I control for age in the current study since older age at

infertility has been associated with higher distress, greater infertility, and greater likelihood of helpseeking. I account for relationship status because marriage has been a normative cue to begin childbearing, and married women are more likely to experience infertility and distress about infertility. Finally, I control for household composition as a woman's family structure and presence of children have been associated with fertility (Stewart, 2002) and helpseeking (Griel et al., 2011).

Fertility history. Women's previous fertility experiences may affect present experiences. For instance, I control for whether a woman has had a(ny) live birth(s) because women without prior pregnancies are more likely to be the most distressed about infertility (Greil et al., 2011). I account for whether or not a woman has experienced miscarriage(s) and/or stillbirth(s). In either of these instances, the woman had the ability to conceive at one point, which may change the experience of subsequent lack of conception, i.e. lessening the negative psychological symptoms associated with failure to get pregnant (Greil et al., 2011). Finally, I consider whether or not a woman had biological children at the time of the study given the fact that in previous research with each additional child a woman had decreased self-perception of infertility by about one-half (White et al., 2006)

Predisposing and enabling conditions. Predisposing and enabling factors, or those which potentially facilitate or impede various outcomes, are conceptualized in various models of health and helpseeking behavior (Andersen, 1993; Pescosolido, 1992; White et al., 2006). In the current study, I consider the role of education, employment, psychosocial variables (depression, self esteem, and social support), and personal medical ideology (internal health locus of control, subjective general health, and ethical concerns about ART), based on White et al., (2006).

White et al. (2006) found that women with college degrees were twice as likely to seek medical help as those with 12 years of schooling or less, at the bivariate level. In the multivariate models, no significant relationship was found between education level and perception of infertility however. This suggests that for the current study, socioeconomic factors may be associated with helpseeking, but not self-perception. I know of no studies that specifically examine employment status in relation to an array of infertility experiences.

Studies have not specifically examined whether and how depressive symptoms may affect the four realms of women's fertility cues, self-perceptions, helpseeking, or childlessness concerns. However, depression has been persistently linked to infertility experiences in general. Jacob, McQuillan, and Greil (2007), investigated psychological distress outcomes (measured by both the CES-D scale and fertility specific distress items developed by the authors) by type of fertility barrier. In general, experiencing fertility barriers caused elevated distress levels in women when compared to women without fertility barriers. Another study found that compared to women who eventually conceive naturally, women facing assisted reproductive technology exhibited higher levels of depression, distress, and negative emotions (Oddens et al., 1999). A recent Greek study that examined the relationship between infertility related stress, anxiety, and general depressive symptoms and in-vitro fertilization outcomes (Gourounti, Anagnostopoulos, & Vaslamatzis, 2011). Drawing on a sample of 160 women receiving treatment in a public Athens hospital, findings revealed that psychological stress, infertility-specific stress, and anxiety were negatively associated with a successful pregnancy after an IVF treatment when controlling for age and biomedical factors (i.e. number of oocytes received and embryos transferred). The present study considers depressive symptoms as measured by the CESD scale to account for the important role of negative affect in infertile women's lives.

While much literature has been devoted to infertility's effects on identity and self-esteem (Greil, 1991; Greil, 1997; Loftus, 2003) and to a lesser extent, the effects of successful infertility treatment on maternal self-esteem (Cox, Glazebrook, Sheard, Ndukwe, et al., 2005) the effect of self-esteem on fertility cues, self-perception of infertility, and medicalized and non-medicalized infertility experiences has not been explored. For example, in the aforementioned study by Oddens et al. (1999), women who were presenting for infertility treatments exhibited lower levels of perceived attractiveness in themselves than their naturally conceiving counterparts. The literature does suggest evidence of a strong correlation between infertility and self-esteem (Abbey, Andrews, & Halman, 1992).

The support of family and friends is important in seeking medical treatment for various conditions (Pescosolio, 1992), and social support is included as an enabling factor in infertility helpseeking literature (i.e. Slauson-Blevins, 2011; White et al., 2006). The literature has explored the role of support groups in relation to one's identity as infertile (Loftus, 2009), patterns of interaction and social support for infertile couples (Martin-Matthews & Matthews, 1994), work, leisure, and support groups in navigating infertility in a pronatalist society (Parry, 2005), experience of seeking infertility help online (Slauson-Blevins, 2011) and membership in RESOLVE, the national infertility organization dedicated to supporting infertile women and couples (Simons, 1989). White et al. (2006) found that social support was not directly related to medical helpseeking after controlling for demographic factors. However, the present study controls for social support (as measured in terms of having someone to give good advice, help understand a situation, and with which to share worries and fears) in the relationship between economic status, race, and ethnicity and infertility experiences, as it remains unstudied in the literature.

White et al. (2006) included three additional measures related to a woman's personal health ideology in their infertility helpseeking model: internal health locus of control, subjective general health, and ethical concerns about ART. Internal health locus of control refers to the extent to which women believe they (rather than medical professionals, etc.) are responsible for their health and was measured by a 5-item scale. Subjective health was a single-item to which women responded if in general, they thought their own health was excellent, good, fair, or poor. Ethical concerns about assisted reproductive technology assessed women's comfort level with a range of interventions on a 5-item scale from artificial insemination with husband's sperm to surrogacy. Results indicated a strong negative association between perceived good health and the likelihood of perception of an infertility problem. In the multivariate models, greater internal health locus of control and greater ethical concerns about ART were negatively associated with treatment seeking for infertility, and these associations were stronger for women who perceived an infertility problem than for those who did not. The present study considers these factors based on the suggestion of the researchers. They suggest that these are important factors that deter helpseeking, especially for those who perceive a problem, and that these relationships merit further consideration even though the results might be due to inflated likelihood from running several tests.

Review of Models and Hypotheses

The literature reviewed above demonstrates a gap in knowledge about a range of infertility experiences of low-income and non-White women, and potential joint effects of economic status, race, and ethnicity. Based on previous work, it is clear that experiencing infertility is a complex process (Bell, 2013; Greil, Slauson-Blevins, & McQuillan, 2010; White et al., 2006) that includes more than just seeking treatment. Therefore, I investigate fertility

salience, self-perception of infertility, medicalized infertility experiences, and childlessness distress. Hypotheses regarding these relationships are described below.

Fertility salience (Figure 2). In this dissertation, I examine economic, racial, and ethnic differences in *fertility salience* comprised of a woman's fertility desires, pregnancy intent and the certainty of that intent, the degree to which motherhood is important to her, and social messages to have children from her partner and parents.

Effect of economic status. The literature points to little variation of the importance of motherhood across economic status (McCormack, 2005; McQuillan et al., 2008), yet there are fewer planned births among women of lower socioeconomic status (Hayford & Guzzo, 2010), and less concrete pregnancy intentions (i.e. "Do you intend to have a baby?") or planned/wanted pregnancies among lower-income women (Bryant et al., 2010; Maxson & Miranda, 2011; Radecki & Beckman, 1992). Based on the literature that indicates that women of higher economic status have more concrete pregnancy intentions and fertility desires than women of lower economic status, I hypothesize the following:

H1: Economic status (income, poverty status, receipt of public assistance, insurance status, and economic hardship) is positively associated with fertility salience, in that women with higher economic status will have greater fertility salience, controlling for certain life course, fertility history, and predisposing and enabling factors.

Effect of race and ethnicity. In keeping with the literature that suggests White women have higher importance of motherhood (than Black and Hispanic women) (McQuillan et al., 2008) and are generally more planful (having concrete fertility desires and intentions) than non-White women about childbearing (Guzzo & Hayford, 2012), I expect that controlling for certain life course, fertility history, and predisposing and enabling factors:

H2: White women have greater fertility salience than Black and Hispanic women.

Joint effects. Based on the literature that suggests motherhood remains important for Black and Hispanic women (Clark, 2012) but that poverty may have varying effects on pregnancy intention by race (Hayford & Guzzo, 2010), I hypothesize the following:

H3: Controlling for certain life course, fertility history, and predisposing and enabling factors, the association between economic status and fertility salience varies by race and ethnicity. The positive effect of economic status on fertility salience among Black and Hispanic women is greater than the effect of economic status among White women.

Self-perception of infertility (Figure 3). According to models of medical helpseeking (Greil & McQuillan, 2004; White, McQuillan, Greil, & Johnson, 2006), women first need to think of themselves as having a possible fertility problem before pursuing any intervention or experiencing further emotions about not being able to have a desired child. Two factors affecting this self-perception may be economic status and race and ethnicity.

Economic status. White et al. (2006) did not find a strong relationship between income and self-perception of infertility. However since women with higher levels of economic hardship had higher odds of trying to prevent pregnancy (McQuillan et al., 2010), suggesting that they would fail to notice a lack of conception or fertility problem, I constructed the following hypotheses:

H4: Economic status (income, poverty status, receipt of public assistance, insurance status, and economic hardship) is positively associated with the likelihood of women self-perceiving infertility, such that women with higher economic status are more likely to self-perceive infertility than women with lower economic status when controlling for certain life course, fertility history, and predisposing and enabling factors.

Race and ethnicity. Previous literature on the relationship of race and ethnicity to self-perception of infertility is contradictory. Polis and Zabin (2012) found Hispanic women had higher odds of perceiving possible infertility than White or Black women. However, Black and Hispanic women have been found to have less concrete pregnancy intentions than White women (McQuillan et al., 2010), suggesting they would be less likely to notice a fertility problem or lack of conception. Infertility is also more readily associated with White women in the media, which may make White women more cognizant of fertility problems. Considering this literature, I hypothesize that, when controlling for certain life course, fertility history, and predisposing and enabling factors.

H5: White women are more likely to self-perceive infertility than Black and Hispanic women.

Joint effects of economic status and race and ethnicity. Polis and Zabin's (2012) work on young adults found that young women and Hispanic women had higher odds of perceiving infertility than White women. In addition, women who had received public assistance within the last year and were on Medicaid were also more likely to perceive infertility. Based on the literature I expect:

H6: The effect of economic status on self-perception of infertility varies by race and ethnicity, when controlling for certain life course, fertility history, and predisposing and enabling factors. The positive effect of economic status on self-perception is greater among non-Whites than the effect of economic status among Whites.

Medicalized infertility experiences (Figure 4). Next, I examine the likelihood of women having medicalized infertility experiences (i.e. talking with a doctor or clinic, testing, treatment, and outcomes).

Economic status. The literature overall suggests that in general, having fewer economic resources leads to a decreased likelihood that one receives medical help for infertility (i.e. Staniec & Webb, 2007). Based on the reviewed literature, I hypothesize the following when controlling for certain life course, fertility history, and predisposing and enabling factors:

H7: Economic status (income, poverty status, receipt of public assistance, insurance status, and economic hardship) is positively associated with the likelihood of having medicalized infertility experiences, in that women with higher economic status will have greater medicalized infertility experiences (talking with a doctor, testing, treatment, better outcomes).

Race and ethnicity. Due to the pervasive stereotype that non-White women are hyperfertile (Ceballo, 1999), the fact that Black and Hispanic women are less likely than Asians and Whites to have had medical testing and treatment (Griel et al., 2011), medical solutions for infertility are often discouraged within racial/ethnic minority communities (White, McQuillan, & Greil, 2005), and that Black women have been found to have less successful pregnancy outcomes (fewer live births and higher rates of miscarriage) after ART than White women (Feinberg, Larsen, Catherino, Zhang, & Armstrong, 2006), I expect:

H8: Non-White women are less likely to have medicalized infertility experiences than White women, controlling for certain life course, fertility history, and predisposing and enabling factors.

Joint effects of economic status and race and ethnicity. Recent data has found that White women remain significantly more likely to use any medical infertility services than their

non-White counterparts and that women with higher incomes (as a percentage of poverty levels) are also more likely to use a variety of medical infertility services (Chandra et al., 2014). Given these persistent findings I expect that:

H9: The effect of economic status on the likelihood of having medicalized infertility experiences varies by race and ethnicity when controlling for certain life course, fertility history, and predisposing and enabling factors. The positive association between economic status and the likelihood of having medicalized infertility experiences is stronger (more positive) among White women than the effect of economic status among non-Whites.

In other words, greater economic resources have a more positive effect on the likelihood that White women have medicalized infertility experiences than on non-White women's likelihood of having medicalized infertility experiences.

Childlessness distress (Figure 5). Finally, I investigate the relationship between economic status, race/ethnicity, and childlessness distress. Qualitative research has demonstrated that infertility is particularly distressing among marginalized groups (i.e. Bell, 2009; Ceballo, 1999; Inhorn, et al. 2009; McCormack, 2005).

Economic status. The literature is inconclusive as to how childlessness distress among various economic groups might vary. Because motherhood is important across social classes (McCormack, 2005; McQuillan, 2008) it stands to reason that infertility results in strong negative feelings regardless of economic status. However, according to the framework of stratified reproduction, women's fertility exists within a larger social context that influences childbearing patterns (Colen, 1995). Because the American social structure expects and encourages childbearing among women with more economic resources, and discourages

childbearing among poorer women, I expect that controlling for certain life course, fertility history, and predisposing and enabling factors:

H10: Economic status (income, poverty status, receipt of public assistance, insurance status, and economic hardship) is positively associated with childlessness distress.

Race and ethnicity. McQuillan et al. (2012), using NSFB data, found no direct or indirect relationships between race/ethnicity and childlessness distress, however their results indicated importance of motherhood as an important mediator between independent variables and distress. If, as previous research suggests, White women are more affected by the cult of domesticity and have a greater importance of motherhood, then I expect that controlling for certain life course, fertility history, and predisposing and enabling factors:

H11a: White women have greater childlessness distress than Black and Hispanic women. Alternatively, if typically higher fertility rates among non-Whites (Black and Hispanic women) reflect importance of motherhood (Edin & Kefalas, 2005) and if Black women do indeed perceive more social pressure (from partners and parents) to have children (McQuillan et al., 2012), I hypothesize that:

H11b: Black and Hispanic women have greater childlessness distress than White women.

Joint effects of economic status and race and ethnicity. The previously reviewed qualitative literature suggests that unmet childbearing desires and childlessness is devastating for Black (Ceballo, 1999) and Hispanic women (Inhorn et al. 2009). Moreover, low-income women have been shown to find the burden of infertility as well as the knowledge that they cannot afford treatments particularly distressing (Bell, 2009). Taken together, this research suggests that a non-White woman who fails to meet stereotype of being hyperfertile and is prevented by economic

factors from receiving infertility treatment would feel the worst about not being able to have desired children. Based on these findings I expect that:

H12: The positive association between economic status and childlessness distress varies by race and ethnicity when controlling for certain life course, fertility history, and predisposing and enabling factors. The effect of economic status is weaker among White women than among Black and Hispanic women. In other words, economically advantaged Black and Hispanic women would be more distressed over their infertility than economically advantaged White women.

Summary of Hypotheses

When controlling for certain life course, fertility history, and predisposing and enabling factors, I expect the following:

H1: Economic status (income, poverty status, receipt of public assistance, insurance status, and economic hardship) is positively associated with fertility salience, in that women with higher economic status have greater fertility salience.

H2: White women have greater fertility salience than Black and Hispanic women.

H3: The association between economic status and fertility salience varies by race and ethnicity. The positive effect of economic status on fertility salience among Black and Hispanic women is greater than the effect of economic status among White women.

H4: Economic status is positively associated with the likelihood of women self-perceiving infertility, that is, women with higher economic status more likely to self-perceive infertility than women with lower economic status.

H5: White women are more likely to self-perceive infertility than Black and Hispanic women.

H6: The effect of economic status on self-perception of infertility varies by race and ethnicity. The positive effect of economic status on self-perception among is greater among non-Whites than the effect of economic status among Whites.

H7: Economic status is positively associated with the likelihood of having medicalized infertility experiences, in that women with higher economic status will have greater medicalized infertility experiences (talking with a doctor, testing, treatment, better outcomes).

H8: Non-White women are less likely to have medicalized infertility experiences than White women.

H9: The effect of economic status on the likelihood of having medicalized infertility experiences varies by race and ethnicity. The positive association between economic status and the likelihood of having medicalized infertility experiences is stronger (more positive) among White women than the effect of economic status among non-Whites. In other words, greater economic resources have a more positive effect on the likelihood that White women have medicalized infertility experiences than on non-White women's likelihood of having medicalized infertility experiences.

H10: Economic status (income, poverty status, receipt of public assistance, insurance status, and economic hardship) is positively associated with childlessness distress.

H11a: White women have greater childlessness distress than Black and Hispanic women.

H11b: Black and Hispanic women have greater childlessness distress than White women.

H12: The positive association between economic status and childlessness distress is weaker among White women than among Black and Hispanic women.

CHAPTER 3: METHODOLOGY

Data

Data for the current study³ are from the first wave (collected between 2004 and 2006) of the Longitudinal National Survey of Fertility Barriers (NSFB). The NSFB was designed to assess a wide range of social and health factors related to reproductive choices and infertility issues for U.S. women age 25 to 45 and was funded by the National Institute of Child Health and Development (Johnson, McQuillan, Jacob, Greil, & Lacy, 2009). The NSFB is particularly beneficial for studying women across the socioeconomic spectrum as it (a) conceptualizes infertility outside of the medical setting expanding beyond clinic-based samples, (b) contains an oversample of census tracts in which over 40 percent of residents were minorities, and (c) contains a large set of socioeconomic indicators, including poverty status, economic hardship, and receipt of public assistance. In addition, women who have ever experienced infertility and those who desired additional children were oversampled.

Study Procedure

The NSFB data was derived from a random-digit-dialing telephone survey conducted by the Survey Research Center at Pennsylvania State University and the Bureau of Sociological Research at the University of Nebraska-Lincoln. Both sites used the same training and procedures involving computer-assisted telephone interviews (CATI), a software program that aids in determining the direction of skip patterns as participants responded to questions throughout the interview (McQuillan & Greil, 2004). The sample design attempted to match telephone numbers with addresses and sent pre-notification letters including either a one or two-

³ Due to the nature of secondary data analysis, the current study was exempt from Institutional Review Board approval at Iowa State University.

dollar incentive for participation in the study (Johnson et al., 2009). As interviewers contacted a household, they conducted a short screening interview to determine if there were any women living there who were eligible to participate. If more than one woman was eligible, one was selected at random by a number provided by the CATI software. If the woman completing the interview indicated that she had a partner (married, cohabiting, or lesbian partner) an attempt was made to interview the partner, usually in a follow-up call to the household. Women who met the age and sample criteria were given the complete interview except if they identified as a woman who had at least one child, planned to have no more children, and indicated no fertility problems. Among these women, only one in five was randomly selected to participate because these women were less likely to have had infertility experiences. The weighted sample of 4,712 and 936 of their partners (Johnson et al., 2009) is representative of childbearing aged women in the 48 contiguous United States in households with a home telephone.

Planned Missing Study Design

Due to the length of the survey, which took well over 45 minutes to complete, the project investigators implemented a “planned missing” design (Johnson et al., 2006) whereby respondents were randomly selected to complete two-thirds of the items on select scales of the study. Because of the flexibility provided by the CATI software, the investigators designed the program so that a portion of each scale would be dropped, rather than a respondent being selected to not respond to an entire scale. Items in each scale were divided into three groups of approximately equal numbers. Each respondent was randomly assigned a 1, 2, or 3 to determine which third of questions would be dropped from that respondent’s interview (Johnson et al., 2006). This procedure resulted in an average survey length of 35 minutes, thereby lessening respondent burden while retaining essential concepts (Greil et al., 2011). Due to the missing

values facilitated by the planned missing design, the investigators included an imputed version of missing variables in these particular scales in the public release data set (Johnson et al., 2009).

Specific information about the planned missing design and imputation procedures can be located in Appendices D and K of the methodology report, respectively, available at:

<http://sodapop.pop.psu.edu/codebooks/nsfb/wave1/>.

Analytic Sample

The analytic sample consists of women between the ages of 25 and 45 who reported an infertility “episode” in the ten years prior to the interview. First, all women were asked, “Currently, are you pregnant, trying to get pregnant, trying not to get pregnant, or are you okay either way?” Women who responded “yes” to any of the following fertility history questions were considered “infertile” and coded as a “1” in the NSFB’s constructed infertile variable. These include, “Was there ever a time when you were trying to get pregnant but did not conceive within 12 months?” and “Was there ever a time when you regularly had sex without using birth control for a year or more without getting pregnant?” Additionally, women who had ever been pregnant were asked as series of detailed questions about each pregnancy. Women who had two or more pregnancies were asked whether they were breastfeeding at all during the time that they were trying to conceive as breastfeeding can delay conception.

The infertile women, therefore, included those who reported trying and *not trying* to conceive, and those who were “okay either way” (McQuillan, Greil, & Shreffler, 2010) but experienced a long interval before conception while having regular unprotected sex. This is important because women who are not necessarily trying to conceive during their infertility episodes are often missed in studies of infertility. Yet, half of women who meet the definition of infertility are those without pregnancy intent, the “hidden infertile”. Scholars recommend that

this group should be included in research about infertility experiences as they may not consider themselves infertile and therefore delay treatment, thus lowering their chances of conception (Greil, McQuillan, Johnson, Slauson-Blevins, & Shreffler, 2009). The final sample of 2,443 included women who met both of these criteria. Subsequent analytic samples, described below, are based on this sample.

The use of these criteria for defining infertility is consistent with that of the American Society for Reproductive Medicine (2008), which defines infertility as any period of twelve months or greater in which the woman had regular unprotected intercourse without conceiving. However, that this definition varies slightly from the CDC/ NSFG definition of infertility which specifies 12 months of intercourse *with a continuously married or cohabiting partner*. In fact, the NSFG fails to measure 12-month infertility (failure to conceive) among unmarried and non-cohabiting women. The present study overcomes this limitation by presenting information on both partnered and unpartnered women. As discussed in detail in the previous chapter, I include unpartnered women for two reasons: (a) infertility within this population has been largely unexamined, and (b) single women are becoming more likely to pursue intentional parenthood, and they have historically been restricted from infertility treatment. I focus on non-White women and those of lower economic status, who are more likely to be single. Keeping them in the study ensures a more representative sample.

Analytic Samples

Each of the five sets of analyses described in the previous chapter utilized slightly different samples, depending on the amount of missing data on the key measures.

Demographic profile sample. For the demographic profile of infertile women presented in Chapter 4, I limited the sample to the 2,443 infertile women (Figure 6) as defined above. I

removed cases ($n = 26$) with missing data on the Hispanic ethnicity variable. Of the remaining 2,417 valid cases, 8% were Asian American, Pacific Islander, Native American or Alaska Native, and individuals with multiple racial and ethnic backgrounds. I removed the 173 cases in this last category since (a) they were relatively small in number, (b) these are distinct races and should not be assumed to have similar experiences, and (c) 23 of these cases were not valid as they either did not know or refused to answer race. From this point forward, and for the remaining analyses, I limited the sample to those of single race White, single race Black, or Hispanic backgrounds. This left 2,244 valid cases.

I removed cases with missing data on the main economic variables including poverty status ($n = 2$), family income ($n = 172$), public assistance ($n = 3$), insurance status ($n = 5$), and economic hardship ($n = 1$). I removed one woman missing data on relationship status and three women who reported not giving live birth but did report having one or more living biological children. Then I removed 20 cases missing data on whether or not the woman ever tried to conceive for 12 months or more without getting pregnant, which left 2,037 cases. (This sample of 2,037 infertile women with valid data on independent variables and controls was the starting point for the selection of the subsequent analytic samples, as depicted in Figures 7-10).

Fertility salience sample. For analyses of fertility salience, I started with the same base sample of women who met the criteria for infertility as defined above ($n = 2,443$; Figure 7). I used the sample limited to infertile women of White, Black, or Hispanic descent with valid data on independent variables and controls from the demographic profile ($n = 2,037$). I then removed cases with missing data on dependent variables as follows: fertility desires ($n = 26$), pregnancy intent ($n = 216$ or 11%), and certainty of intent ($n = 6$) leaving a sample of 1,789 for the analysis of fertility salience.

Self-perception of infertility sample. Using the sample of 2,037 women without missing data on any independent variables or controls, I removed 12 cases missing data on “think of self as someone who has/had trouble getting pregnant, and then 16 further cases missing data on “think of self as someone who has/had a fertility problem.” This left a sub-sample of 2,009 for the self-perception of infertility analysis (Figure 8).

Medicalized infertility experiences sample. Similar to the samples above, I began with the infertile sample with no missing data on independent variables or controls ($N = 2,037$; Figure 9). The first question used in this analysis was, “Have you ever been to a doctor or clinic about ways to help you have a baby?” I removed four women missing data on this question, resulting in 2,033 respondents.

Childlessness distress sample. In the same way as the previous three samples, I used the sample of White, Black, and Hispanic infertile women with no missing data on independent variables or controls ($N = 2,037$; Figure 10). I then limited the analytic sample to the 339 women who have no biological children. To operationalize a “clean” sample of childless women, I further reduced the sample by removing 25 cases that had adopted children in the household, then 5 cases with stepchildren, and then 13 cases with “other” children in the household (including foster children, other relatives, etc.) Because the distress scale variable is imputed, there was no missing data on this measure. The resulting sample for childlessness distress was $n = 295$.

Measures

Dependent variables. The focal outcome variables in this study include fertility salience, self-perception of infertility, medicalized infertility experiences (talking with a doctor, testing, treatment, pregnancy outcomes) and childlessness distress.

Fertility salience. Fertility salience refers to the thoughts and plans a woman has about having a child(ren), or not. I expanded on the concept of “symptom salience” developed by White et al.’s (2006) model of infertility helpseeking, which included trying to conceive and certainty of pregnancy intent. In addition to variables related to seeking help for infertility, I also included those having to do with women’s thoughts and plans about childbearing. Therefore, four different measures were used to assess fertility salience: (a) fertility desires, (b) certainty of pregnancy intent, (c) importance of motherhood, and (d) receipt of social messages to have children. These are described in more detail below.

Fertility desires. Respondents were asked about their desire for a baby (or another child) by answer the following question, “Would you, yourself, like to have a(nother) baby? Would you say definitely yes, probably yes, probably no, or definitely no?” This variable ranges from one to four and was reverse-coded such that higher scores indicate more desire for a child.

Certainty of pregnancy intent. Respondents could answer “yes” or “no” to the following item: “Do you intend to have a baby?” Those who replied “yes” were then asked about the certainty with which they intended to/not have a baby with this item: “Of course sometimes things do not work out exactly as we intend them to or something makes us change our minds. In your case, how sure are you that you will have (or not have) a child?” Responses ranged from very sure, probably intend, to very sure, do not intend. These two items were combined into a measure of intensity of childbearing plans following White et al., (2006) as follows: (a) do not intend, (b) intend, not sure, (c) intend, pretty sure, and (d) intend, very sure, with greater scores indicative of greater intentions to have a child.

Importance of motherhood. The NSFBI measured importance of motherhood 4-item scale to assess the respondent’s assessment of the value of being a parent. These included: (a) “Having

children is important to my feeling complete as a woman;” (b) “I always thought I would be a parent;” (c) “I think my life will be or is more fulfilling with children;” and (d) “It is important to me to have children.” Scores ranged from 1 (strongly agree) to 4 (strongly disagree) and were reverse coded so that higher scores were indicative of greater importance of motherhood.

Respondents’ weighted scores on the imputed scale averaged just over 13 points, ranging from 0 to 16. According to a previous study using this scale (McQuillan et al., 2008), Cronbach’s alpha was high ($\alpha = .86$) and factor analysis showed that these items formed a single factor explaining 64% of the variance.

Social messages to have children. In the same manner as McQuillan et al., (2012) I used the following two items to assess respondents' perceptions of receiving messages from family members to have children: (a) “It is important to my partner that we have children” and (b) “It is important to my parents that I have children.” Women without messages from partners or parents (whether they didn’t have these relationships or they were missing data) were coded as zero on both individual items. This procedure is consistent with evidence that unpartnered women do receive fewer messages to have children (Burgoyne, 1987). When running logistic regressions with messages from partners as the outcome variable, I limited the sample to women with either cohabiting or married partners ($n = 1,344$).

For multivariate analyses of fertility salience, I coded the indicators as dichotomous measures as follows. I assigned a “1” if any of the following were true: (a) For *fertility desires*, if the woman reported that they would definitely or probably like a baby; (b) for *certainty of pregnancy intent* if the woman was pretty sure or very sure she intended to have a baby; and (c) for *social messages to have children*, if the respondent agreed or strongly agreed that it was important to her partner that she had a baby. I also assigned a 1 if she agreed or strongly agreed

that it was important to her parents. *Importance of motherhood* remained a continuous variable and I accordingly conducted linear regression analysis.

I also attempted to create a composite measure of women's fertility salience based on the four items described above. However, upon obtaining results of initial analyses (results not shown) I opted to retain only individual fertility salience indicators. The individual measures were not highly correlated, and principal components analysis consequently produced unreliable results in attempting this data reduction technique. Bivariate analyses with the index variable produced mixed results (for instance, lower desires and certainty of intent among Whites but more social messages to have children). I also included the index variable in multivariate models and in none of them was a significant effect produced. Due to the low item correlations and the inconsistent patterns revealed, I abandoned the index variable and proceeded with individual fertility salience variables in the models.

Self-perception infertility. Respondents were asked, (a) “Do you think of yourself as someone who has, has had, or might have trouble, getting pregnant?” and (b) “Do you think of yourself as someone who has or has had fertility problems?” Responses included (a) yes, (b) maybe, and (c) no. For regression analyses, I collapsed both variables into dichotomous outcome categories where 1 = yes/maybe and 0 = no.

Medicalized infertility experiences. Study participants responded to series of questions about seeking information, medical help, testing, and treatments with respect to infertility. As indicated by the descriptions below, due to the nature of the study's skip patterns, any respondent that received a higher level of medical services for infertility also met the criteria for lower level medical services (Greil et al., 2011), with one exception. For instance, anyone receiving medical tests for infertility has also first talked to a medical professional. The exception is that some

women did not respond yes to testing, but did respond to higher levels of MIEs (treatment, pregnancy, live birth). This is discussed in further detail below.

Initial helpseeking. First, respondents were asked, “Have you ever been to a doctor or a clinic to talk about ways to help you have a baby?” Responses were “yes” and “no,” coded as 1 and 0, respectively.

Testing. Respondents who answered “yes” or “no” to the question, “Did you or your partner get medical tests to determine the nature of the problem?” also answered the preceding question: “Have you ever been to a doctor or clinic to talk about ways to help you have a baby?”

Treatment. Respondents were then asked, “Did you ever seek treatment to get pregnant?” where yes/no responses were coded as a dichotomous 1/0 variable respectively, with “1” indicating “sought treatment.” Whether the respondents indicated “yes” or “no” does not necessarily indicate that they subsequently received treatment.

Outcomes. Respondents who indicated they did receive some form of medical treatment were asked “After you went for treatment were you able to get pregnant?” and “Have any pregnancies made possible by treatment resulted in a live birth?” Responses for both items were coded with “yes” as 1 and “no” as 0.

MIE level. Using the above measures, I created a variable to indicate the “level” of medical help sought and received by the infertile women in the study. I coded the first level, “1,” to count women who had encountered *no* type of medicalized help for infertility. These cases were “0” on each of the above items. I then coded women who had *only* talked to a doctor or clinic about ways to have a baby as a “2”, but who had encountered no higher level of MIE. Next, to the cases where the woman had talked with a doctor or clinic and she (or her partner) underwent

testing, and *but no higher level* of MIE, I assigned a “3”.⁴ I assigned a “4” to cases where the woman talked to a doctor/clinic, got tested, and sought treatment. I assigned a “5” to the cases where the woman encountered all prior MIEs and got pregnant from some form of medical treatment. Finally, I assigned a “6” to those who had encountered each MIE level and who’s pregnancy resulted in a live birth. (see Table 3.2 for frequency distribution of the MIE level variable).

Childlessness distress. The final aspect of infertility analyzed in this dissertation includes distressful feelings associated with being involuntarily childless due to specific fertility problems. Respondents were asked to respond “yes” or “no” to the following statements: “I felt cheated by life,” “I felt that I am being punished,” “I felt inadequate,” “I felt seriously depressed,” and “I felt like a failure as a woman.” Scores ranged from 4 to 12 where higher summed scores indicated greater distress.

Independent variables.

Economic status. The main independent variable for the current study is economic status measured by an index, described below, based on the following variables: household income, poverty status, public assistance, insurance status, and economic hardship. These items were also examined separately.

Household income. Respondents reported their annual household incomes in 2004. I coded responses from categories in two separate items into a single household income variable in \$25,000 intervals in the following manner: (1) under \$25,000, (2) \$25,000 to \$49,999, (3) \$50,000 to \$74,999, (4) \$75,000 to \$99,999, and (5) \$100,000 or more.

⁴ Because 48 women had not reported testing (TEST = 0) but did report higher levels of MIE (treatment, pregnancy, and live birth), I coded these cases as “NOTEST” to include them in the rest of the coding scheme for the level variable. In other words, levels 4, 5, and 6 include women who had received testing (or their partners had) and these 48 women who did not.

Poverty status. To maintain consistency with the main national study of women's fertility (The National Survey of Family Growth) poverty status based on the federal poverty level guidelines for 2005: (a) less than 100% poverty, (b) 100% to 149%, (c) 150% to 300%; and, (d) greater than 300% of poverty. In keeping with prior studies of infertility, (i.e. Chandra & Stephen, 2010), poverty categories are dichotomized to household incomes greater than 300% of poverty level (1) or less than or equal to 300% (0) for analyses.

Public assistance. Interviewers asked "Have you ever received public assistance income, including welfare or food stamps?" This is coded into a dummy variable as (0 = yes, 1 = no).

Insurance status. Participants were asked "Are you covered by private health insurance, by public health insurance such as Medicaid, some other kind of health care plan or by no health insurance?" I coded four categories: (a) private, (b) public, (c) none, and (d) other.

Absence of economic hardship. Respondents indicated if they never, not very often, fairly often, or very often experienced each of the following during the last twelve months: (a) had trouble paying the bills; (b) did not have enough money to buy food, clothes, or other things their household needed; and (c) did not have enough money to pay for medical care. Summed scores ranged from 3 to 12 such that higher scores indicate more economic hardship, so as to match the coding strategy of the other economic status variables. In previous work by NSFB principal investigators using this unidimensional scale (McQuillan et al., 2008), internal consistency was high ($\alpha = .82$). However, because the internal consistency of this measure was not tested using the present sample, I conducted another test and found a Cronbach's alpha of .49.

Economic status index. I created a composite measure of women's economic status, based on the five items described above: household income, poverty status, receipt of public assistance, insurance status, and economic hardship. Similar methods have recently been used by other

social scientists (i.e. Kalleberg, et al., 2000; Lohman et al., 2009). There are various approaches available to assess the internal consistency among a set of observed responses. Because I was primarily interested in reducing the number of economic variables for the interpretability of results in this study, I first conducted a Principal Components Analysis. Moreover, I also assumed that the measured responses to the economic status items were based on unobserved, underlying factors so I conducted Exploratory Factor Analysis as well, which is appropriate when theoretical ideas about relationships between variables exist. The results of this analysis are presented in Table 3.1. I did not have specific expectations regarding the number and patterns of these factors so I did not pursue confirmatory factor analysis.

Economic status measures were coded as dichotomous indicators as follows. A higher index score indicated greater economic status. The first measure included in the index was household income, in which a value of 1 was assigned if the woman reported total family income in 2004 as *more than \$40,000* (women with incomes less than or equal to \$40,000 were assigned a 0). The second measure was poverty status where a 1 was assigned if the woman's poverty status was *at or above 300% poverty* (and 0 for women under that threshold). For the third measure, public assistance, I assigned a 1 if the woman had *never received public assistance* and 0 if she had. The fourth measure was coded as a 1 if the woman had *private health insurance*, and 0 if she did not. For the fifth measure, economic hardship, I assigned a 1 if the respondent had a *score at or below on the median score (5) on the economic hardship scale* as described above. Women who had economic hardship scores above 5 were assigned a 0. I assessed the final composite index using Chronbach's alpha. This economic status index is reliable ($\alpha = .72$)⁵

⁵ Cronbach's alpha (α) >.70 has widely been viewed as an acceptable measure of internal consistency. However, Cortina (1993) cautions that alpha is often misunderstood and affected by number of items and their dimensionality. Cortina suggests a 2 step process to determine unidimensionality: first run a

Race/ethnicity. Race/ethnicity was measured using standard questions from the U.S. Census Bureau (2011): “What race or races do you consider yourself to be?” and “Do you consider yourself to be either Hispanic or Latino or neither one?” I constructed a race/ethnicity variable with dummy variables indicating if the respondent was (a) non-Hispanic White, (b) non-Hispanic Black, (c) Hispanic, and (d) other, including Asian American, Pacific Islander, Native American or Alaska Native, and individuals with multiple racial and ethnic backgrounds.

Life course factors. I consider the role of important *life course factors* (age, relationship status, and household composition) in the analyses.

Age. Respondents reported their age in years at their last birthday.

Relationship status. Respondents were asked, “What is your current marital status? Are you currently married, divorced, widowed, separated, or never married?” Responses could fall into one of the following seven categories: (a) married, (b) divorced, (c) widowed, (d) separated, (e) never married, (f) lesbian partnership, and (g) cohabiting. If the response was anything but married, a follow up question asked “are you currently living with a partner?” I created a three-category relationship variable based on these two items as follows: (a) married, (b) cohabiting, (c) no partner.

Household/family composition. Respondents were asked to list people living in the household for up to seven household members. This roster was used to code a variable indicating the presence of and relationship of each household member to the respondent. These categories include the following: (a) any biological children, (b) any adopted children, (c) any stepchildren, (d) any other children (including foster, relatives, and non-relatives), and (e) other adults in the household. Whereas biological, adopted, and stepchildren may be of any age, “other children”

principle-components analysis and if results suggest the existence of only one factor, than alpha can be used to conclude that the set of items is unidimensional (Cortina, 1993: 103).

were coded as household members under 18 and “other adults” were coded as household members 18 and older. Whether there were any children in the household under 6 years of age was coded as 1 if “yes” and 0 if “no.” In addition to these dicotomous variables, I created a household children variable with mutually exclusive household composition categories for analys as follows: (1) no children; (2) any biological children (regaradless of residence)/adopted children (in the household); and (3) step or other children in the household.

Fertility history. I control for the following fertility history characteristics as they have been shown to significantly affect infertility experiences (i.e. White et al, 2006).

Ever tried to conceive. While “trying” to have a baby is typically not considered in woman’s fertility history from a demographic perspective, a woman’s desire for a child and her attempts to conceive have significant implications for a woman’s infertility experiences. Respondents answered yes or no (coded as 1 and 0, respectively) to “Was there every a time when you were trying to get pregnant but did not conceive within 12 months?”

Ever given birth. White et al. (2006) found a significant association between parity and self-perception of infertility. Each additional child was found to decrease a woman’s perception of a fertility problem by approximately one-half. I therefore include this as a control variable, which was assessed with the question, “Have you ever given birth?” Respondents answered yes or no (coded as 1 and 0, respectively).

Ever miscarry/still birth. The NSFB provided constructed variables that assessed respondents’ complete pregnancy histories and calculated the number of miscarriages and stillbirths the woman experienced. I created a dummy variable based on these items which signified whether the women had one or more miscarriages or stillbirths or none (1,0).

Number of biological children. The women in the NSFB provided a count of their total number of living biological children reported by the respondent. As noted in the previous section above, to create mutually exclusive household/family composition categories, I coded women who had ever given birth as having biological children which left the two fertility history categories of “ever tried” and “ever miscarried/still birth” for the fertility history categories in bivariate and multivariate analysis.

Predisposing and enabling conditions. White et al.'s (2006) model included several predisposing and enabling conditions associated with helpseeking for infertility. These variables include education, employment, depression, self-esteem, social support, internal health locus of control, subjective health, and ethical concerns about assisted reproductive technology.

Education. Respondents were asked, “How many years of schooling have you completed?” Responses ranged from no schooling to sixth year of graduate school. I created a five-category variable: (a) less than high school education, (b) high school diploma or GED, (c) some college, (d) bachelor’s degree, and (e) graduate education (some or degree completed).

Employment. Respondents were asked, “Last week were you employed full-time, part-time, going to school, keeping house, or something else?” If the respondent reported two or more of these statuses, interviewers were directed to record their employment status in terms of the highest on the following list (from highest to lowest): (a) employed at a full time job (35 hours or more); (b) employed at a part-time job(s); (c) unemployed, laid off, looking for work; (d) retired; (e) in school; (f) keeping house; or (g) disabled. From this I created the following four-category variable: (a) full-time, (b) part-time, (c) homemaker, and (d) not employed, which included unemployed, laid off, looking for work, retired, in school, or disabled and did not report any other form of employment.

Depression. The NSFBI included 10 items from the CES-D (Center for Epidemiologic Studies Depression Scale). Respondents were asked to answer the following items with respect to how they were feeling or behaved in the last two weeks, ranging from “rarely or never” (coded as 1 to “all of the time” (coded as 4). Statements included (a) I was bothered by things that usually don’t bother me; (b) I had trouble keeping my mind on what I was doing; (c) I felt depressed; (d) I felt that everything I did was an effort; (e) I felt hopeful about the future; (f) I felt fearful; (g) My sleep was restless; (h) I was happy; (i) I felt lonely; and (j) I could not get going. I used the imputed scale variable provided in the data set, which provided the mean score.

Self esteem. The NSFBI included three items based on the Rosenberg Self-Esteem scale, ranging in four points from strongly agree to strongly disagree (coded as 1 to 4). The three items included: (a) I feel that I do not have much to be proud of; (b) I am a person of worth at least equal to others; (c) All in all, I am inclined to feel that I am a failure. The NSFBI imputed scale variable provided the average scores for self-esteem.

Social support. Social support was measured with a four-item scale in which respondents indicated how often each of the following kinds of support were available to them if they needed it ranging from often (1) to never (4). Items included (a) Someone to give you good advice about a crisis; (b) Someone to give you information to help you understand a situation; (c) Someone whose advice you really want; and (d) Someone to share your most private worries and fears with. I used the average scores across items provided in the imputed social support scale variable in the data set.

Internal health locus of control. Participants indicated whether they strongly agreed (1), agreed (2), disagreed (3), or strongly disagreed (4) with the following six statements: “If I get sick, it is my own behavior which determines how soon I get well again,” “I am in control of my

own health,” “When I get sick, I am to blame,” “If I take care of myself, I can avoid illness,” “If I take the right actions, I can stay healthy,” and “The main thing which affects my health is what I myself do.” The imputed scale variable presented an average score of a range from 6 to 24.

Subjective health. Respondents were asked, “In general, would you say your own health is excellent, good, fair, or poor?” Responses included poor (1), fair (2), good (3), and excellent (4).

Ethical concerns about ART. Participants were read the following statement prior to answering questions about ethical concerns:

There are many ways medical science can help people have children. Some people think these procedures pose moral and ethical problems; other people believe it is okay to use these techniques to help people have the children they desire. For each of the following fertility treatments, please tell me whether you think this poses no ethical problem, some ethical problems, or serious ethical problems. If you are not sure what the treatment is, just ask and I'll explain it. (Main Interview Schedule, p. 158)

The subsequent statements included “Helping a woman get pregnant by inseminating her with her husband or partner's sperm,” “Helping a woman get pregnant by inseminating her with sperm from a donor,” “Using In vitro fertilization, or IVF,” “Using the eggs of a donor,” “Using a surrogate mother,” and “Using a gestational carrier.” Responses included the following: (1) no ethical problem, (2) some ethical problems, and (3) serious ethical problems. I used the imputed ethics scale variable given in the data set, which provided the average score of responses ranging from 3 to 18.

Analytic Approach

This study utilized several methodological approaches to investigate the relationships between various demographic characteristics and four distinct components of women's

in/fertility experiences. I used SAS 9.3 and 9.4 for all analyses. First, I conducted univariate analyses of the variables in the study. This included a presentation of means, percentages, and standard deviations. Second, I assessed bivariate relationships between independent and dependent variables. I performed chi-square tests for categorical variables, and t-tests and analysis of variance (ANOVA) when analyzing difference between groups with respect to continuous variables. When running ANOVAs, I used Tukey's Honestly Significant Differences (HSD) to account for the inflation of Type-I error resulting from multiple comparisons. Then, multiple regression analyses were used to examine associations between the independent and dependent variables, accounting for important life course, fertility history, and predisposing and enabling factors. Various regression analyses (OLS, logistic, etc.) were employed to examine relationships depending upon the level of measurement of the dependent variables.

CHAPTER 4: WHO ARE THE INFERTILE WOMEN IN AMERICA? A DEMOGRAPHIC PROFILE

Using the National Survey of Fertility Barriers (NSFB), this chapter provides a demographic profile of infertile women in the United States, as defined in the previous chapter as any period of twelve months or greater in which the woman had regular unprotected intercourse without conceiving (American Society for Reproductive Medicine, 2008). In contrast to the majority of infertility research, which focuses largely on White, middle-class women seeking treatment, this profile of infertile women is based on a nationally representative sample, which provides a more accurate understanding of infertile women than most previous studies. Relevant to this dissertation, this demographic portrait highlights low income, non-White, and unpartnered women.

This is an important improvement because infertility in these populations has been largely unexamined. Moreover, single women are increasingly pursuing motherhood without a partner, as are non-White women (Hertz, 2006). Furthermore, single women have been historically restricted from infertility treatment (Liu, 2009). Because this dissertation focuses on experiences of non-White women and those of lower economic status, groups that are less likely to be married and more likely to be single, omitting them from the study would create a biased sample.

Furthermore, unlike other national data sets, the NSFB provides a wide range of information on economic factors, demographic characteristics, life course factors, and socio-emotional variables, providing new information on the diversity of women who experience infertility. These include potentially important determinants of infertility experiences such as

fertility-specific distress, social support, the importance of motherhood, and social messages to have children from partners and parents.

The NSFB expands our understanding beyond clinic-based samples of infertility “helpseekers” (those who seek treatment by talking with a doctor or clinic and/or pursue medical testing and management of an infertile diagnosis). That is, the NSFB includes women who may not have been diagnosed or treated for infertility or might not even self-identify as infertile. This is important because whereas limited attention has been given to economic and racial disparities in helpseeking and medicalized infertility experiences (Bitler & Schmidt, 2006; Griel et al., 2011), no studies to my knowledge have examined such differences in the antecedents to helpseeking, such as variations in pregnancy intent or thinking of oneself as having trouble getting pregnant. Previous research suggests that self-perception of a fertility problem is critical in the helpseeking process (White et al., 2006). Prior work has failed to demonstrate demographic differences in fertility desires, intentions, and perceptions and other factors leading up to helpseeking that might explain disparities in later steps of the infertility helpseeking process and subsequent experiences. Increased awareness about who really is infertile and how they experience infertility has the potential to inform legislation and more equitable access to treatment and other support for infertile women and couples.

The goals of this chapter are to, first, describe the demographic characteristics of infertile women in the U.S. Second, as a check on the validity of the present findings, this chapter compares a sample of infertile women from the National Survey of Fertility Barriers to the National Survey of Family Growth (NSFG), the most widely used nationally representative data set of fertility attitudes and behavior. Third, I present differences in infertile women’s

demographic characteristics by economic status and by race/ethnicity. Finally I discuss these findings in light of existing literature.

Analytic Sample

The NSFB interviewed a total of 4,794 women. As discussed in detail in Chapter 3, the present sample was limited to 2,037⁶ infertile women who had, at some point in the last 10 years, experienced a failure to conceive for twelve consecutive months or more while having regular unprotected intercourse. The sample was further limited to those with no missing data on the key variables in the study. Refer to Figure 6 for a graphic showing the sample selection criteria.

The following results are weighted to reflect the national population.

Demographic Profile

Economic status. Table 4.1 presents a demographic profile of infertile women in the United States including five different measures of economic status. About 28% of the women in the sample reported household incomes under \$25,000, 30% reported incomes between \$25,000 and \$49,999, 22% reported incomes between \$50,000 and \$74,999, 11% reported incomes between \$75,000 and \$100,000, and 9% of women reported household incomes of \$100,000 or more. Moreover, 18% of the respondents fell below the poverty line, 9% were between 100% and 149% poverty, and 28% were between 150% and 299% poverty. The remaining 45% of women had households were at or above 300% poverty. Many women (44%) reported having ever received public assistance (such as welfare or food stamps) while 57% reported not ever having received assistance. Fewer women (19%) reported receipt of public health insurance benefits (i.e. Medicaid). The majority of respondents (61%) reported private health insurance

⁶ For comparative purposes, Table 4.2 uses a slightly larger sample of 2,208 including (non-Hispanic) Asian, Pacific Islander, Native American or Alaska Native, and women with multiple racial and ethnic backgrounds.

coverage, yet 16% reported no health insurance coverage and 4% reported some other type of insurance.

The NSFBI assessed other measures of economic well-being including economic hardship which is based on how frequently in the past twelve months they (a) had trouble paying the bills; (b) did not have enough money to buy food, clothes, or other things their household needed; and (c) did not have enough money to pay for medical care. Respondents indicated if they (1) never, (2) not very often, (3) fairly often, or (4) very often experienced each of these. The scores on these items were summed, creating a scale of economic hardship ranging from scores of 3-12, with a mean score of 5.11. The average economic status index score was 2.8, ranging from 0 to 5.

Race/ethnicity. A majority (60%) of the sample was non-Hispanic White. The percentages of women who were non-Hispanic Black and Hispanic were 20% and 19%, respectively.

Life course factors. The average age of women in the present sample was 36. Although the majority (63%) of women in the sample were married, 12% were cohabiting, and 26% had no partner. Given that almost one-third of infertile women reported being unpartnered, these results demonstrates the bias that is introduced when samples are limited to married and otherwise partnered women.

The household composition of this sample of infertile women was diverse. The majority of women (74%) had biological children in the household, 2% had adopted children, and 2% had stepchildren. In addition, 5% reported at least one other child living with them. About a third (34%) of women lived with children under 6 years old (biological, adopted, step, foster, and other). Nearly 11% had one or more adult relatives and/or non-relatives living in the household.

Fertility history. Nearly 40% of women reported that they had ever tried to become pregnant for twelve months or more without conceiving. As suggested above, the vast majority (87%) of infertile women had given birth to at least one child (these children may reside in or outside the household). Over one-third (35%) of the women in this sample had experienced at least one conception that they were unable to successfully carry to term (due to miscarriage or stillbirth). The NSFB also provides information on the women's total number of living biological children of the respondent. As expected, the percentage of women who had given birth and who had biological children were about the same, as very few women had lost a child.

Predisposing and enabling conditions.

Education. There was a great deal of variation in respondents' education levels. Of the sample, 17% had less than high school education. Twice that amount (33%) had a high school diploma or GED. About 30% had some college and 14% had a bachelor's degree. Nearly 7% had some graduate education or graduate degree. Notably, half (49%) of this representative sample of infertile women have only a high school diploma or less.

Employment. Just over half (51%) of the infertile women in the sample were employed full-time (35+ hours). Almost one-quarter (24%) reported being a homemaker. About 15% worked part time, and another 11% were either unemployed, laid off, looking for work, retired, in school, disabled, or did not report any other form of employment.

Psychosocial factors. The NSFB assessed general depressive symptoms based on the CESD-I scale. Responses ranged from 1 (rarely/never) to 4 (all of the time) with respect to how participants were feeling or behaved in the two weeks prior to the interview. This scale ranged from 10 to 40, with an average score of 18. Three-items⁷ measured self-esteem and responses

⁷ Items included: (a) I feel that I do not have much to be proud of; (b) I am a person of worth at least equal to others; (c) All in all, I am inclined to feel that I am a failure.

ranged from strongly agree (1) to strongly disagree (4). An overall measure of self-esteem ranged from 3 to 12 and the average for this sample of women was 10.38. A four-item⁸ scale tapped how often various kinds of social support were available to respondents, with a four-point Likert scale ranging from (1) often to (4) never. Respondents' average score was 14, on a scale ranging from 4-16.

Internal health locus of control. Participants responded to six statements⁹ about their role in their own physical health, ranging from strongly agree to strongly disagree. Responses averaged nearly 18 points on a scale ranging from 4 to 24.

General health. Over half (54%) of the respondents rated their own health as “good” and nearly one quarter (24%) responded that they had “excellent” health. Far fewer respondents said they had fair or poor health (20% and 3%, respectively).

Ethical concerns about ART. Following White et al. (2006), I included in this profile of infertile women participants' ethical concerns regarding the use of assisted reproductive technology (ART). The NSFBI included six items assessing the extent to which respondents had (a) no, (b) some, or (c) serious ethical problems with procedures including artificial insemination, in vitro fertilization, using donor eggs, using a surrogate mother, and using a gestational carrier. Scores averaged 9 points on a scale ranging from 6 to 18, with higher scores indicating greater concern.

⁸ Scenarios included (a) Someone to give you good advice about a crisis; (b) Someone to give you information to help you understand a situation; (c) Someone whose advice you really want; and (d) Someone to share your most private worries and fears with.

⁹ “If I get sick, it is my own behavior which determines how soon I get well again,” “I am in control of my own health,” “When I get sick, I am to blame,” “If I take care of myself, I can avoid illness,” “If I take the right actions, I can stay healthy,” and “The main thing which affects my health is what I myself do.”

Comparison with the National Survey of Family Growth

The National Survey of Family Growth (NSFG), conducted by the U.S. Department of Health and Human Services, is the predominant nationally representative data set about fertility attitudes and behavior. Table 4.2 provides a brief comparison of the results reported above from the present sample of infertile women in the NSFB (Sample 1) and select comparable figures most recent wave (2006-2010) of the NSFG (Chandra, Copen, & Stephen, 2013; Samples 2 and 3), which are provided to support the validity of the present findings¹⁰. I conducted brief calculations based on limited data available in the most recent NSFG¹¹ report regarding infertility (Chandra et al., 2013). Two NSFG samples are used since 12-month infertility is not measured among unpartnered women in the NSFG, as discussed below.

The data from the NSFB and the NSFG are not exactly comparable. First, the age range of the NSFB sample is 25 to 45 years, whereas the NSFG figures included women ages 15 to 44 except for poverty measures (ages 20 to 44) and education level (ages 25 to 44; Chandra et al., 2013). This important distinction may underlie differences between sample characteristics. For example, while the NSFB might miss young women who are aware that they are infertile. However, very few young women have medical conditions where they would have knowledge of sterility early in life. Furthermore, women's mean age at first birth is 26 ("Births and Natality", 2014), suggesting that the more concentrated age of the NSFB prevents the mean from being

¹⁰ Principal investigators of the NSFB conducted a similar comparison of weighted NSFB data with the 2002 wave of the NSFG (Comparison with Select External Measures, n.d.). For instance, in their comparison, the average age in both samples was 35 years. Nearly 80% of women in that NSFG sample were White, whereas only 61% of women in the NSFB sample were White. Nearly 62% and 63% of NSFG and NSFB samples were married, respectively. There were similar economic characteristics across several measures in both data sets. In terms of fertility variables, both samples had similar rates of miscarriages and pregnancy-helpseeking, which includes talking to a doctor for any pregnancy related reason. Because they found similar characteristics of several key variables between the overall NSFB and NSFG data sets, I do not replicate comparisons of all those variables here.

¹¹ Further details on NSFG measures can be accessed here:
<http://www.icpsr.umich.edu/webdocs/Controller?displayPage=femaleResp>

skewed by the 4% of women ages 15 to 24 who are infertile, as reported in the NSFG (Chandra et al., 2013).

The second difference between the three samples is in the measurement of infertility. Recall that the present NSF sample (Table 2; Sample 1) is comprised of infertile women who had an episode of failing to conceive after having regular intercourse for one year without using contraception, *whether or not they were partnered*. In contrast, because the NSFG does not provide measurement of infertility with this definition among unpartnered women, I provide the first NSFG sample (Sample 2; column 2) to compare more broadly-defined fertility trouble among women of all relationship statuses, and Sample 3 (Column 3) for a direct comparison to women with 12-month infertility, which is measured only among married and cohabiting women in the NSFG, as described below.

First, I present comparison figures on women from the first NSFG subsample, which defines infertility women as those who report trouble getting pregnant or *trouble carrying a baby to term* regardless of relationship status (Sample 2). The key difference between this sample and the NSF is that the NSFG Sample 2 includes women meeting the definition of infertility (failure to conceive in 12 months) plus those who either had (a) trouble carrying a baby to term, (b) those who are nonsurgically sterile, (c) a long (36+ month) interval without conception, and/or (d) those whose fecundity status reflects the status of their current husbands or partners for married and cohabiting women.

Another important difference between the present NSF sample (Column 1) and NSFG Sample 3 (Column 3) is that this NSFG sample is limited to partnered women. However, Sample 3 is important as a point of comparison because it provides a 12-month measure of infertility, or failure to conceive, which parallels the infertile definition in the NSF Sample 1. In instances

where variables could not be exactly matched, similar items are reported, as noted in Table 2. Percentages that are similar across the two surveys, and distinctions between the two, are noted.

Both the infertile NSFB and NSFG Sample 2 (Column 2) report similar percentages of women below the poverty line (18% and 20%, respectively). Furthermore, over half of each sample was comprised of women at or below 300% poverty (the NSFB reports 54%, while the NSFG reports 56%). Of the infertile women in the NSFB, 46% were at or above 300% poverty, compared to only 36% of women at or above 300% poverty in the NSFG. However, the NSFG infertile sample (Sample 3, third column, Table 2), reports relatively better economic status¹². Less than 8% of infertile women in the NSFG are below the poverty line, over a third (37%) are between 0% and 300% poverty, and 44% are at or above 300% poverty, which is more similar to the infertile sample in the NSFB. These findings are likely to be a result of the marital status in the NSFG Sample 2, limited only to partnered women, because married and cohabiting women are more likely to have access to higher household incomes (shared by a partner).

While both samples of all relationship statuses (Samples 1 and 2) contained a majority of non-Hispanic White respondents (NSFB = 55%, NSFG = 62%, respectively), the NSFB contained higher percentages of non-White respondents. Half (50%) of the NSFG infertility sample (Sample 3) was White. The NSFB was comprised of 19% non-Hispanic Black women whereas the NSFG Sample 2 contained 15% Black women. Only 8% of the NSFG infertility sample (Sample 3) was Black. This is likely due to the sample being comprised mainly of those who are married, which is less likely for Black women. Although the NSFG had similar numbers of Hispanic women and Black women (both around 15%), the NSFB had slightly fewer Hispanic

¹² While 41% of the women in the NSFB had ever received public assistance including welfare and food stamps, I was unable to directly compare this variable as the NSFG separates these assistance measures and asks if they were received in the last year. This could contribute to the higher rate of assistance ever received by the infertile NSFB sample.

women (18%) than Black women (19%). The present NSFB sample also contains 8% women of an “other” race/ethnicity category, including Asian, Pacific Islander, Native American, and other ethnicities. The report from which the present NSFG comparison is derived only reports an Asian single-race category, which comprised 2% of the NSFG Sample 2, and 4% of the NSFG infertility sample (Sample 3). This is another important difference that prevents the two samples from being completely compatible. The NSFG omitted racial/ethnic groups other than Asian. The fact that, according to the NSFB, nearly 1 in 10 infertile women are Asian or another race/ethnicity besides White, Black, or Hispanic is important to remember.

The relationship statuses between the two samples varied quite a bit. The majority of the NSFB infertile sample was married (62%) whereas only 46% of the NSFG Sample 2 was married. Additionally, over 80% of the NSFG infertility group (Sample 3) was married. These differences could be due to the various definitions of fertility problems. The lower marriage rate of infertile women in the NSFB compared to the NSFG (62% and 81%, respectively) could be reflective of the oversampling of non-White women who are less likely to be married. Yet, fewer than half (46%) of the NSFG Sample 2 group was married, which is more similar to overall marriage rates for women in the United States. Also recall that the NSFG sample includes women as young as 15 which are much less likely to be married than the women 25 and over in the NSFB.

Similar percentages of cohabitation were reported between the NSFB and NSFG sample 2 group (12% and 13%, respectively). However, nearly 18% of women in the NSFG infertility group (Sample 3) sample reported cohabiting. This again could be a reflection of the fact that NSFG Sample 3 includes a decade worth of younger women who are less likely to be married and more likely to cohabit.

About one-quarter (26%) of infertile NSFBI women were unpartnered at the time of the study. These women are completely overlooked by the NSFG infertility measurement. Even more NSFG women in Sample 2 do not report a current partner (40%). This might reflect population estimates that nearly half of American women are unpartnered, so closer to half of these women have ever had some trouble conceiving *or* carrying a baby to term, whereas fewer single women have only had trouble conceiving.

Of the NSFBI infertile women, the vast majority (85%) had ever had a live birth, whereas only 54% and 44% of women in both NSFG samples had ever given birth, respectively. This is again likely due to the fact that the NSFG's broader age range is capturing young women who are less likely to have had a child and the NSFBI's more focused sample on the ages of women that are more likely to encounter pregnancy, births, and fertility problems.

The education level of infertile women varied between the two samples. Most notably the NSFBI sample appears to be less educated overall. Nearly 16% of the NSFBI sample did not complete high school, and 32% had a high school diploma (or GED), compared to 11% and 18% in the NSFG, respectively. This again could be due to the fact that non-White women were oversampled in the NSFBI and are less likely to have earned higher degrees. Also, it is important to note that the age range for the education measures in the NSFG was nearly the same as the NSFBI, 25-44 years (Chandra, et al., 2013). The higher levels of education were more similar between women in both samples. In the NSFBI, 29% reported had an associate's degree or had some college compared to 24% (earning either) in NSFG Sample 2. The rates of bachelor's degrees held by the women in these two samples were also similar, 15% and 17%, respectively. Of the infertile NSFG women, nearly 15% had some college and over 27% had a bachelor's degree, which could be attributed to sample being comprised of a majority of married women

who are more likely to have finished college. Finally, about 8% of women in all samples reported some post-baccalaureate education or a graduate degree.

Group Differences in Infertile Women's Economic Resources

Table 4.3 shows several significant differences that emerged when comparing mean economic status index (ESI) scores between various demographic groups of infertile women. The ESI provides a comprehensive measure of economic resources. Column 3 provides information on group differences that were statistically significant at $p < .05$.

Race/ethnicity. White infertile women scored significantly higher (3.3) than both Black (2.1) and Hispanic women (2.3). However, Hispanic women's ESI score was significantly higher than Blacks.

Life course factors.

Age. Infertile women under age 35 had significantly lower ESI scores (2.50) than women age 35 and over (3.03).

Relationship status. Married women averaged significantly higher ESI scores (3.37) than either cohabiting (2.07) or unpartnered women (1.76). Furthermore, cohabiting women's economic status was also significantly higher than women with no partner.

Family composition. I found no significant differences between the ESI scores of women with no children (2.84) versus women with biological/adopted children only (2.81) versus women with step and other (foster, other relative, etc.) children only (2.36).

Fertility history. Compared to women who did not report trying to conceive for a year or more unsuccessfully, women who did report trying without getting pregnant had a significantly higher ESI score (3.02). There was not a significant difference in ESI score between women who had ever miscarried or had a stillbirth and those who had not.

Predisposing and enabling conditions.

Education. In general, as infertile women's education level increased, so did their economic status. Those with less than a high school education had a significantly lower ESI score (1.32) than those with high school degrees (2.46), some college (3.06), bachelor's degrees (4.03) and graduate education (4.33). In fact, all ESI scores were significantly different from one another except bachelor's and graduate education levels.

Employment. Infertile women employed full-time had a significantly higher ESI score (3.25) than all other employment categories. Part-time workers had significantly higher economic status (2.76) than homemakers (2.34). Women in both of these categories had significantly higher ESI scores than unemployed women (1.84).

Depression. Women with low depression had a significantly higher ESI score (3.31) than women with medium levels of depression (2.83) or high depression (2.07). Those with medium depression levels had a significantly higher ESI score than those with high depression levels.

Self-esteem. Infertile women with low self-esteem had significantly lower economic status (2.11) than those with medium self-esteem (2.87) or high self-esteem (3.47). The ESI scores of women with medium self-esteem were also significantly lower than those with high self-esteem.

Social support. Infertile women who reported low social support had significantly lower economic status (2.25) than those with medium social support (2.86) or high social support (3.12). Women who reported medium social support had significantly lower ESI scores than those with high social support.

Internal health locus of control. No significant differences in economic status emerged between categories of low, medium, and high levels of internal health locus of control.

General health. Infertile women who self-rated their health as “poor” had a significantly lower economic status (1.17) than all other health categories. Those with “fair” health had significantly lower economic status (1.91) than those who said they had “good” health (2.96). Women who rated their health as either “fair” or “good” had significantly lower ESI scores than women who said they had “excellent” health (3.41).

Ethical concerns about ART. Only one significant difference emerged between women at various levels of ethical concern regarding assisted reproductive technology. Those with low concern had significantly higher average economic status than those with high level of concern.

Overall, White infertile women, those who were older, married, worked full time, and had higher levels of education tended to have greater economic resources than non-White infertile women, under age 35, who were not married, less educated and did not work full time. Moreover, infertile women with fewer psychosocial resources (higher depression, lower self-esteem, social support, poor self-rated health) tended to have fewer economic resources than women with lower depression, higher self-esteem and social support, and greater self-rated health.

Racial and Ethnic Differences among Infertile Women

There were a number of racial and ethnic differences in demographic characteristics of infertile women (Table 4.4).

Economic status. Overall, the main pattern when comparing economic characteristics of infertile women was that White infertile women had significantly higher economic status than both Black and Hispanic women. Black and Hispanic women were, for the most part, similar with respect to economic resources. For example, regarding income, only 17% of White infertile women had annual household incomes less than \$25,000, which was significantly lower than

Black (43%) and Hispanic (44%) infertile women. Yet the percentages of Black and Hispanic infertile women in this category were not significantly different from each other. Except for one category, significant differences occurred at all levels of poverty status when comparing Whites with Blacks and Hispanics. The pattern held that significantly more Whites (71%) than Blacks (48%) or Hispanics (44%) had private insurance coverage but the latter groups were not significantly different from one another.

Some exceptions to this pattern emerged. The percentage of White women (29%) with household incomes between \$25,000 and \$49,999 was significantly lower than Black (33%) women but not Hispanic (31%) women. Furthermore, the percentages of Black and Hispanic women in this income category were also significantly different from each other. Another exception to the pattern was in the percentage of infertile women between 149% and 300% of the Federal Poverty Level, where no racial/ethnic groups were significantly different from the others. Contrarily, the percent of White infertile women having ever received public assistance (35%) was significantly lower than both Blacks (65%) and Hispanics (47%), who were also significantly different from each other.

Among infertile women who had public insurance coverage, Whites (14%), Blacks (33%), and Hispanics (21%) were all significantly different from each other. The percent of uninsured Whites (11%) and Blacks (15%) were not significantly different from each other but were both significantly lower than the percent of uninsured Hispanics (30%). Finally, no significant differences emerged between the percentages of any racial/ethnic category with some other form of health coverage. For both the average economic hardship scores and the economic status index scores, all three groups were significantly different from one another.

Life course factors.

Age. The mean age of infertile women was significantly higher among Whites (36.7 years) than among Black (35.1 years) and Hispanic (34.6 years) infertile women. Blacks' and Hispanics' mean ages were not significantly different from each other.

Relationship status. Relationship status of infertile women varied across racial and ethnic groups. Nearly 74% of White women were married, compared to only 34% of Black women and 60% of Hispanic women. A lower percentage of White women (8%) were cohabiting compared to 17% of Black and 18% of Hispanic women. These latter groups were not significantly different from each other. In contrast, the percentage of infertile women without a partner did not vary between Whites (18%) and Hispanics (23%) but both groups were significantly lower than the percentage of Black infertile women who were unpartnered (50%).

Household composition. No significant differences emerged between race/ethnic groups with respect to the percent of biological, step, or any children under age six in the household. However, White infertile women and their Hispanic counterparts differed significantly in the percentages who had adopted children (3% and 0.3%, respectively), other children (3% and 7%, respectively), and other residents over age 18 (8% and 19%, respectively) in the household. Neither Whites nor Hispanics significantly differed from Black women in terms of the percent that had adopted children (1%), other children (8%), or other adult residents (10%) in the home.

Fertility history. Regarding infertile women's fertility histories, a significantly higher percentage of White women (41%) than Black women (32%) had ever tried to conceive unsuccessfully for 12 months or more. Neither group was significantly different from Hispanic infertile women (40%). A significantly higher percentage of infertile women who were Black (89%) and Hispanic (91%) had ever had a live birth compared to 84% of White women. This

was the same pattern among percentages of women who had any biological children at the time of the study. No significant differences emerged between groups in the percent of infertile women who ever miscarried or had a stillbirth.

Predisposing and enabling conditions.

Education. Overall, White infertile women were significantly more likely than Black and Hispanic women to receive more education. For instance, of infertile women who received less than high school education, the percent of Whites (9%), Blacks (18%), and Hispanics (37%) were all significantly different from one another. There were no significant differences between groups with respect to a high school education or GED equivalent. The percentage of Whites (32%) and Blacks (32%) who received some college education were significantly higher than the 21% of Hispanics who had some college, but not from each other. The percentage of White (17%) women with a bachelor's degree was significantly higher than that of Hispanic women (8%), but neither group was significantly different from Black women (13%). Finally, the percentage of White women with any graduate education (8%) was significantly higher than both Black (5%) and Hispanic (4%) women.

Employment. Regarding employment, the percent of both White (52%) and Black (57%) women who worked full-time was significantly higher than that of Hispanic women (42%). However, a significantly higher percentage of Hispanic women (17%) worked part-time compared to White (15%) and Black (10%) women. Moreover, the percentages of homemakers in each group were significantly different in all contrasts. The percent of Hispanic women who stayed home (31%) was significantly higher Whites (25%). Both of these were significantly higher than the percentage of Black women (13%) who reported being homemakers. Finally, the percent of Black infertile women not employed (20%) was significantly higher than both

Hispanic (10%) and White women (9%). The latter two were not significantly different from each other.

Psychosocial factors. White infertile women's average depression score (17.7) was significantly lower than Black women's average score (18.3) but not that of Hispanic women (18.1). The average self-esteem scores were significantly different between all contrasts, with Whites averaging a higher score (10.5) than Blacks (10.3) who scored significantly higher than Hispanics (10.0). Similarly, Whites averaged significantly higher social support (14.6) than Blacks (13.7), and both groups averaged significantly higher support than Hispanics (12.8).

Internal health locus of control. Hispanic women averaged significantly higher internal health locus of control (18.03) than did Whites (17.7). Black women's locus of control did not differ significantly from either Whites or Hispanics.

Ethical concerns. White infertile women's ethical concerns regarding assisted reproductive technologies were significantly lower (89.8) than those of either Blacks (10.01) or Hispanics (9.7).

Discussion

This chapter provides a demographic profile of infertile women in the United States defined as, at some point in the past, having regular unprotected sex without conceiving for at least 12 months. Unlike previous studies that are mostly drawn from small, clinic-based samples, of middle-class White women, the data presented are from a nationally representative sample of women. Therefore NSFB includes women who may or may not have received a diagnosis, treatment, or had even identified themselves as infertile. Moreover, whereas previous work has examined economic and racial disparities in medicalized infertility experiences (i.e. Bitler & Schmidt, 2006; Griel et al., 2011), no studies have provided a comprehensive demographic profile

of infertile women that includes such factors as their household composition, detailed fertility history, and psychosocial well-being.

This profile of infertile women, which includes high percentages of non-White women, unpartnered women, and those of lower economic status, challenges current public perceptions of women's infertility in the United States today. It is important to include these groups because women of all races are increasingly pursuing motherhood intentionally as single women (Hertz, 2006), especially non-White women (Keels, 2014) even when they have been historically limited in receiving help with fertility (Liu, 2009). For example, half of Black infertile women were unpartnered, compared to 18% and 23% of White and Hispanic women, respectively. Additionally, unpartnered women had significantly lower average economic status than either married or cohabiting women, underscoring their greater challenges with respect to accessing services. This snapshot of infertile women allows us to make more informed decisions about experiences related to infertility and focus attention on groups previously assumed to be unaffected by infertility and therefore undeserving of services.

First, this analysis challenges the assumption that infertile women are only middle class and upper middle class women. Infertile women have a range of incomes, and in this sample, over 25% had household incomes of less than \$25,000 per year. Additionally, less than two thirds of infertile women had private health insurance. These figures varied significantly by race. Whites had significantly higher incomes than Blacks and Hispanics, and Hispanics had significantly higher incomes than Blacks. A significantly higher percentage of Whites (71%) had private health insurance coverage compared to less than half of either Blacks or Hispanics. Over a quarter of infertile women were below 150% poverty with Black and Hispanic women having higher rates. Over 40% of all infertile women had ever received some form of public assistance,

and this significantly varied between all racial groups (Whites had lowest percentage at 35% and Blacks the highest at 65%). Overall, Black infertile women were of significantly lower economic status than either White or Hispanic women.

Infertile women at the lower end of the economic spectrum do not fit the image of the well-educated, middle-class woman desperately trying to seek fulfillment in life by conceiving a child. Previous studies indicate that shows that women of lower economic status are as likely to find motherhood meaningful as their higher income counterparts, if not more (Edin & Kefalas, 2005). In fact, poor women are often viewed in the public eye as being hyperfertile (Bell, 2010; Ceballo, 1999). So, poor, infertile women face financial *and* cultural barriers to seeking medical help with infertility as well as the stigma of failing to live up to an overly fertile stereotype. These issues are explored further in later chapters.

Secondly, contrary to the popular images of White couples struggling with infertility, nearly half of infertile women in this profile were *not* White, which supports previous researchers who are trying to bring non-White infertility to our attention (Chandra, et al., 2005; Greil, et al., 2010; Inhorn, et al., 2009; Shanley & Asch, 2009, Wellons et al., 2008). Although scientific research has started to investigate non-White women's infertility, particularly disparities in treatment (i.e. Bitler and Schmidt, 2006; Griel et al., 2011), popular press and the media are lagging behind in accurately portraying infertility in America from a racial and ethnic standpoint (Franklin, 1990; i.e. Sterling & Best-Boss, 2009). If these percentages were accurately depicted in media and medical images, one in two infertile women depicted would be a racial or ethnic minority.

The majority of women in this sample were partnered – either married or cohabiting. This suggests that most infertile women are in a committed relationship, which is likely to increase their desire for a baby. Due to this fact, 12-month infertility is traditionally considered a “couple-

based phenomenon” (Chandra, et al., 2013, p. 2) and its measurement is limited to partnered women. Yet, the NSFB reveals that nearly one-quarter of women who meet the medical definition of infertility are neither married nor cohabiting. This contrasts most media images of married infertile women and leaves room for new research on this particular demographic. These unpartnered women could possibly be trying to pursue single motherhood by choice, an emerging finding that should not be overlooked. In fact, among college-educated women, unmarried Black and Hispanic women are having first births at more than four times, and twice the rate of unmarried White women, respectively (Keels, 2014). Another contribution of the present analysis is greater detail regarding infertile women’s union status. Ethnic and racial minorities were twice as likely as Whites to be in cohabiting as opposed to marital relationships.

Regarding age, the average age of infertile women in the NSFB was 36 years old, which is considered advanced maternal age from a medical standpoint (ACOG, 2014). This is somewhat inconsistent with public perceptions of infertility, which often portray infertile women as even older. For example, some celebrities have children well into their 40s and 50s. However, what is generally unpublicized is that these children are often conceived through donor eggs, surrogate mothers and other ARTs. Moreover, it is important to note that infertile women aged 35 and above had significantly greater economic resources than their younger counterparts.

Additionally, White women’s average age (36.7 years) was significantly higher than Black and Hispanic women. These older, economically advantaged cohorts may be more likely to seek and receive medical treatment for infertility.

It should be pointed out many women who meet the definition of infertility have already started their biological families. This was consistent across economic status, race, and ethnicity, in terms of percentages of women who have a biological child in the home. As noted below, the

vast majority of infertile women were experiencing secondary infertility, indicating that they already have had a child. This, too, goes against most popular stereotypes of *childless* women and couples trying to create a "real" family by having a baby. Moreover, these characteristics may also decrease the likelihood for a woman to seek treatment to conceive additional children, or even consider herself as someone who has fertility problems because she already has an established fertility history. This latter point is key. Simply because these women meet the medical definition of infertility, they may not perceive themselves in that way, nor might they be trying to conceive and therefore not identify as infertile.

Infertile women are frequently depicted as childless and devastated because they are having difficulty producing their first biological child. In reality, as noted, a vast majority of women meeting the medical definition of infertility are already mothers; however this did vary significantly by race and ethnicity. A significantly lower percentage of White infertile women ever had a live birth when compared with Black and Hispanic infertile women. Most infertile women are experiencing secondary infertility and living with one or more children, which is not at all how they are typically perceived. In fact, over one third of infertile women are living with at least one young child under six years of age, which did not vary significantly by race/ethnicity.

However, secondary infertility does not imply that infertile women who have children do not find infertility painful. For example, the stress of failing to conceive again is likely coupled with the stress of raising (a) young child(ren). Some of these women are likely to be distressed at achieving a complete sense of family fulfillment, especially those who desire a child with their current partner, if that partner is not the father of their previous child(ren). In other words, some women desire a baby to "cement" stepfamily bonds (Stewart, 2005). In addition, about a third of infertile women have conceived at some point and suffered a subsequent miscarriage. We must

consider that while infertile women and couples may certainly desire additional children, it is important to account for these fertility and household characteristics in future research.

White et al. (2006), suggested that several types of predisposing and enabling factors are associated with infertility experiences. These include demographic measures as well as psychosocial ones. While it is true that women have delayed childbearing to pursue education and careers, only half of infertile women were employed full-time and nearly half of infertile women have only a high school diploma or less. So, half of infertile women are not working full time, and never had any college education, particularly among non-White women. This directly contrasts stereotypes of highly educated, career-driven women who delayed childbearing and are now struggling to start a family due to their “ticking biological clocks.” Without the edification and fulfillment that comes from work and school achievement, raising a family and having children may be even more central to women’s identity and sense of accomplishment (Bell, 2009; Edin & Kefalas, 2005). Yet, women with less education and fewer economic resources have limited options in dealing with infertility experiences, which are cost-prohibitive.

Infertile women are often characterized as depressed, grief-stricken, and struggling with these psychosocial characteristics, to the extent of hiding a “secret stigma” (Greil, 1997). In contrast, these findings suggest that infertile women cope relatively well. General depression among this sample of infertile women was relatively low, and infertile women reported fairly high levels of self-esteem and social support. This might be particularly true for those women who are already mothers living with children who perhaps have to manage secondary infertility and raising a child, something that will be explored in subsequent chapters, as well as the role of other factors.

Infertile women in general had fairly low depression and higher self-esteem and social support but demographic variations exist. First, women with fewer economic resources had significantly fewer psychosocial resources (higher depression, lower self-esteem and social support) and poorer self-rated health as well. Additionally, although the magnitudes of scores did not vary greatly, White infertile women had significantly lower depression levels than Blacks, and significantly higher self-esteem and social support when compared to both Black and Hispanic women. Generally, it appears harder to be infertile as a non-White woman, especially with fewer economic resources. Greater access to psychosocial resources may contribute to greater perception of fertility problems and a greater likelihood of seeking and receiving infertility treatment. The subsequent chapters explore these relationships further.

Infertile women's scores assessing their internal health locus of control were fairly consistent across demographic indicators and suggest that women feel responsibility for their own physical well-being yet also recognize external constraint. Finally, infertile women did have some ethical concerns about ART use, yet White women had significantly fewer concerns than Black or Hispanic women. This is consistent with previous research showing a greater mistrust of medicine and the health care system among non-White women, especially African Americans (LaVeist, 2000). Moreover, women with high level of ethical concern had significantly fewer economic resources than those with low ethical concern, suggesting more barriers to advanced treatment for poorer and non-White women. Taken together, these findings suggest that overall, infertile women have access to various enabling and predisposing conditions that would theoretically support their ability to seek help for infertility, but that these are fewer for poorer and minority women.

Findings in this demographic profile reflect the fact that the population of infertile women is far different from American society's perceptions and depictions. These stereotypes have carried over to shape most existing work on infertility, which is limited to mainly White infertility treatment seekers of higher socioeconomic status. Further analysis is needed to uncover the exact relationships between economic status, race/ethnicity, and other demographic and infertility experiences. A better understanding of the diversity within and among infertility illuminates the role that fertility salience and medical intervention plays (or not) in women's reproduction, including access to that medical care as well as disparities in medical diagnoses, treatment, and outcomes. Moreover, in the following chapters, analyses with this nationally representative sample will present a clearer picture of women's infertility experiences than the majority of infertility literature that is clinic-based and limited to treatment seekers.

CHAPTER 5: ECONOMIC STATUS, RACE, ETHNICITY, AND FERTILITY SALIENCE

This chapter presents the relationships between economic status, race, ethnicity, and *fertility salience* among infertile women. In this study, fertility salience refers to the thoughts and plans a woman has about having children or not. This concept is measured in terms of *fertility desires* (whether she would like to have a baby), *pregnancy intent* (whether she actually intends to have a child and the certainty with which she intends to have a child), the *importance women ascribe to motherhood*, and *social messages* she receives to have children (how important she thinks it is to her partner and her parents that she has a child). An in-depth description of these measures can be found in Chapter 3.

Prompted by the theoretical underpinnings of intersectionality and stratified reproduction, I focused on the independent and joint effects of economic status and race/ethnicity on fertility salience. First, I describe bivariate relationships between economic status and variables in the fertility salience construct. I then describe the bivariate relationships between race/ethnicity and fertility salience. The chapter concludes with results of multivariate analyses in which fertility salience is regressed on economic status, race, and ethnicity, and their interactions, accounting for specific life course, fertility history, and predisposing and enabling factors. A description of each of these measures can be found in Chapter 3.

In this chapter I examine the following hypotheses (Figure 2):

H1: Economic status is positively associated with fertility salience, such that women with higher economic status have greater fertility salience.

H2: White women have greater fertility salience than Black and Hispanic women.

H3: The association between economic status and fertility salience varies by race and ethnicity. The positive effect of economic status on fertility salience among Black and Hispanic women is greater than the effect of economic status among White women.

Contribution of this Research

Whereas previous research has examined demographic differences in some elements of fertility salience (i.e. pregnancy intent and un/planned births), the current analysis contributes to our understanding of fertility salience by introducing the idea of a composite measure of fertility desires, pregnancy intent, importance of motherhood, and social messages to have children from parents and partners. This study is also one of the first to examine the various roles played by economic status, race, and ethnicity.

This analysis builds upon the research of White et al. (2006). My concept of *fertility salience* avoids the negative connotations associated with “symptoms” (i.e., “symptom salience”) used in White et al.'s (2006) disease model-approach. First, I included in my measure the woman’s intent to have a(nother) baby and how sure she was that she would have children. Second, drawing from White et al.’s “individual and social cues,” I included the respondent’s report of the importance of motherhood and perceptions of her partner’s fertility desires. I also include a measure of how important the woman thinks it is to her parents that she has a child, as did McQuillan et al. (2012). In addition to the partner’s desires, this inclusion acknowledges that in some women’s lives parents might have just as much influence on her fertility decisions as her partner, if not more (especially if she is single). White et al.'s (2006) model proposes that there are significant relationships between women's economic status, race/ethnicity, and fertility salience, but these relationships remain untested.

Economic status and fertility salience. Prior work suggests, but has not specifically

tested, economic patterns in pregnancy intent (Finer & Henshaw, 2006; Radecki & Beckman, 1992) and fertility desires (Bryant et al., 2010; Maxson & Miranda, 2011). Regarding importance of motherhood, previous research has failed to find significant differences between women of different socioeconomic groups, as measured by education (McQuillan et al, 2008). Mothers receiving public assistance have been found to share a similar intensive mothering ideology to women who do not, again suggesting that motherhood is important to women regardless of economic status (McCormack, 2005). Yet, women with higher levels of economic hardship had higher odds of trying not to conceive compared to being “okay either way” (McQuillan et al., 2010). These studies suggest the need for a fuller examination of the relationship between economic status and fertility salience, as well as joint effects of economic status and race/ethnicity.

Race/ethnicity and fertility salience. Previous literature indicates that racial and ethnic differences may exist in some aspects of fertility salience, such as pregnancy intent. For example, non-White women have been found to be more likely than White women to have unwanted and unplanned pregnancies and births (Bryant et al., 2010; Hayford & Guzzo, 2010; Maxson & Miranda, 2011). Additionally, White women had higher odds of trying not to get pregnant than being "okay either way" compared to non-Whites (McQuillan et al., 2010). The importance women ascribe to motherhood was significantly higher among White women than either Black or Hispanic women. This is consistent with previous findings that White women are more likely to endorse and have support for the conventional ideology of intensive mothering than other racial/ethnic groups (Collins, 2000). Ethnographic work suggests that higher income non-White women are even more likely to uphold the ideals of intensive mothering (Clark, 2012). This signifies the importance of examining joint effects in the present models.

In this chapter, I first present descriptive information on the fertility salience measures (fertility desires, certainty of pregnancy intent, importance of motherhood, and social messages to have children from partners and parents) for this sample of infertile women. I then describe the bivariate relationships between economic status and race/ethnicity and these fertility salience measures. The chapter concludes with results of multivariate analyses in which fertility salience is regressed on economic status, race, and ethnicity, and their interactions, accounting for specific life course, fertility history, and predisposing and enabling factors.

Analytic Sample

For a detailed description of the sample selection criteria and flow of the sample selection process, refer to Chapter 3 and Figure 7. The unweighted fertility salience sample is comprised of 1,789 women. The demographic characteristics of this sample are provided in Table 5.1.

Descriptive Results

Table 5.2 describes the fertility salience measures in the present sample of infertile women. Nearly half (48%) of women defined as “infertile” responded that they would definitely not like to have a baby and 15% said probably no. Almost 17% said they probably would like a baby and just over 20% said they definitely would. The vast majority (77%) said they did not intend to have a baby, referred to as the “hidden infertile” (Greil, McQuillan, Johnson, Slauson-Blevins, & Shreffler, 2010). Regarding the women that did intend to have a baby, 9% were not sure, 7% were pretty sure, and 7% very sure. Motherhood was fairly important to infertile women, who averaged a score of 13.1 on the importance of motherhood scale (possible scores ranged from 4 to 16). Nearly a third (31%) of women strongly agreed that it was important to her partner that she has a child. Another 30% agreed, while 11% disagreed and 2% strongly disagreed. Yet 26% of infertile received no messages to have children from a partner. The largest percentage (42%)

of women agreed that it was important to their parents that they have a baby. Of the remaining women, 22% strongly agreed, 26% disagreed, 4% strongly disagreed, and only 5% reported receiving no messages from parents about having a child. Infertile women in the sample averaged 2.61 on the fertility salience index (scores ranged from 0 to 5).

These results are consistent with the infertile women studied by McQuillan, Greil, & Shreffler (2010), who reported a substantial number of women who were *not* trying to have a baby or were “okay either” way. This sample indicated that among women who meet the medical definition of infertility (experiencing an infertility “episode” in the 10 years prior to interview) is the definition consistently used across the social science literature. Using the medical definition captures women along a *spectrum* of fertility salience, with different thoughts and feelings about having a child. Yet, we typically associate infertility with women who not only have trouble when trying to have children, but also strongly desire them.

Differences in Fertility Salience by Economic Status

Table 5.4 presents the relationship between fertility salience and economic status of infertile women. I performed ANOVA to test for significant differences between categories of each independent variable. Several significant differences emerged when comparing the average economic status index (ESI) scores, which ranged from 0 to 5.

Fertility desires. The relationship between economic status and women's fertility desires was not straightforward. Women who said they would definitely not like to have a baby had a significantly lower ESI (2.80) than women who said they probably would not like to have a baby (3.18). Interestingly, this latter group had the highest ESI average of all fertility desire categories, including women who would like to have a baby. The ESI for women who said they probably

would like to have a baby (2.56) was significantly lower than those who either probably would not (3.18) or definitely would (2.93) like to have a baby.

Certainty of pregnancy intent. Women who did not intend to get pregnant and women who were not sure that they would conceive but intended to had significantly lower ESI scores (2.82 and 2.65, respectively) than women who were pretty sure they intended to get pregnant. No significant differences emerged when comparing other mean ESI scores to women who were very sure about their intent to conceive. Overall, the differences in intentions by ESI were not large.

Importance of motherhood. The importance of motherhood varied significantly by the economic status of infertile women, with higher income women ascribing higher importance. Women with low (2.65) importance of motherhood and medium importance of motherhood (2.84) had a significantly lower ESI score than women with high importance of motherhood (3.08).

Social messages to have children.

Social messages from partners. Social messages to have children from partners varied by economic status; stronger messages to have children were associated with higher economic status. Women who received no messages from partners to have a child had significantly lower ESI (1.85) than all other groups. Women who disagreed (2.81) and agreed (3.03) that it was important to their partner to have a baby had significantly lower ESI than women who strongly agreed (3.49).

Social messages from parents. There were significant differences in messages from parents by economic status. In general, women with higher economic status were more likely to agree that their parents wanted them to have a child. Yet, women who received no messages

from parents had significantly higher ESI (2.59) than those who strongly disagreed that it was important to her parents to have a baby (2.19) and a significantly lower ESI than women who agreed (2.89). Moreover, women who strongly disagreed that their parents felt it was important to have a baby had a significantly lower mean ESI score than all other groups. Women who disagreed had a significantly lower ESI score than those who strongly agreed (3.49).

Differences in Fertility Salience by Race/Ethnicity

Table 5.4 presents the relationship between race/ethnicity and fertility salience. I performed ANOVAs to test for significant differences in fertility salience between the three race/ethnicity categories.

Fertility desires. A similar percentage (just under half) of infertile women in each group said they definitely would not like to have a baby. However, a significantly higher percentage of both Whites (16%) and Hispanics (15%) said they *probably would not like* to have a baby, compared to only 10% of Blacks. The percentage of Hispanic women (22%) who said they *would probably like* to have a baby was significantly higher than Whites (15%) but not Blacks (18%). A similar percentage of women in all three racial categories said they definitely would like to have a baby (20-23%).

Certainty of pregnancy intent. Overall, Black and Hispanic women had greater certainty about pregnancy intentions than White women, though results were mixed. About 80% of White women said they “do not intend” to get pregnant, which was significantly higher than Black women (72%) but not Hispanic women (76%). Nearly 14% of Hispanic women said they intended to have a baby but were “not very sure.” This was significantly higher than the percentage of White (7%) and Black women (9%). About 9% of Black women were “pretty sure” about their intention to have a baby, which was significantly higher than that of Hispanic

women (4%) but not of White women (7%). No significant differences emerged between the percentages of women who were “very sure” they would have an intended baby (between 7%-10% for all race groups).

Importance of motherhood. White infertile women’s importance of motherhood score (13.3) was significantly higher than Hispanic women (12.7) and Black women (12.7). Black and Hispanic women’s importance of motherhood scores were not significantly different from each other.

Social messages to have children. Considerable variability emerged between racial/ethnic categories when comparing the percentages of infertile women who agreed that they received social messages to have children. However, in general, higher percentages of White women were more likely to agree that parents and partners wanted them to have a baby, especially when compared to Black and Hispanic women.

Social messages from partners. Overall, Black women were least likely to agree that they received messages from partners wanting them to have a baby compared to White and Hispanic women. About half of Black infertile women *received no messages* from partners about fertility because they were unpartnered. This was significantly higher than both White women (19%) and Hispanic women (22%). However, no significant differences emerged in the small percentages of women (between 1-2%) in each race category who *strongly disagreed* that it was “important to my partner that we have children” or between the 10-13% in each group who *disagreed*. However, the percentage of Hispanic women (39%) who *agreed* that it was important to a partner that she had a child was significantly higher than that of Whites (30%) and Blacks (23%). Moreover, the percentage of White women (39%) who *strongly agreed* that it was important to a

partner that she has a child was significantly higher than that of Hispanics (24%), and both were significantly higher than that of Black women (14%).

Social messages from parents. Generally, Black women were the least likely to agree that they received messages from parents to have a baby compared to White and Hispanic women. The 8% of Black women who had no messages from parents to have a child was significantly higher than White women (4%) and Hispanic women (5%). (Those who received no messages had parents were not in touch or they had passed away). The percentage of Black women (6%) who strongly disagreed that it was important to parents that she has a child was significantly higher than of Whites (3%) but not that of Hispanics (4%). Regarding women who disagreed that it was important to their parents, the percentage of Black women (34%) was significantly higher than those of both Whites (24%) and Hispanics (27%). The percentage of Hispanic women (51%) who agreed that it was important to parents was significantly higher than that of Whites (42%). Both were significantly higher than that of Blacks (36%). Finally, the percentage of White women (27%) who strongly agreed that it was important to parents that she has a baby was significantly higher than those of both Blacks (16%) and Hispanics (15%).

Multivariate Results

In analyses not shown, a zero order model did not provide evidence of significant differences in fertility salience by economic status (results not shown). In the race/ethnicity zero-order model, Black and Hispanic women were significantly different from White women's fertility salience (most measures), but were not significantly different from each other (results not shown). This pattern held across models (with race/ethnicity as the lone predictor and with economic status included in the model) for fertility desires, importance of motherhood, and messages from partners. However, variations on that pattern are described below.

In terms of certainty of pregnancy intent, economic status was a significant indicator in the zero-order model (results not shown), meaning those with greater economic resources were associated with greater certainty. In exception to the general trend, regarding certainty of pregnancy intent, Whites were significantly different from Blacks but not Hispanics, in both the zero-order model and the model including economic status. For example, in the model with race/ethnicity as the sole predictor, Blacks had 46% higher odds than Whites and Hispanics had 38% lower odds than Blacks of being certain about their intent to conceive a baby. Another exception is that in a zero-order model, greater economic status was significantly independently associated with higher importance of motherhood, but this effect disappeared with race/ethnicity added into the model where Whites attributed significantly more importance to motherhood than both Blacks and Hispanics. Greater economic status was positively associated with receiving messages from partners about having a baby with and without race/ethnicity in the model. Similar to the pattern for certainty of pregnancy intent, Blacks and women with lower economic status had significantly lower odds of receiving messages from parents than Whites, Hispanics, and those with greater economic status, respectively.

The results of the full multivariate models are presented in Table 5.5. These models include controls for life course factors, fertility history, predisposing and enabling conditions. Results for categorical variables are presented in the form of odds ratios. Odds ratios between zero and one indicate higher odds of each aspect of fertility salience, and odds ratios less than one indicate lower odds of fertility salience. Variables were coded a “1” if any of the following were true: (a) For *fertility desires*, if the woman reported that they would definitely or probably like a baby; (b) for *certainty of pregnancy intent*, if the woman was pretty sure or very sure she intended to have a baby; and (d) for *social messages to have children*, if the respondent agreed or

strongly agreed that it was important to her partner/parents or that she had a baby. Analyses pertaining to fertility messages from partners are limited to married and cohabiting women. Because it is a continuous variable, results pertaining to the importance of motherhood are presented in the form of regression coefficients. After controlling for various sociodemographic and psychosocial variables, economic status was not significantly associated with fertility salience indicators in any models. Significant associations were as follows.

Fertility desires. No relationship was found between economic status and fertility desires in the full model. Compared to White infertile women, Black infertile women had 46% higher odds of agreeing that they would like to have a baby versus disagreeing. Compared to Blacks, Hispanics had 23% lower odds of agreeing they would like a baby but this contrast was insignificant. Several other aspects of infertile women's lives were associated with desires for a child. Younger women had higher odds of desiring a child. Compared to women under age 35, women age 35 and above had 69% lower odds of agreeing that they would like to have a baby. Women with biological/adopted children had 65% lower odds of agreeing they would like a baby compared to women with no children. Women who had ever experienced an episode of unsuccessfully trying to conceive for 12 months or more had twice the odds of agreeing versus disagreeing that they would like to have a baby than women who had not reported an episode of trying to conceive unsuccessfully. The following predictors were not significantly associated with fertility desires in this model: economic status, relationship status, other kids, miscarriage/stillbirth, education, employment, depression, self-esteem, social support, medical locus of control, general health, and ethics regarding ART.

Certainty of pregnancy intent. I found no significant relationship between economic status and certainty of pregnancy intent in the full model. Black women had 56% higher odds

than White women of being sure versus unsure about their intent to have a child. Additionally, Hispanic women had 24% lower odds than Black women of being sure versus unsure about their intent to conceive a child. Similar to the effect of age on fertility desires, women aged 35 and above had 85% lower odds of being certain about their intent to have a baby versus uncertain than women under age 35. Similar to results pertaining to the desire for a baby, women with biological/adopted children had 61% lower odds of being sure that they wanted another baby versus unsure as compared to women with no children. Women who had ever tried to conceive unsuccessfully for a year or more had 53% higher odds of being certain they wanted to conceive versus uncertain as compared to women who had not reported an episode of trying to conceive without success. Higher self-esteem scores were associated with 13% lower odds of being certain about having a child versus uncertain. Higher levels of social support were associated with 8% greater odds of certainty of intentions to have a child versus uncertainty. The following variables were not significantly associated with certainty of pregnancy intent: economic status, relationship status, other kids, miscarriage/stillbirth, education, employment, depression, medical locus of control, general health, and ethics regarding ART.

Importance of motherhood. Economic status was not significantly related to importance of motherhood in the full models. Compared to White infertile women, Black and Hispanic women placed significantly less importance on motherhood. Cohabiting infertile women and those with no partner also placed lower importance on motherhood compared to married women. Compared to infertile women with no children, those with biological/adopted children as well as those with other children in the household (step, foster, other relatives, etc.) attributed significantly more importance to motherhood. Infertile women who reported an episode of unsuccessfully trying to conceive placed significantly higher importance on motherhood. This

was also true of women who had ever miscarried or had a stillbirth, compared to infertile women who did not report those experiences. Homemakers attributed significantly more importance to motherhood than did full-time employees. Women with higher levels of depression, self-esteem, and internal health locus of control placed higher importance on motherhood.

Social messages to have children.

Partner messages. Neither economic status nor race/ethnicity was significantly associated with messages from partners in the full model. Among cohabiting and married infertile women, women age 35 and above had 55% higher odds than women under age 35 of agreeing (versus disagreeing) that it was important to their partner that they have a baby. Compared to married women, cohabiting women had 26% higher odds of agreeing that it was important to her partner that she has a baby. Partnered infertile women who had biological/adopted children were had over twice the odds of agreeing versus disagreeing that it was important to their partner that she have a baby compared to women with no children. Infertile women who reported trying to conceive had 76% higher odds and women who had miscarried or had a stillbirth had 58% higher odds of agreeing it was important to their partner that she has a child when compared to women who did not report those fertility experiences. Homemakers had over twice the odds of agreeing versus disagreeing that it was important to a partner to have a baby when compared to women who worked full-time. Women with a higher internal locus of control had greater odds of agreeing that it was important to their partner to have a baby. None of the following were significantly associated with receiving fertility messages from partners: economic status, race/ethnicity, other kids, education, employment status (other than homemaker), depression, self-esteem, social support, general health, and ethics toward ART.

Parent messages. In the full model, the relationship between economic status and messages received from parents about having a baby was insignificant. Compared to White women, Black women had 25% lower odds of agreeing versus disagreeing that it was important to their parents to have a baby. I found no significant differences in messages from parents between Hispanics and the other race/ethnicity categories. Compared to married women, cohabiting women had 38% lower odds, and unpartnered women had 49% lower odds, of agreeing versus disagreeing that it was important to their parents to have a baby. Compared to infertile women with no children, women with biological/adopted children had 43% higher odds of agreeing that they received messages from their parents to have a baby. Women who stayed home full time had 69% higher odds of agreeing they received messages from their parents to have children, compared to women employed full-time. Women who had higher internal health locus of control had higher odds of agreeing versus disagreeing that it was important to their parents that they have a child.

In order to examine possible effects of the intersections of race/ethnicity and economic status, I introduced interaction terms into the full models of each fertility salience outcome measure. There was no significant improvement in model fit with the inclusion of the interaction terms.

Discussion

Mixed patterns emerged with respect to economic status and fertility salience. Overall, bivariate analysis mainly supported Hypothesis 1. Economic status was positively associated with fertility salience indicators. However, when controlling for life course factors, fertility history, and predisposing and enabling conditions, significant effects of economic status on fertility salience were mostly accounted for.

The results support Hypothesis 2, that overall, fertility salience in White infertile women was significantly different from that of Black and Hispanic women (and in many cases, the latter groups did not significantly differ from one another). However, this pattern varied somewhat between fertility salience indicators. For instance, compared to White women, Black women expressed greater desires for children and were more certain about their intentions to have a baby, but had lower odds of receiving messages from parents about having a baby. Hispanic women expressed less certainty in their intentions to have a child when compared to both White and Black women. They also placed less importance on motherhood than Whites. Hispanics and Whites were similar with respect to the other measures of fertility salience.

In terms of other characteristics, overall, younger women, married women with children, and women who reported an infertility episode scored higher on fertility salience than older, cohabiting/unpartnered women, women with no children, and women who had not reported an infertility episode. Women of advanced maternal age (35 and older) had lower odds of desiring a baby, being certain about their intentions to have a baby (if they intended), and agreeing that it was important to a partner to have a baby when compared to women under age 35. Married women also had higher odds of having greater importance of motherhood and agreeing that it was important to parents to have a baby when compared to cohabiting and unpartnered women.

It appeared that women who experienced an infertility episode who already had biological/adopted children had greater fertility salience when compared to women without children. Future research should untangle if involuntary childless women's fertility salience has decreased as a result of not being able to have children or if lower fertility salience among women who are medically infertile results in lower odds of continuing to try to have children. Internal health locus of control produced mixed results in fertility salience outcomes as it was

associated with lower importance of motherhood but those with greater locus of control had higher odds of receiving messages from parents and partners about having a baby.

Hypotheses 3, that the association between economic status and fertility salience varies by race and ethnicity, was unsupported in that introducing interaction terms into the full models produced no significant effects.

Because the current study uses cross sectional data, causal relationships cannot be tested empirically. This is important regarding the higher fertility desires among non-Whites and greater certainty of pregnancy intentions among Blacks when compared to Whites. Black and Hispanic women who would like a baby might have stronger desires than White women because Whites have more barriers to access meaningful work and leisure opportunities. Whites scored significantly higher in importance of motherhood compared to Blacks and Hispanics, which mirrors previous findings (McQuillan et al., 2008). So while their desires and intentions may not have been as concrete at the time of the interview, White women tended to ascribe great importance to the social role of mother. Moreover, McQuillan et al., 2008 found that valuing success in paid work and motherhood are positively associated among mothers. Because White women are more likely to have opportunities for successful work, this may partially explain their higher importance of motherhood. The present findings also likely reflect the “cult of domesticity” that is particularly salient among White women. Similar to other relationship based trends in contemporary family life (i.e. marriage as a “capstone” likely achieved after education, career, homeownership and even childbearing are established; Cherlin, 2004), delayed childbearing is common among White women in particular yet these women may be more likely to endorse idealized notions of intensive motherhood. This could also be due, in part, to their

significantly greater likelihood of receiving messages from parents that it is important to have a baby.

Theoretically, the analyses presented in this chapter shed light on the concept of fertility salience that originated with White et al. (2006). The analyses conducted for this chapter did not support the usefulness of a comprehensive concept (a fertility salience index) since the associations between the various indicators were not highly correlated. The association between each indicator of fertility salience and the independent variables in the model were mixed in their direction. These results tested the limits of White's et al.'s (2006), which was drawn from health care access and utilization literature (i.e. Anderson, 1968; Pescosolido, 1992), and will help shape future studies on this topic. The next chapters examine how infertile women's economic status and race and ethnicity are associated with self-perceptions of infertility, seeking and receiving medical help for infertility, and women's feelings about being childless as a result of infertility.

CHAPTER 6: RELATIONSHIPS BETWEEN ECONOMIC STATUS, RACE, ETHNICITY, AND SELF-PERCEPTION OF INFERTILITY

This chapter presents the relationship between economic status, race/ethnicity and self-perception of infertility (Figure 3). In this study, self-perception of infertility was operationalized by whether or not infertile women dis/agree with each of the following questions: (a) “Do you think of yourself as someone who has, has had, or might have trouble, getting pregnant?” and (b) “Do you think of yourself as someone who has or has had fertility problems?” These two questions add reliability to the analysis because they are designed to measure the same concept but are asked in slightly different ways (i.e., “alternative forms reliability”). Responses included (a) yes, (b) maybe, and (c) no. As discussed in Chapter 3, for multivariate analyses, I collapsed both variables into dichotomous outcome categories with where 1 = yes/maybe and 0 = no.

I hypothesized that economic status would be positively associated with the likelihood of women perceiving they were infertile (Hypothesis 4). That is, I expected that women with higher economic status would be more likely to answer “yes” on the above questions than women with lower economic status. Next, I hypothesized that White women would be more likely to perceive that they were infertile than Black and Hispanic women (Hypothesis 5). Finally, I expected that the effect of economic status on self-perception of infertility varies by race and ethnicity, such that the positive effect of economic status on self-perception is greater among non-Whites than the effect of economic status among Whites (Hypothesis 6). These hypotheses are discussed in more detail below.

In this chapter, I first describe the bivariate relationships between economic status and self-perceptions of infertility. I then describe the bivariate relationships between race/ethnicity and these self-perceptions. The chapter concludes with multivariate analyses in which self-

perception of infertility is regressed on economic status, race, and ethnicity, accounting for specific life course, fertility history, and predisposing and enabling conditions with special attention to the independent and joint effects of economic status and race/ethnicity. A detailed description of these measures can be found in Chapter 3.

Contribution of this Research

Identifying oneself as infertile is an important part of the complex process of infertility as highlighted in the following statement by Greil et al., (2011; p. 141): “Infertility is best understood as a socially constructed process whereby individuals come to regard their inability to have children as a problem, to define the nature of that problem, and to construct and appropriate course of action.” If, for some women, that course of action means medical helpseeking, knowing you need help is a necessary first step. There is a growing body of literature that explores demographic disparities in medical infertility care. Yet economic, racial and ethnic differences in the critical first step, self-perception, have been overlooked.

Economic status and self-perception of infertility. Only one study that I know of specifically examined the relationship between economic status and self-perception as infertile (White et al., 2006) and failed to find a significant relationship. However, McQuillan et al. (2010) found that women with higher levels of economic hardship had higher odds of trying to *prevent* pregnancy, suggesting that they would fail to notice a lack of conception or fertility problem. I constructed the following hypotheses: Based on this finding, I hypothesized that economic status would be positively associated with the likelihood of women perceiving they were infertile (Hypothesis 4). The present study provides a more complete picture of economic status by considering various measures including poverty and insurance status, receipt of public assistance, and economic hardship.

Race/ethnicity and self-perception of infertility. The infertility helpseeking model proposed by White et al., (2006) did not specifically explore racial and ethnic differences in self-perception of infertility. In a review of literature addressing the social construction of infertility, Griel, et al. (2010) emphasized how important it is to consider woman's culture, race, and ethnicity in relation to her likelihood of self-perception of fertility problems. However, the empirical literature has largely overlooked these relationships, and the limited previous work that does relate is mixed. On one hand, as I hypothesized, White women may perceive infertility more than non-Whites. In previous studies, Black and Hispanic women have been associated with more ambiguity than Whites in terms of pregnancy intentions and higher likelihoods of being "okay either way" (McQuillan et al., 2010) and more fatalistic attitudes (according to God's will) as to whether they got pregnant or not, suggesting they would be less likely to notice a fertility problem or lack of conception. These findings suggest less likelihood among non-Whites of perceiving a fertility problem. On the other hand, other research on race and ethnicity and perceiving oneself as infertile suggests that Black and Hispanic women might have greater likelihood than Whites of identifying their own fertility. Black women may be more likely than White women to self-identify as infertile, due to the "hyperfertile" stigma (Ceballo, 1999) or feelings that their fertility is "a given" (Inhorn et al, 2009). Hispanic women have also been found to have higher odds of perceiving possible infertility than either White or Black women (Polis & Zabin, 2012), yet this was a non-representative sample limited to local unmarried young women.

Joint effects of economic status and race/ethnicity on perceiving infertility. I know of no studies that have specifically examined the interaction effects of economic status and race/ethnicity on identifying oneself as having problem with fertility. Yet one study (Polis &

Zabin, 2012) found that young women and Hispanic women had higher odds of perceiving infertility than White women. In addition, young women who had received public assistance within the last year and were on Medicaid were also more likely to perceive infertility. While these findings were drawn from a non-representative sample, these combined with the other literature reviewed in Chapter 2 led me to hypothesize that the effect of economic status on self-perception of infertility varies by race and ethnicity. In other words, I predicted that the positive effect of economic status on self-perception among is greater among non-Whites than the effect of economic status among Whites.

In this chapter, I first present descriptive information on self-perception of infertility (thinking of oneself as having trouble getting pregnant and/or possible fertility problems). I then describe the bivariate relationships between economic status and race/ethnicity and these measures. The chapter concludes with results of multivariate analyses in which self-perception of infertility is regressed on economic status, race, and ethnicity, and their interactions, accounting for specific life course, fertility history, and predisposing and enabling factors.

Analytic Sample

For a detailed description of the sample selection criteria and flow of the sample selection process, refer to Chapter 3 and Figure 8. The unweighted fertility salience sample with no missing data is 2,009. Characteristics of this sample are noted in Table 6.1.

Descriptive Results

Table 6.1 describes self-perception of infertility in the present sample of infertile women, and describes the characteristics of this sample. Over one-third (37%) of women defined as “infertile” responded “yes,” they think of themselves as someone who has/had trouble getting pregnant. However almost two-thirds (60%) of the sample said “no” and just over 3% answered

that they “maybe” think of themselves this way. Regarding the women that thought of themselves as someone with fertility problems only 29% said “yes”, less than 2% said “maybe.” Over two-thirds of this sample of infertile women answered “no” to thinking of themselves as someone with fertility problems.

It is important when thinking about these findings to remember that this sample was based on women who meet the medical definition of infertility (experiencing an infertility “episode” in the 10 years prior to interview), a definition consistently used across the social science literature. Again, using the medical definition captures women along a *spectrum* of self-perceptions of in/fertility issues. This contributes to the importance of self-identification of a problem in the process of experiencing infertility. If no problem is recognized (i.e. lack of conceiving after regular intercourse for one year or more) no help will be sought and no fertility-specific emotional consequences are at stake.

Bivariate Relationships in Self-Perception of Infertility by Economic Status

Table 6.2 presents the bivariate relationship between self-perception of infertility and economic status. I performed ANOVA to test for significant differences between categories of each independent variable. The average economic status index (ESI) scores (which ranged from 0 to 5) were significantly higher for women who affirmed (answered yes or maybe) that they thought they would have trouble getting pregnant and agreed they thought of themselves as someone with fertility problems than women who answered no to each item. Those who agreed to thinking of themselves of having trouble getting pregnant had an ESI score of 3.04 compared to those who said no (2.64). Women who affirmed having a fertility problem averaged a higher ESI score (3.27) compared to those who did not agree (2.64). These differences were statistically significant.

Bivariate Relationships in Self-Perception of Infertility by Race/Ethnicity

Table 6.3 presents the relationship between race/ethnicity and self-perception of infertility. I performed ANOVAs to test for significant differences between the three race/ethnicity categories. A significantly higher percentage of Whites (45%) said they thought of themselves as someone who has/had trouble getting pregnant compared to Blacks (34%) and Hispanics (29%). Similarly, a significantly higher percentage of Whites (29%) said they thought of themselves as someone who has a fertility problem compared to Blacks (19%) and Hispanics (23%). Blacks were not significantly different from Hispanics in either contrast.

Multivariate Relationships in Self-Perception of Infertility

Economic Status. As hypothesized, the effect of economic status on both measures of self-perceptions of infertility was positive, controlling for race/ethnicity and life course factors, fertility history, and predisposing and enabling conditions (Table 6.4, Models 1 and 3). For every point increase on the economic status index, infertile women had 1% higher odds of agreeing they have or have had trouble getting pregnant versus disagreeing (Model 1). Women had 17% higher odds of agreeing that they have a fertility problem (versus disagreeing) for every point increase on the economic status index (Model 3).

Race and ethnicity. Controlling for economic status, life course factors, fertility history, and predisposing and enabling conditions reduced the effects of race/ethnicity the full model of perceiving a fertility problem (Model 3) but significant effects remained for Hispanics in Model 1, trouble getting pregnant. Hispanic women had significantly lower odds of thinking they might have trouble getting pregnant compared to both White and Black women. Hispanics had 51% lower odds of thinking of themselves as infertile compared to White women and 37% lower odds than Black women. This supports Hypothesis 5 as I predicted that White women would be more

likely to perceive that they were infertile than Black and Hispanic women. However, while Black women had lower odds in both models of self-perception than White women, the results were not statistically significant.

Effects of Covariates on Self-Perception of Infertility

Models 1 and 3 also show the effects of life course factors, fertility history, and predisposing and enabling conditions on perceptions of infertility. Unpartnered infertile women had 31% lower odds of thinking they have a fertility problem (Model 3) than married infertile women. (The effect of relationship status on trouble getting pregnant was not statistically significant in Model 1). The presence of biological/adopted children was significant across all models ($p < .0001$). Women who had biological and/or adopted children had about half the odds of perceiving trouble getting pregnant (Model 1, 52% lower odds) or a fertility problem (Model 3, 43%). Neither age, nor cohabitation, nor “other” children were significant in Models 1 or 3.

Fertility history. Not surprisingly, women who had experienced trying to get pregnant but not conceiving within 12 months had nine times higher odds of thinking they have trouble getting pregnant (Model 1) and over ten times higher odds of thinking they have a fertility problem (Model 3) compared to women who had not reported an unsuccessful episode of trying to conceive. Yet having a miscarriage or stillbirth had no significant effects on self-perception of infertility in any models.

Predisposing and enabling conditions. In terms of predisposing and enabling conditions, higher levels of education were associated with greater odds of perceiving infertility. For instance, compared to women without high school diplomas, those who finished high school had 60% higher odds of thinking they have trouble getting pregnant (Model 1). Those with some college had nearly 80% higher odds, and those with graduate education had over twice the odds

of identifying as having trouble conceiving compared to women with less than high school education. As shown in Model 3, only those with graduate education had significantly higher (95%) odds than those with less than high school education of perceiving a fertility problem. Employment status had no effect on self-perception of infertility. Across models, depression was significantly associated with 4% higher odds of perceiving infertility compared to women with lower levels of general depression. In only one model was self-rated general health associated with self-perception infertility. The following controls did not significantly contribute to the fit of self-perception models: employment, self-esteem, social support, internal health locus of control, self-rating health as fair/good, and ethics regarding ART.

Joint Effects of Economic Status and Race/ethnicity on Self-Perception

Adding interaction terms between economic status and race/ethnicity to the model for thinking of oneself as having trouble getting pregnant did not significantly improve model fit (Model 2). However, there was a significant interaction between economic status and race/ethnicity in self-perception of fertility problem (Model 4). The effect of economic status on perceiving a fertility problem was significantly lower for Black than for White women (16% lower), which did not support Hypothesis 6. The effect of economic status on perceiving a fertility problem was similar for Hispanic women, but this effect was not statistically significant at $p < .05$ ($p = .08$). In other words, the effect of economic status on Whites was greater than its effect on either Blacks or Hispanics. Among White women, higher economic status was associated with a 26% increase in their odds of self-perceiving infertility, which was the opposite of the effect predicted in Hypothesis 6.

Discussion

Overall, regression analyses supported Hypothesis 4. Economic status was positively associated with the likelihood of women self-perceiving infertility. That is, women with higher economic status had significantly higher odds of thinking they were infertile than women with lower economic status. Economic status remained a significant indicator of identifying oneself as infertile even when controlling for various life course, fertility history, and predisposing and enabling factors. The fact that Hypothesis 4 is supported parallels previous qualitative research. For instance, low-income women often report receiving messages about *preventing* their fertility (Bute & Jensen, 2010) even when they are seeking information and help that might include fertility problems. Moreover, low-income infertile women who did realize their infertility faced a “double burden” of coping with the emotional infertility *and* dealing with the knowledge that many treatment options are unavailable to them.

In multivariate analyses, Hypothesis 5 was partially supported. Although bivariate analysis indicated that White women were more likely to self-perceive infertility than both Black and Hispanic women, this relationship was supported only for Hispanic women and only for one measure of self-perception (Model 1). Hispanics had about half the odds of Whites as thinking of themselves as having trouble getting pregnant. They also had significantly lower odds than Blacks. This could reflect minority groups’ more “fatalistic” (if it is God’s will) attitudes toward pregnancy (Guzzo & Hayford, 2012). The discrepancy between Blacks and Hispanics in the present sample might possibly be a reflection of higher religiosity among Hispanic communities, which could lead Hispanic women to be less aware of medical reasons for their being unable to get pregnant as they have greater trust in divine timing of pregnancies. The stratified reproduction framework (Colen, 1995) and work of Angela Davis (1970) are also reflected in the

findings supporting Hypothesis 5, in which women of color are urged by society not to reproduce, whereas White women, particularly those with greater economic resources are encouraged to reproduce.

In Hypothesis 6, I anticipated that the effect of economic status on self-perception of infertility would vary by race and ethnicity. I expected that the positive effect of economic status on self-perception was greater among non-Whites than the effect of economic status among Whites. However, the direction of the association is the opposite of my prediction. The positive effect of economic status on self-perception was greater among Whites than the effect of economic status among non-Whites. Thus, it does not appear that the previous work by Polis and Zabin (2012) (who found greater self-identification as infertile among young Hispanic women compared to Whites and those who had received public assistance) is generalizable to the population.

So, the question remains why would the effect of economic status on self-perceptions of infertility be greater among White women? The theoretical perspectives of intersectionality and stratified reproduction arguably tell us more about women's likelihood of identifying infertility than previous empirical work. Greater economic status was a significant predictor of identifying as infertile across all models in the present study. Whites are more likely than Blacks and Hispanics to have access to these greater economic resources. This might reinforce a cultural context in which White women are the most likely to see infertility as a possibility in their own lives, especially if they have had White friends or relatives who have openly dealt with infertility. This again reflects stratified reproduction (Colen, 1995) and the notion that poor and non-White women are prevented from reproducing by social structure and White women, particularly those with greater economic resources are encouraged to reproduce (Davis, 1970).

In addition, the significant effects of trying to conceive cannot be ignored. As noted in Chapter 4, compared to Black women, White women had a significantly higher percentage of trying to conceive without getting pregnant. Also, while not significant, Whites also had a higher percentage than Hispanics of actively trying to conceive without getting pregnant. This variable increases women's odds of perceiving infertility by between nine and ten times the rate of women without this experience. Thus it is reasonable that when coupled with the economic resources available to White women, their higher rates of reporting failed attempts to conceive are related to a greater likelihood of recognizing infertility. These complex relationships merit greater research attention.

These findings suggest that White infertile women with greater economic resources may be even more privileged in seeking treatment for infertility, because seeking treatment is dependent on perceiving an existing fertility problem exists (White et al., 2006). The significance of joint effects of economic status and race/ethnicity on self-perceptions supports the theoretical contribution of intersectionality for understanding women's infertility experiences. A woman's social location as White with greater access to financial resources has a multiplicative positive effect on her ability to achieve her goals. Conversely, poorer Black and Hispanic women are less likely to identify fertility problems than those with more resources which can lead to even greater delays in treatment or forgoing treatment altogether. This is explored further in Chapter 7. This inequality is exacerbated by the fact that the medical community, media, popular culture, and other structural influences are often quicker to recognize middle-class women as "the infertile" and lower-income, minority women as "hyperfertile".

The following chapter specifically examines the relationship between economic status, race/ethnicity, and women's medicalized infertility experiences. I explore the levels at which

women seek and receive medical help, including talking with a doctor/clinic, receiving testing, treatment, pregnancy, and outcomes of pregnancies resulting from treatment.

CHAPTER 7: RELATIONSHIPS BETWEEN ECONOMIC STATUS, RACE, ETHNICITY, AND MEDICALIZED INFERTILITY EXPERIENCES

This chapter presents the findings regarding the relationship between economic status, race, ethnicity, and various levels of medicalized infertility experiences (i.e. talking with a doctor or clinic, testing, treatment, and pregnancy outcomes). I first present bivariate relationships between the independent variables and levels of medicalized infertility experiences. I then present the multivariate results of showing the relationship between medicalized infertility experiences and economic status, race, and ethnicity, controlling for life course factors, fertility history, and predisposing and enabling conditions.

Hypothesis 7 stated that economic status would be positively associated with the likelihood of having medicalized infertility experiences, in that women with higher economic status would be more likely to seek and take part in medical interventions for infertility. Next, I expected that non-White women would be less likely to seek and take part in in medical interventions for infertility than White women (Hypothesis 8). Finally, in Hypothesis 9, I expected that the effect of economic status on the likelihood of having medicalized infertility experiences would vary by race and ethnicity. I expected that the positive association between economic status and the likelihood of having medicalized infertility experiences would be stronger (more positive) among White women than among non-White women. In other words, greater economic resources would have a more positive effect on the likelihood that White women would seek and engage in medicalized infertility experiences than they would for non-White women.

Contribution of this Research

Embedded in the larger health disparities literature, there is a growing body of work that explores demographic disparities in medical infertility care. However, specific studies regarding women's particular levels of involvement with medical treatments for infertility are largely absent from the literature. There is a particular void in the social science literature with respect to empirical work that tests the perspectives of stratified reproduction and intersectionality in regard to disparities in medical helpseeking for infertility. This chapter contributes to that gap in the literature.

In this chapter, I revisit relevant background information on demographic differences in medicalized infertility experiences. I then present descriptive information on infertile women's experiences. Next, I describe the bivariate relationships between economic status and race/ethnicity and level of medicalized infertility experiences (talking with a doctor/clinic, getting tests, seeking treatment, and pregnancy outcomes of treatment). The chapter concludes with results of multivariate analyses in which the women's level of seeking and engaging in medical interventions for infertility is regressed on their economic status, race, and ethnicity. I also test for interactions between economic status and race/ethnicity. The latter two analyses account for specific life course, fertility history, and predisposing and enabling factors.

Medicalized infertility experiences. The focal variable in this chapter and White et al.'s (2006) infertility helpseeking model is that of medicalized infertility experiences (MIEs). However, their study was limited to only two aspects of medical helpseeking: (a) whether or not a woman talked to a doctor, and (b) whether any pregnancies resulted from medical treatment. I improve on this by expanding the concept of medicalized infertility experiences to include (a) talking with doctor or clinic, (b) testing for infertility, (c) seeking treatment for infertility, (d)

whether or not a pregnancy occurred as a result, and (e) whether or not the pregnancy resulted in a live birth (See Figure 4).

Economic status and medicalized infertility experiences. As reviewed in Chapter 2, previous work has found significant associations between income and medical helpseeking (Staniec & Webb, 2007; White et al., 2006). Qualitative work by Bell (2009; 2010) has highlighted how low-income women not only face financial barriers in utilizing medical treatments for infertility, but also structural access problems prevented infertile women from seeking care, such as a shift-work job conflicting with office appointments. However the literature fails to specifically examine links between other economic measures such as receipt of public assistance and economic hardship indicators (i.e. income to needs ratios, etc.) The current study overcomes this limitation by exploring a range of economic indicators (as measured by an index as described in previous chapters). I include income and poverty status, receipt of public assistance, insurance status, and economic hardship in relation to talking with a doctor or clinic, testing, treatment, and pregnancy and birth outcomes.

Race/ethnicity and medicalized infertility experiences. A significant body of literature has addressed racial/ethnic disparities in the use of infertility treatments; however no previous studies have examined the full range of medicalized infertility experiences (ranging from consulting with a doctor all the way to treatment and pregnancy outcomes). Non-White women have been found to be significantly less likely than Whites to report ever receiving medical infertility treatment (Chandra et al., 2005; Staniec & Webb, 2006). Prior research with NSFB data has found associations that Black and Hispanic women were less likely than Asians and Whites to have had medical testing and treatment and these effects were partially mediated by income, education, and private insurance (Greil, et al., 2011). However, Staniec and Webb

(2007) found that after controlling for income and insurance coverage, non-Whites were no less likely to seek infertility services than their White counterparts. These mixed findings warrant further analysis to clarify the effects of race and ethnicity on infertility testing and treatment.

Moreover, racial and ethnic differences in pregnancy and birth outcomes are understudied or based on limited samples. Previous analysis of NSFG data has found that Black women had less successful pregnancy outcomes (fewer live births and higher rates of miscarriage) after ART than White women in a controlled setting (whereby all the women were military employees and had equal access to care; Feinberg, Larsen, Catherino, Zhang, & Armstrong, 2006). A review of IVF outcomes in clinical settings found that Whites had the highest rates of live births, followed by Asian and Hispanics, and Black women had the lowest rate of live births after treatment (Wellons et al., 2012).

Joint effects of economic status and race/ethnicity on medicalized infertility experiences. I know of no studies that specifically test the joint effects of economic status and race/ethnicity on engaging in various levels of treatment for infertility or outcomes. However the previous literature does suggest a relationship between these indicators which is the basis for Hypothesis 9, that the effect of economic status on medicalized infertility experiences varies by race and ethnicity such that that the positive association between economic status and the likelihood of having medicalized infertility experiences is stronger among White women than among non-Whites. A recent assessment of equal access to clinical care across racial groups among American military women found increased participation in ART for Black women, but not Hispanic women when compared with non-White ART use in the general population (McCarthy-Keith et al., 2010). This limited data suggests that removing financial barriers may only partially explain increased ART use among some non-White groups but not all. Research in

a state with mandated insurance coverage for infertility treatment has also found persistent racial disparities in medical helpseeking and treatment, in that White, highly educated, wealthy women were much more likely to receive treatment than non-White women of lower socioeconomic status (Jain, 2006). Many economic resources other than insurance coverage, as well as other life course, fertility history, and predisposing and enabling conditions factor into racial disparities in helpseeking. The present analysis considers these in the examination of joint effects as I test to see if greater economic resources have a more positive effect on the likelihood that White women have medicalized infertility experiences than on non-White women's likelihood of having medicalized infertility experiences.

Analytic Sample

For a detailed description of the sample selection criteria and flow of the sample selection process, refer to Chapter 3 and Figure 9. The unweighted sample for the present analysis is 2,033. Characteristics of this sample can be found in Table 7.2.

Descriptive Results

Table 7.1 describes the medicalized infertility experiences (MIEs) of the present sample of infertile women. Relatively few infertile women actually seek and take part in medical interventions for infertility. Just over a quarter (26%) of women reporting having talked with a doctor or clinic about ways to help them have a baby. Nearly 18% agreed that they (or their partner) underwent testing, 14% reported receiving treatment, 8% reported experiencing a pregnancy resulting from that treatment, and 6% of women reported having had a child (a live birth) as a result. Overall, infertile women encountered an average level of 1.75 medicalized

infertility experiences with 1= no medicalized experience and 6 representing having experienced a live birth as a result of treatment¹³.

Table 7.2 describes the demographic characteristics of the sample of infertile women for Chapter 7 (N = 2,033) as well as the characteristics of women who engaged in each MIE level. The final columns of Table 7.2 display the mean MIE level experienced (and standard deviation) for each group in categorical variables. Overall, the general patterns in these data suggest that White, older, married, economically advantaged and better educated women sought and received medical help for infertility at higher rates than their counterparts (nonwhite, non-married, economically disadvantaged, and less educated). However, the following sections describe results of bivariate and multivariate analyses to test these relationships.

Bivariate Relationships in Level of Medicalized Infertility Experiences by Economic Status

Table 7.3 presents the bivariate relationship between level of medicalized infertility experiences (MIEs) and economic status. I performed ANOVA to test for significance. The F-statistic revealed that the average economic status index (ESI) score (which ranged from 0 to 5) was significantly higher for women with higher levels of MIEs.

Bivariate Relationships in Level of Medicalized Infertility Experiences by Race/Ethnicity

Table 7.4 presents the relationship between race/ethnicity and level of medicalized infertility experiences (MIEs). I performed ANOVAs to test for significant differences between the three race/ethnicity categories. Whites (1.92) had a significantly higher mean MIE level compared to Blacks (1.38) and Hispanics (1.61). Moreover, Hispanic's mean MIE level was significantly higher than Blacks.

¹³ This mean MIE level is indicative of overall low involvement with medical help for infertility. Women who encountered higher levels of MIE also experienced all previous lower levels, with the exception of 48 women who did not report testing, but did receive treatment, got pregnant, and had a live birth as a result.

Multivariate Relationships in Self-Perception of Infertility

Economic Status. As predicted in Hypothesis 7, economic status had a significant positive effect on medicalized infertility experiences (MIEs). This significant effect was maintained when controlling for race/ethnicity and life course factors, fertility history, and predisposing and enabling conditions (Table 7.5, Model 1). For every point increase on the economic status index, infertile women experienced a .12 increase in levels of MIEs.

Race and ethnicity. In regressing medicalized infertility experiences (MIEs) on race/ethnicity (zero-order model results not shown), in contrast to the bivariate results, which support Hypothesis 8 (that non-White women are less likely to have medicalized infertility experiences than White women), the relationship between race/ethnicity and MIEs was not significant once economic status, life course factors, fertility history, and predisposing and enabling conditions were controlled (Model 1).

Effects of covariates on medicalized infertility experiences. Model 1 (Table 7.4) also shows the effects of life course factors, fertility history, and predisposing and enabling conditions on level of MIEs. In addition to economic status, having ever tried unsuccessfully to conceive for a year or more, having had a stillbirth or miscarriage, having graduate education, and being a homemaker were all significantly positively associated with seeking and receiving medical treatment for infertility and positive pregnancy and birth outcomes. On the other hand, being unmarried (cohabiting, having no partner) and having higher ethical concerns about reproductive technologies were significantly negatively associated with MIE levels. Other covariates not significantly associated with MIEs included age, the presence of biological, adopted, or other children, education level (other than grad school), employment status (other

than homemaking), depression, self-esteem, social support, internal medical locus of control, and general self-rated health.

Joint effects of economic status and race/ethnicity on MIEs. Adding interaction terms between economic status and race/ethnicity to the regression model of level of medicalized infertility experience did not significantly improve model fit (Model 2). Therefore, Hypothesis 9, in which I expected the effect of economic status on seeking and receiving medicalized infertility experiences would vary by race and ethnicity, was unsupported. However, it bears noting that the negative effect of economic status on the relationship between Hispanics and MIEs approached significance ($p = 0.07$) when compared to the positive effect of economic status on the relationship between Whites and MIEs (parameter estimate = 0.08, standard error = 0.05; model not shown). In other words, the effect of economic status among Hispanics was significantly less than the effect of economic status for Whites (at $p < .10$), which lends support for Hypothesis 9.

Discussion

Overall, the analyses presented in this chapter supported Hypothesis 7, in both the zero-order models (not shown) and the full model (Table 7.5). Economic status was positively associated with women having had medicalized infertility experiences. That is, infertile women with higher economic status experienced higher levels of seeking and receiving medical help for infertility (e.g. talking with a doctor/clinic, testing, treatment, and pregnancy outcomes). In other words, more advantaged women took more formal medical steps to address their infertility than did less advantaged women. These results are in line with previous literature on economic disparities in infertility helpseeking and treatment that found less utilization of medical care for infertility among under-resourced groups. For instance, Staneic & Webb (2007) found a significant positive relationship between higher income and assisted reproductive technology

using NSFG data. Yet, the present study contributes a unique addition to this literature because it includes a comprehensive measure of economic status with five indicators, as well as a comprehensive measure of level of engagement with medical help for infertility.

Hypothesis 8, that non-White women would be less likely to seek and engage in medical interventions for infertility than White women, was only supported in the zero-order model. Controlling for economic status, life course factors, fertility history, and predisposing and enabling conditions reduced previously observed differences in MIEs by race/ethnicity to nonsignificance. This was somewhat surprising given the significant body of literature that supports racial/ethnic disparities in the use of infertility treatments (e.g. Chandra et al., 2005; Staniec & Webb, 2006). However, the present findings more closely align with prior NSFB analysis where income, education, and private insurance partially mediated associations between race/ethnicity and medical testing and treatment for infertility (Greil, et al., 2011). The present findings also reflect that after controlling for income and insurance coverage, non-Whites were no less likely to seek infertility services than their White counterparts (Staniec & Webb, 2007). So, it appears that economic status remains a more powerful predictor of MIEs than race/ethnicity.

In Hypothesis 9, I anticipated that the effect of economic status on medicalized infertility experiences (MIEs) would vary by race and ethnicity. However, multivariate analyses did not support this prediction. Thus, it does not appear that the positive association between economic status and the likelihood of having medicalized infertility experiences is stronger (more positive) among White women than the effect of economic status among non-Whites. Although previous work among a limited military sample of an equal access to clinical infertility care setting found

increased participation among Blacks (McCarthy-Keith et al., 2010) it does not appear these findings are sustained in using a nationally representative sample.

Considering these results as a whole, the take away is that economic status is a strong predictor in seeking and utilizing medical help for infertility across various demographic characteristics, including race and ethnicity. Similar to the self-identification of infertility, these findings reflect stratified reproduction (Colen, 1995) and feminist perspectives (i.e. Davis, 1970) that suggest that women of lower socioeconomic status are structurally prevented from reproducing while women with greater economic resources are encouraged to reproduce. This notion is reinforced because economically disadvantaged women's fertility, childbearing, and childrearing is seen as a financial drain on society (Jencks, 2001) whether these families are White, Black, Hispanic, or of any other race/ethnicity.

So, while there remains racial/ethnic variation in fertility salience and self-perception of infertility, it does not appear that, when controlling for other factors, race/ethnicity remains a significant predictor of medicalized infertility experiences over and above economic status. This is relevant in light of the finding in Chapter 6, that Hispanic women had half the odds of thinking of themselves as having trouble getting pregnant (as well as significant differences between Whites and non-Whites in bivariate analysis of both perception of infertility indicators). While it is important to remember that helpseeking is largely contingent on perceiving a problem, the current findings suggest that in a multivariate context, access to economic resources, having tried to conceive for a year or more, having had a stillbirth or miscarriage, having graduate education, and being a homemaker are all significant predictors of seeking and receiving medical help for infertility. The following chapter explores economic and racial/ethnic differences among involuntarily childless women in their level of distress about not having children due to fertility problems.

CHAPTER 8: RELATIONSHIPS BETWEEN ECONOMIC STATUS, RACE, ETHNICITY, AND CHILDLessNESS DISTRESS

This chapter presents the findings regarding the relationship between economic status, race, ethnicity, and women's feelings of distress due to involuntary childlessness (Figure 5). I first present bivariate relationships between the independent variables and childlessness distress due to infertility. I then present the results of regressing childlessness distress on economic status, race, and ethnicity in a multivariate context.

In Hypothesis 10, I predicted that economic status (an index comprised of income, poverty status, receipt of public assistance, insurance status, and economic hardship) would be positively associated with childlessness distress. In Hypothesis 11a, I predicted that White women would have greater childlessness distress than Black and Hispanic women. I also hypothesized the opposite: that Black and Hispanic women would have greater childlessness distress than White women (Hypothesis 11b). Finally, I expected significant interaction between economic status and race/ethnicity and childlessness distress (Hypothesis 12). Specifically, I expected that the positive association between economic status and childlessness distress to be weaker among White women than among Black and Hispanic women. These hypotheses are discussed in greater detail below

Contribution of this Research

There is extensive literature regarding economic inequality and racial/ethnic differences in parenting (i.e. Lareau, 2011) and the importance of parenthood (e.g. McQuillan et al., 2008). However, there is a distinct lack of literature regarding demographic variation in involuntarily childless women's feelings about not having a child. Do different types of women feel differently when they cannot have biological children in a society that still stigmatizes childlessness

(Sandler, 2013; Young & Hobson, 2013)? This question remains largely unanswered by the social science literature. Although the presence of (voluntarily) childfree couples has increased, i.e. “when having it all means not having children” (Sandler, 2013), which may work to reduce childlessness stigma, it remains important to understand how involuntarily childless women feel. While many studies suggest variations and cultural contexts that might influence infertile women’s feelings about childlessness, I know of no empirical articles addressing possible demographic variations.

In this chapter, I investigate the relationship between economic status, race/ethnicity, and infertile women's feelings about being childless (childlessness distress) in a sample of infertile women with no children. I first present descriptive information on this sample of childless infertile women. Next, I describe the bivariate relationships between economic status and race/ethnicity and childlessness distress. The chapter concludes with results of multivariate analyses in which childlessness distress is regressed on economic status, race, and ethnicity, and their interactions, accounting for specific life course, fertility history, and predisposing and enabling factors.

Childlessness distress. The focal variable in this chapter, childlessness distress, captures the negative emotions that involuntarily childless women experience. Specifically, respondents answered “yes” or “no” to the following statements: “I felt cheated by life,” “I felt that I am being punished,” “I felt inadequate,” “I felt seriously depressed,” and “I felt like a failure as a woman.” Scores ranged from 4 to 12 where higher summed scores indicated greater distress.

In contrast to the previous three analytical chapters, for two reasons this section of analysis focuses specifically on infertile women who are involuntarily childless. First, while previous research has studied fertility specific distress among women with both primary and

secondary infertility (i.e. Greil, McQuillan, Lowry, & Shreffler, 2011) studies suggest women with primary infertility (those who are childless), and especially those who have never conceived, have higher distress levels than those who have had a child (Greil, Johnson, McQuillan, & Lacey, 2011). Second, this focus is important because American women and couples live in a pronatalist social context where parenthood continues to be an expected part of the life course (McQuillan, et al., 2008) and the “motherhood mandate” remains strong (Russo, 1976). While individual effects of the intensive motherhood mandate can play a large part in childlessness distress (Fox, 2006), the literature fails to systematically address variations by economic status.. To address the possible demographic variations in women’s childlessness distress, I examine economic, racial, and ethnic differences in women’s feelings specifically about being childless.

Economic status and childlessness distress. In Hypothesis 10, I expected that economic status would be positively associated with greater childlessness distress. The literature is inconclusive as to how childlessness distress among various economic groups might vary. However, according to the framework of stratified reproduction, women’s fertility exists within a larger social context that influences childbearing patterns (Colen, 1995). The American social structure expects and encourages childbearing among women with more economic resources, and discourages childbearing among poorer women, which may lead to greater distress among those with greater economic resources.

To my knowledge, only one study specifically addressed childlessness concerns (distress) as an outcome (McQuillan et al., 2012). Using NSFB data to examine the association between reasons for childlessness (voluntary, no barrier, situational barrier, or infertility) and childlessness concerns, the authors failed to explore variations by specific elements of economic

status. The current study aims to further investigate any possible differences in the association between these factors and feelings about childlessness, as well as interactions effects between economic status and race/ethnicity.

Race/ethnicity and childlessness distress. In Hypothesis 11a, I predicted that White women would have greater childlessness distress than Black and Hispanic women. However, because the literature on race/ethnicity and indicators about importance of motherhood (i.e. McQuillan et al, 2008) and thoughts on fertility (i.e. Guzzo & Hayford, 2012) is mixed and typically higher fertility rates among non-Whites (Black and Hispanic women) may reflect importance of motherhood (Edin & Kefalas, 2005), I hypothesized an alternative: that Black and Hispanic women would have greater childlessness distress than White women (Hypothesis 11b).

Previous studies have examined race and ethnicity in relation to the importance of motherhood (i.e. McQuillan et al., 2008) and decisions to remain childless (Yang & Morgan, 2003), which might speak to women's feelings about being involuntarily childless. These studies found that White and more highly educated women had more concrete plans about fertility and importance of motherhood. However no studies have empirically tested the relationship between race/ethnicity and childlessness distress. In one exception, McQuillan et al. (2012) used NSFB data to examine the association between reasons for childlessness (voluntary childlessness, no barrier to fertility, situational barrier to fertility, or infertility) and childlessness distress but found no significant direct or indirect effects of race/ethnicity on distress.

Because so few studies have been conducted, the relationship between race/ethnicity and childlessness distress remains unclear. On one hand, Black women and Hispanic may experience less distress related to involuntary childlessness than White women, as they may have greater opportunities to parent socially, referred to as "othermothering" (James, 1993). On the other

hand, non-White women might have greater childlessness distress since their label as “hyperfertile” is assumed and therefore may experience fertility problems as particularly devastating (Inhorn et al., 2009). Some literature (Collins, 1990; Landry, 2002) has suggested that Black women have long rejected the notion of intensive mothering characterized by the “cult of domesticity” so pervasive in some White women’s lives which might lead to more equitable feelings about being childless across racial and ethnic lines. Similarly, the qualitative literature regarding infertility among non-White groups described high childlessness distress (Becker et al., 2006; Ceballo, 1999; Culley et al., 2009; and Inhorn et al., 2009), but these are limited due to their ethnographic nature.

Joint effects of economic status and race and ethnicity. In Hypothesis 12, I expected that the positive association between economic status and childlessness distress is weaker among White women than among Black and Hispanic women. The qualitative literature mentioned above suggests that unmet childbearing desires and childlessness can be devastating for Black (Ceballo, 1999) and Hispanic infertile women (Inhorn et al., 2009), who fail to meet the stereotype of being overly fertile as women in their culture are perceived to be. Moreover, better resourced women are expected and encouraged to mother rather than their lower-income counterparts (Colen, 1995; Davis; 1970). This may lead to greater distress among those with greater economic resources. Taken together, this research suggests that a non-White woman, who fails to meet the stereotype of being hyperfertile, yet has access to greater economic resources (i.e. could more easily pursue medical help) would feel the worst about not being able to have desired children, which is the basis for Hypothesis 12, that the positive association between economic status and childlessness distress is weaker among White women than among

Black and Hispanic women. In other words, economically advantaged Black and Hispanic women would be more distressed over their infertility than economically advantaged White women.

Analytic Sample

For a detailed description of the sample selection criteria and flow of the sample selection process, refer to Chapter 3 and Figure 10. The unweighted sample for the current chapter is 295, which is significantly smaller than the previous chapters, as the majority of infertile women in the NSFB have a child (i.e. secondary infertility) as opposed to being childless (i.e. primary infertility). Characteristics of this sample are noted in Table 8.1.

Descriptive Results

The childlessness distress scale provided in the NSFB captures the negative emotions women might experience in regard to fertility problems. Specifically, agreed or disagreed with the following regarding their “I felt cheated by life,” “I felt that I am being punished,” “I felt inadequate,” “I felt seriously depressed,” and “I felt like a failure as a woman.” Table 8.1 describes the level of distress of the present sample of infertile, childless women. Almost one-third (29%) of women had no childlessness distress (0), another third (31%) scored a “1” on the scale, 13% scored a “2.” The remaining third scored a 3 or above on the distress scale. The mean of 1.62 was quite low as scores ranged from 0 to 6 and summed scores indicated greater distress.

Regarding the characteristics of the sample, 22 % of women had household incomes below \$25,000, yet a quarter (25%) had incomes over \$75,000. Moreover, two-thirds (67%) were at or above 300% poverty, only 19% had ever received public assistance, and the majority had private health insurance (68%). White women made up 68% of the sample, while 18% were Black and 14% were Hispanic. These women averaged 35 years old and under half (49%) were married. Notably, 16% were cohabiting and over a third (35%) were unpartnered. Only 51% of the sample

said they had ever tried to conceive unsuccessfully for a year or more. (It is important to remember that “trying” is not a criterion for being considered medically infertile). Nearly a quarter (23%) had miscarried or had a stillbirth. Almost 17% of this sample had attended graduate school, which is nearly twice the amount of the main infertile sample. Furthermore, 71% of these childless women were employed full-time, 10% part-time, 11% were homemakers, and 8% were not employed.

Bivariate Relationships in Childlessness Distress by Economic Status

Table 8.2 presents the bivariate relationship between childlessness distress and economic status. I performed ANOVA and found no significant differences in distress by economic status.

Bivariate Relationships in Childlessness Distress by Race/Ethnicity

Table 8.3 presents the relationship between race/ethnicity and childlessness distress. I performed ANOVAs to test for significant differences between the three race/ethnicity categories and found no significant differences.

Multivariate Relationships in Childlessness Distress

OLS regression. Table 8.4 presents the results of a OLS regression (Models 1 and 2) showing the effect of economic resources and race/ethnicity on childlessness distress, net of the control variables discussed above. The results of this analysis did not support Hypotheses 10, 11, or 12. I found no significant associations between economic status, race/ethnicity, nor their joint effects and childlessness distress. Throughout analyses in zero-order models (not shown) and those with controls (Model 1) and interaction terms (Model 2) presented in Table 8.4, having ever tried to conceive for 12 months or more without getting pregnant had a significant positive association with higher levels of childlessness distress due to fertility problems. Also, throughout all models, higher levels of general depression were significantly associated with higher levels of

childlessness distress. It should be noted with this small sample, that the positive association between economic status and higher levels of childlessness distress approached significance ($p = .08$) in the model that included interaction terms with economic status and White and Hispanic ethnicities, respectively (Table 8.4, Model 4). In other words, for Black infertile women economic status is positively related to distress. This would support Hypothesis 12, in which I expected a stronger positive association between economic status and childlessness distress among non-Whites than Whites.

Ordered logistic regression. Given the skewed distribution of childlessness distress (with the majority of women on the low end of the scale), I proceeded to test the relationship between economic status, race/ethnicity and childlessness distress, treating distress as a categorical variable using ordered logit models (i.e. DeMaris, 1995). I ran a series of ordered logistic regression models based on a variable I coded to represent no distress (0) low distress (1) or high distress (2-6). Results (Table 8.4, Models 3 and 4) were similar to the linear regression models (Models 1 and 2). I found no significant associations save for the “ever try” terms and “depression” terms as in the previous models, with one exception, similar to the above. The economic status index (ESI) variable was significant ($p = .04$) in the full model including interaction terms between economic status and race/ethnicity (where Black ethnicity x economic status was the omitted interaction category). This model suggests that being Black reduces the odds of higher distress by 66% ($1.00 - .34 = .66$). Additionally, in the ordered logistic interaction models, the comparison between Black and White joint effects with economic status approached significance ($p = .10$) which would support Hypothesis 12, where I expected that economic status would have a weaker effect among Whites (be associated with lower distress) than non-Whites.

In this case, even with greater economic resources, Black women would have had higher odds of having higher levels of childlessness distress than no or low distress compared to White women.

Discussion

In this chapter, I examined the relationship between economic status, race/ethnicity, and childlessness distress. Previous work has established that childlessness distress is highest among those with a biomedical barrier to fertility, or those who have the least control over pregnancy (McQuillan, Greil, Shreffler, Wonch-Hill, Gentzler, & Hathcoat, 2012), compared to voluntarily childfree women, or those with a situational (rather than biomedical) barrier to fertility (i.e. timing is off with spouse's employment). (This is consistent with the present finding that "ever tried to conceive" for a year or more without getting pregnant maintained a significant positive association with higher levels of childlessness distress). The lack of significant associations is not surprising given that previous literature was largely inconclusive as to how childlessness distress among various economic and racial/ethnic groups might vary. Because motherhood is important across social classes (McCormack, 2005; McQuillan, 2008) it stands to reason that childlessness due to infertility results in strong negative feelings regardless of economic status.

The one previous study that examined race/ethnicity and childlessness distress found no relationship (McQuillan et al., 2012). The present findings reinforce the idea that when it comes to involuntary childlessness due to infertility, there is little demographic variation regarding the negative emotional effects of being unable to conceive a desired child, with the exception of the significant effect of economic status on Black infertile women, which leads to greater distress. For any women that have unsuccessfully tried to conceive for a long period of time, the experience can be painful no matter your race/ethnicity or whether or not you have better financial resources to deal with the challenge. Yet, the larger picture painted by the results from

this chapter is that the majority of medically infertile women did not find their fertility problems and subsequent childlessness distressing.

However, these findings should be interpreted with caution. First, this sample is quite small. Furthermore, this sample is again, drawn from those meeting a medical definition of infertility, whether or not they were trying to conceive. Because the “ever tried” variable was significant throughout models, future work should give attention to that as a criteria for inclusion in samples of studying infertility and how that links to emotional wellbeing. For women who were not trying to conceive, yet were still medically infertile, their infertility is more of a “situational” barrier to fertility (McQuillan et al., 2012) that could not only prevent a woman from noticing problems conceiving, but also explain why she would not experience great distress over lack of conception.

Overall, there is very little demographic variation in childlessness distress. This is important to consider given the persistent unmet need of access to medical infertility care and professional counseling, etc., among lower-income and non-White women. In other words, the results indicated that it is just as distressing for women of color and a variety of economic statuses to not have desired children as it is for White, middle-class women. Policy and practice should reflect this finding. Moreover, this using this sample indicated that childlessness distress was overall quite low. Future work should focus on the distress of infertile women who have specifically been trying to conceive for a year for more. While I conceptualized these women who meet the medical definition of infertility as involuntarily childless, indeed, they truly are not if they take little notice of or have few concerns regarding their lack of conception.

The findings regarding greater distress among Black women with higher economic resources reflects the intensive motherhood mandate (Fox, 2006), and the literature in which Black infertile

women revealed how they previously assumed their fertility was a given and therefore experienced fertility problems as particularly devastating (Inhorn et al., 2009). This same literature suggested that Black infertile, childless women might experience greater social isolation and feelings of loneliness than White women due to stereotypes about Black women's sexuality and public images of infertility focused almost exclusively on White couples.

The work which suggested that Black women have long rejected the notion of intensive mothering characterized by the "cult of domesticity" so pervasive in some White women's lives (Collins, 1990; Landry, 2002) supports more equitable feelings about being childless across racial and ethnic lines. However, Clark's (2012) Black participants idealized stable, two-parent families and delayed childbearing to pursue education and career prospects that would better position them for intensive mothering ideals. This aligns with the finding that childlessness may be more distressing for Black women with greater economic status (who, presumably, could have delayed childbearing to pursue education or careers).

CHAPTER 9: SUMMARY AND CONCLUSIONS

In this chapter, I summarize the key findings from the dissertation and discuss their implications for infertile women, health professionals, policy makers, and researchers. I conclude by discussing the study's limitations and directions for future work with respect to sociodemographic differences in women's infertility experiences and stratified reproduction more generally.

Review of the Goals of the Study

This dissertation had three main goals. The first was to describe the sociodemographic characteristics and infertility experiences of a recent, nationally representative cohort of infertile women in the United States, focusing specifically on differences by economic status, race, and ethnicity. The second goal was to examine the relationship between economic, and racial and ethnic characteristics and the four types of infertility experiences. A related goal was to examine the joint effects of economic status and race/ethnicity on women's infertility experiences. These analyses also accounted for three sets of control variables including life course factors, women's fertility history, and predisposing and enabling factors. Women's economic status was assessed in a number of ways: income, poverty, receipt of public assistance, insurance coverage, and economic hardship, and these were combined to form an index measure. The demographic characteristics and infertility experiences of White, Black, and Hispanic women were compared. I examined four types of infertility experiences: (a) fertility salience, (b) self-perception of infertility, (c) medicalized infertility experiences, and (d) childlessness distress.

I used the NSFB's definition of infertility, which measured infertility as a failure to conceive after being sexually active in each of the past twelve months without using contraception. The CDC/National Survey of Family Growth, and the American Society for

Reproductive Medicine use this standard biomedical definition, as opposed to other measures of infertility that may account for more individual, situational, and social barriers to fertility rather than strict biomedical terms. My choice of definition is consistent with the previous infertility literature that does not limit itself to clinic-based treatment seekers (i.e. Griel et al., 2011). Extending beyond clinic-based samples captures experiences outside of those women who can afford/have decided to pursue medical help, which is a majority of infertile women according the present findings. My work extends that of the team of NSFB researchers who do control for unsuccessfully “trying to conceive” yet do not use “trying” as a criterion for sample selection.

This work has important implications for the present study. For instance, well over half of infertile women in this sample did not seek medical help or have medical interventions for their infertility. Moreover, the level of childlessness distress among this sample of women was relatively low. These findings highlight the fact that many women meet the medical definition of infertility are either not aware or concerned about their status. The question then is, “Why is it a public health concern or an important social issue if medically infertile women do not identify their infertility characteristics as problematic?” First, future work needs to consider the present findings in light of the fact that many of these women, especially those who are currently childless, *may* care in the future. The longer women wait to identify a problem and seek help, the less effective infertility treatment is (Griel et al., 2011). Second, the medical and scientific community should consider a revision of the infertile label and diagnosis that specifically accounts for the desire for a baby, and if a woman has been *trying to conceive* during her infertility episode. Future work should at least control for this variable, as in the present study and most previous work with NSFB data. Continued research should also consider this as a vital factor in the criteria for sample selection when studying various elements of infertility.

Considering the theoretical implications of stratified reproduction and intersectionality for this study, I also revisited concepts posited by White et al.'s (2006) model of medical helpseeking for infertility. The helpseeking model included both treatment seekers and those who do not seek help and it acknowledged the cognitive element in that recognizing fertility problems may be more difficult than other chronic conditions because the first 'symptom' is the continuation of a menstrual cycle, and women can attribute lack of conception to factors such as mistimed intercourse, stress, and aging (White, McQuillan, & Greil, 2006). This latter factor, that of perceiving a problem and/or having ever "tried to conceive" was reflected as greatly important in the present findings.

The first of White et al.'s (2006) independent variables was *symptom salience*, "conceptualized as the degree to which the symptoms interfere with personal plans" (p. 1033) and assessed whether a woman was trying to get pregnant at the time of her infertility episode, her intent to have a(nother) baby and how sure she was that she would have children. In light of the current study's findings, it would be useful for future research to maintain White et al.'s conceptualization of *symptom salience* based on whether or not the woman was *trying* to conceive and the certainty of her intent to have a baby. While I tested differences in the related concept, *fertility salience* (the thoughts and plans a woman has about having (a) child(ren)) the symptom salience outcome might be better incorporated into further study of infertility related outcomes.

The second group of factors in White et al.'s (2006) model, *life course factors*, was measured by age in years, ever-married status, and parity. The current study controlled for these variables. The third group of variables in White et al.'s (2006) model, *individual and social cues*, were comprised of the value of motherhood (measured by a 5-item scale), religiosity, and

whether or not the partner wanted (more) children. As previously mentioned, the current study considered the respondent's importance of motherhood and perceptions of her partner's fertility desires as part of *fertility salience*. In addition to the partner's desires, I also include how important the woman thinks it is to her parents that she has a child to operationalize social messages to have children, following McQuillan et al. (2012). This extension is important and should be incorporated into future work in light of the current findings that there was significant racial/ethnic variation in fertility messages received from parents.

The fourth and final group of factors in White et al.'s (2006) model were *predisposing and enabling factors*, which included total family income, expressive social support (8-item scale), internal health locus of control (5-item scale), subjective health, ethical concerns about ART (5-item scale), education, and minority status (non-Hispanic White vs. all other). In present study income and race/ethnicity were focal independent variables. The present study's findings, particularly those that show strong associations between economic status and increased likelihood of seeking and receiving medical treatment for infertility, lend support for the decision to include an *array* of economic conditions, as opposed to just income. Future infertility work should consider more comprehensive and distinct measures of economic well-being.

Extending White et al.'s (2006) helpseeking model is important because of its basis in the larger social and medical literature regarding economic disparities in health care access and utilization (i.e. Pescosolido, 1992; Riegle & Stewart, 2013). Below, I discuss the implications of my findings for this model.

Summary of Key Findings

Demographic profile. The results of Chapter 4, the demographic profile, provided new information concerning economic status, race/ethnicity, and infertility. Unlike previous studies

that are mostly drawn from small, clinic-based samples, of middle-class White women, the data presented are from a nationally representative sample of women. Therefore NSFB includes women who may or may not have received a diagnosis, treatment, or had even identified themselves as infertile, yet are still considered infertile from the standpoint of the medical community and in the majority of social science literature. The profile included high percentages of non-White women, unpartnered women, and those of lower economic status, which challenges current public perceptions of women's infertility in the United States.

First, as opposed to being solely middle class, infertile women in the United States have a range of incomes. In fact, one in four infertile women had household incomes of less than \$25,000 per year. Additionally, less than two thirds of infertile women had private health insurance. Over 40% of all infertile women had ever received some form of public assistance. Nearly half of infertile women in the United States are not White. Moreover, the economic status of infertile women varied by race. Black infertile women had significantly lower economic status than either White or Hispanic women. Secondly, nearly half of infertile women in the U.S. are not White, which supports an increased focus on infertility among non-White women (Chandra, et al., 2005; Greil, et al., 2010; Inhorn, et al., 2009; Shanley & Asch, 2009, Wellons et al., 2008). If these percentages were accurately depicted in media and medical images, one in two infertile women depicted should appear non-White.

Another finding from this analysis is that the vast majority of infertile women were experiencing secondary infertility, indicating that they already have had a child. This, too, goes against most popular stereotypes of *childless* women and couples trying to create a "real" family by having a baby. Moreover, being a parent may also decrease the likelihood for a woman to seek treatment to conceive additional children, or even consider herself as someone who has

fertility problems because she already has an established fertility history (parity). These implications were supported in the multivariate analyses. The main demographic findings paint a picture of an infertile population that in reality is far different from American society's perceptions and depictions on infertile women.

The second goal of the dissertation was to examine economic and racial/ethnic variations in infertility experiences in a multivariate context. For a summary of the main findings discussed below, see Table 9.1.

Fertility salience. Multivariate analyses did not support hypotheses regarding the relationship between economic status and fertility salience. Women with higher economic status did not experience greater desires, certainty of pregnancy intent, importance of motherhood, or more fertility affirming messages from partners and parents than did infertile women of lower economic status. The fact that no significant differences in fertility salience emerged between levels of economic status is important in suggesting women of all social classes have similar feelings about childbearing. Results with respect to race and ethnicity were more mixed. White infertile women were significantly less likely about their certainty of intent to have a child than were Black and Hispanic women. They were also more likely to receive messages from parents to have a child. However, fertility desires and messages from partners did not vary between racial and ethnic groups. There was no evidence that economic status and race/ethnicity operated jointly in their effect on any measure of fertility salience.

Self-perception of infertility. In support of my hypotheses, economic status was positively associated with the likelihood of women perceiving they were infertile (thinking they had trouble getting pregnant and believing they had a fertility problem). Racial/ethnic differences were supported with respect to one measure ("trouble getting pregnant") but not the other

(“fertility problem”). Hispanic women had lower odds of thinking of themselves as having trouble getting pregnant than both Whites and Blacks. There was evidence of joint effects of economic status and race/ethnicity but the effect was in the opposite direction than hypothesized. I expected that the positive effect of economic status on self-perception was greater among non-Whites than the effect of economic status among Whites. However, results indicated that positive effect of economic status on self-perception was greater among Whites than the effect of economic status among non-Whites. This means that White women with greater economic resources are even more likely to perceive fertility problems and Black and Hispanic women who might have the same access to economic resources that could potentially increase access to seeking medical help.

Medicalized infertility experiences. On the one hand, results supported the hypothesis that higher economic status would be associated with greater likelihood of seeking and receiving medical help for infertility. On the other hand, results did not support differences between racial and ethnic groups in their medicalized infertility experiences. This was somewhat surprising given the significant body of literature addressing racial/ethnic disparities in the use of infertility treatments (e.g. Chandra et al., 2005; Staneic & Webb, 2006). However, the present findings more closely align with studies in which income, education, and private insurance were found to partially mediate the associations between race/ethnicity and medical testing and treatment for infertility (i.e. Greil, et al., 2011). That is, controlling for economic resources, racial and ethnic differences in seeking and receiving treatment disappeared.

Childlessness distress. I found partial empirical support for the hypothesis that childlessness distress would vary by women’s economic status and race/ethnicity. Compared to White and Hispanic women, Black women with greater economic resources reported greater

childlessness distress than other groups, which mirrors previous ethnographic literature (i.e. Ceballo, 1999; Clark, 2012) that found involuntary childlessness to be particularly distressing among African American women who are not living up to the “hyperfertile” stereotype.

To summarize, the infertility helpseeking model provided a strong basis for the current study and should be considered by researchers conducting future work related to infertility, especially that which relates to medical help. However, research that proposes deviations from helpseeking as an outcome of infertility might consider multiple theoretical approaches that suggest relationships between other important variables. For instance, examining childlessness distress in greater depth should focus more on the participant’s social surroundings and cultural context in addition to symptom salience. However, the present study confirms the usefulness of the helpseeking model and it should continue contributing to future infertility scholarship.

Conclusions

Previous work has largely ignored economic and racial and ethnic disparities in infertility experiences. Both the medical and scientific communities have persisted with a focus on White, middle-class infertile women and therefore little is known about other groups of infertile women. This includes even the most basic demographic information, such as their race/ethnicity, income, and social characteristics. This study adds to the literature in that we now know that infertility touches a large and diverse group of women.

Overall, the results of this dissertation indicate that economic status plays a larger role than race and ethnicity in the lives of infertile women. First, higher economic status is positively associated with women's perception that they might have a problem conceiving. Second, economic status is positively associated medicalized infertility experiences. In other words, women with more resources have greater odds of actually taking the necessary steps to have a

child. Women's economic status did not determine women's feelings about the desire or intent to have a child, nor did it explain women's feelings about the importance of being a mother, or have anything to do with the social messages she received. However, controlling for economic resources, White women were more certain in their intent to have a child, placed more importance on motherhood, and received more messages from parents than did non-White women.

Infertile women who were childless are similarly distressed regardless of their economic status or race/ethnicity. This finding dispels the myth that childless women are overly depressed, viewing themselves and their lives as a failure. This means that while their childlessness distress was not particularly overwhelming, they seem to have a sense-of wellbeing that would be a positive characteristic to bring to parenthood. Moreover, the lack of significant racial differences in childlessness distress signifies more similarities between childless women. How women cope with childlessness may vary by race and ethnicity, but the present findings suggest that overall, women's outcomes are the same. Finally, we know that there is little demographic variation in women's feelings about childlessness, which is important for future research as well as practice. For instance, medical treatment facilities as well as mental health professionals should seek to have diverse and inclusive environments and promote representation of services across demographic spectrums.

Policy and practice should also actively pursue education about the possibilities of infertility among economically disadvantaged groups. Based on the finding that greater economic status is linked to greater perception of problems, low-income women, those receiving public assistance, the uninsured, and those with greater economic hardship should be targets of

specialized public health messages that present the factors associated with infertility risk (i.e. environmental, sexually transmitted disease, etc).

Moreover, the present findings lend support for more economically equitable access to infertility care. A major take-away from the present research is that large segments of infertile women have limited access to economic resources, are non-White, similarly distressed, and have similar desires for a child. These findings reaffirm the perspective of stratified reproduction (Colen, 1995), in which particular social locations (i.e. middle-class, White, well-educated) combine with other social, economic, and political forces (i.e. availability of insurance coverage for the well-employed, lack of stigma for majority populations) are associated with differences in one's experience of reproduction. While mandated insurance coverage for infertility is one option, the solution is likely more complex. The current results coupled with the ethnographic work with low-income infertile women (i.e. Bell, 2012; 2014) suggest that stigma and structural constraints are still powerful forces. Low-income women shared multiple narratives in which both interactions with providers as well as the nature of standard appointment times created a culture of infertility treatment exclusive to women with greater resources (i.e. women who were viewed as capable mothers versus those who work third-shift at low-wage jobs).

The idea that poor women's children are a drain on society (i.e. Jencks, 2001) prevents us from seeing infertility among marginalized women as a problem. In fact, this research reaffirms how fertility is currently viewed in our society. Namely, childbearing is a privilege of certain members of our society and is not treated as a human right. Education and awareness of this issue should be targeted to other social scientists, medical doctors, and clinic staff in their care of under-resourced patients. For instance, family educators could hold seminars at hospitals and medical care facilities to present challenges in communication, stigma, and perception about

low-income women's fertility concerns and perceptions that might lead to greater utilization of medical assistance. Research findings like that from the present study should be disseminated to policy makers who have influence on health insurance companies. To wit, even middle-class women have limited access to advanced reproductive technology as most insurance companies only pay for limited interventions (i.e. one in vitro fertilization cycle) when often more progressive treatments are necessary for conception.

Limitations and Future Research

While I chose to use the medical definition of infertility to be consistent with the data set provided and the larger body of infertility literature, I would like to further explore the implications of comparing the present findings with samples limited to women who reported ever actively trying to conceive in association with their infertility episodes. While using a definition like this would deviate from the majority of previous medical literature that includes women while they were trying or not, the current results suggest that further examining this "trying" factor is warranted. Moreover, using "trying to conceive" as a criterion for sample selection may lead to more clearly delineated demographic differences in fertility salience, self-perception, medicalized infertility experiences, and childlessness distress. Clearly, this is a promising avenue for future infertility scholarship.

As with other cross sectional data, causal relationships were not tested empirically. This is important regarding several aspects of the current study. For example, I found evidence of higher fertility desires among non-Whites and greater certainty of pregnancy intentions among Blacks when compared to Whites. Yet, while their desires and intentions may not have been as concrete at the time of the interview, White women tended to ascribe great importance to the social role of mother. The second wave of these data exist, and while it is not yet publically

available, it would be interesting to test time effects in light of changes in life-course variables (i.e. relationship status and parity) and how those relationships may or may not effect fertility salience and other infertility related outcomes.

Another issue illuminated by Black feminist epistemology is that the nature of the data collection itself (i.e. questions) may be biased toward White, middle-class women. Future work should continue to “shift the center” away from the experiences of the majority (i.e. using the medicalized definition) and illuminate the narratives and lived experiences of the marginalized. Moreover, we assume infertility is a problem, when, to many women, lack of conception is not a major issue. Additionally, many women are on continuous birth control and would have no idea if they met the medical definition of infertility. Because of their contraception status, these women are not included in the present sample, which creates a bias that slants toward the experiences of women who are not, for whatever reason, on long-term birth control.

Due to the lack of significant demographic differences found in infertile women’s childlessness distress, more work needs to be done on the ways in which women deal with involuntary childlessness and if/how those methods vary by culture or not. Future research should explore the mechanisms women use to cope with infertility. Another limitation of this study is that I did not include religiosity as a covariate. While prior research had failed to demonstrate a clear association between spirituality/religion and my dependent variables of interest, these factors do certainly vary by culture and the implications of infertile women’s faith and religious involvement on their infertility experience is an area ripe for future analysis.

Regardless of these limitations, this dissertation provides an initial glimpse into the implications of economic and racial/ethnic differences in infertility experiences that had not been comprehensively studied by previous research. One of the major contributions of the present

study is that economic status is a powerful predictor of different outcomes with infertility experiences. This finding raises directions for future research. First, I would maintain a basis in White et al.'s (2006) theoretical model, but revisit the questions in this dissertation with more developed multivariate models. I would link effects of each dependent variable while maintaining the same set of comprehensive economic indicators. For instance, I would like to examine the direct and indirect relationships between fertility salience and self-perception of infertility, medicalized infertility experiences, and childlessness distress. Path analysis or structural equation modeling would provide the means by which these concepts could be empirically linked.

Furthermore, I would more closely examine mediating and moderating effects of not only economic status (as an index and as independent predictors) and race/ethnicity, but pay particular attention to those who had "tried to conceive" during their medical infertility episodes. I would like to focus on demographic characteristics of and differences between those who have and have not tried to conceive. I would pursue further nuances associated with the precarious nature of this state of infertility, as it is what is typically associated with higher distress. Future work should prioritize linking these two themes, since previous NSFB data has lent empirical support to the notion that fertility treatment in and of itself is highly distressing (Greil et al., 2011). Future research should continue to consider more diverse ways of understanding infertility and women's and couple's experiences with it.

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FIGURES

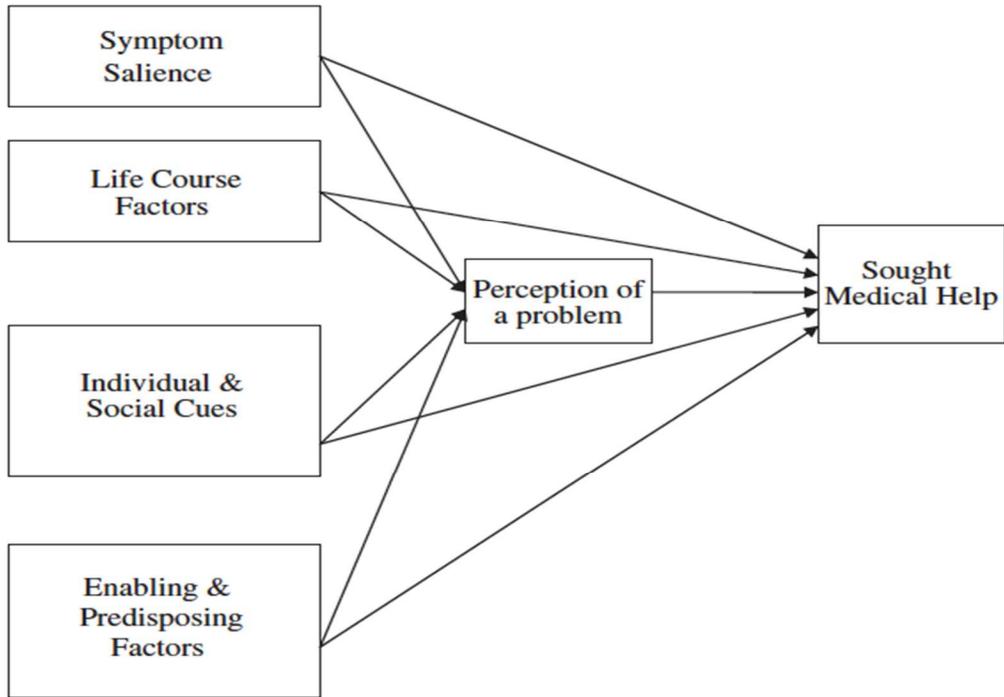


Figure 1: Diagram of Helpseeking Model for Infertility from White et al. (2006)

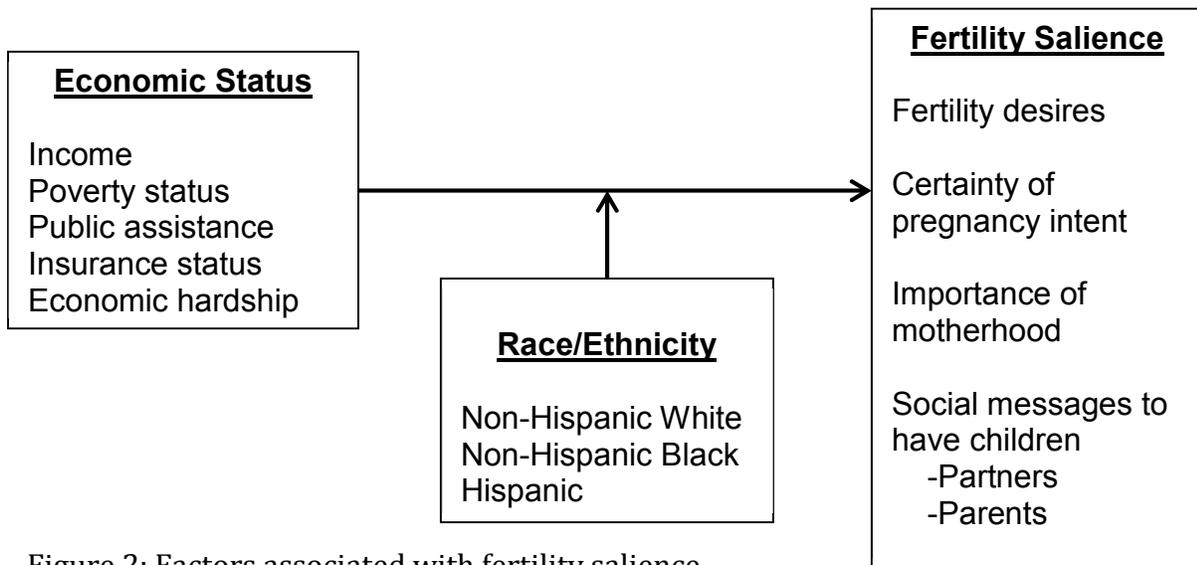


Figure 2: Factors associated with fertility salience

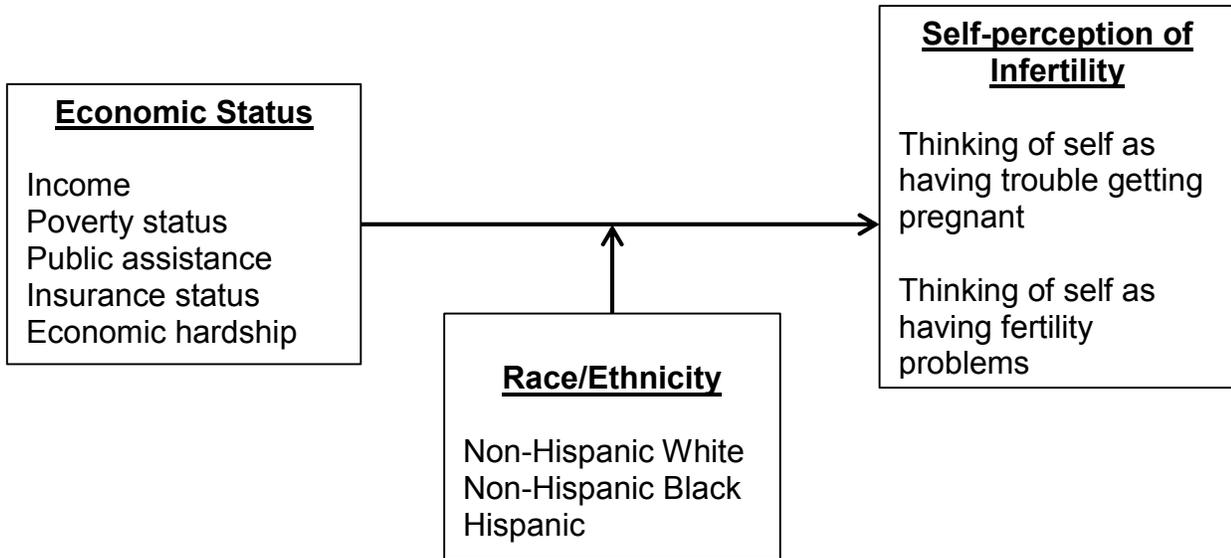


Figure 3: Factors associated with self-perception of infertility

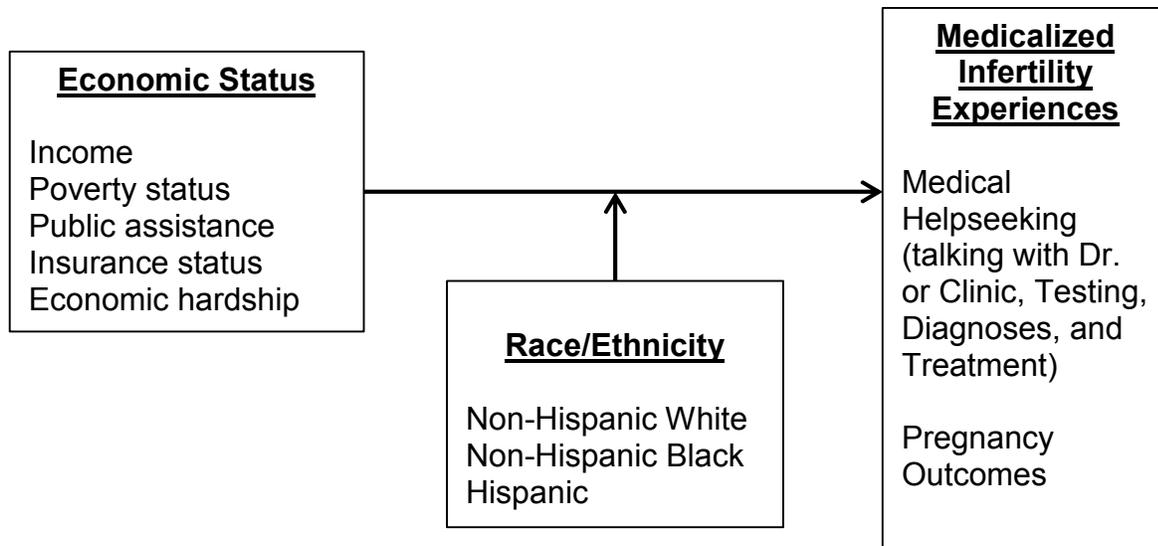


Figure 4: Factors associated with medicalized infertility experiences

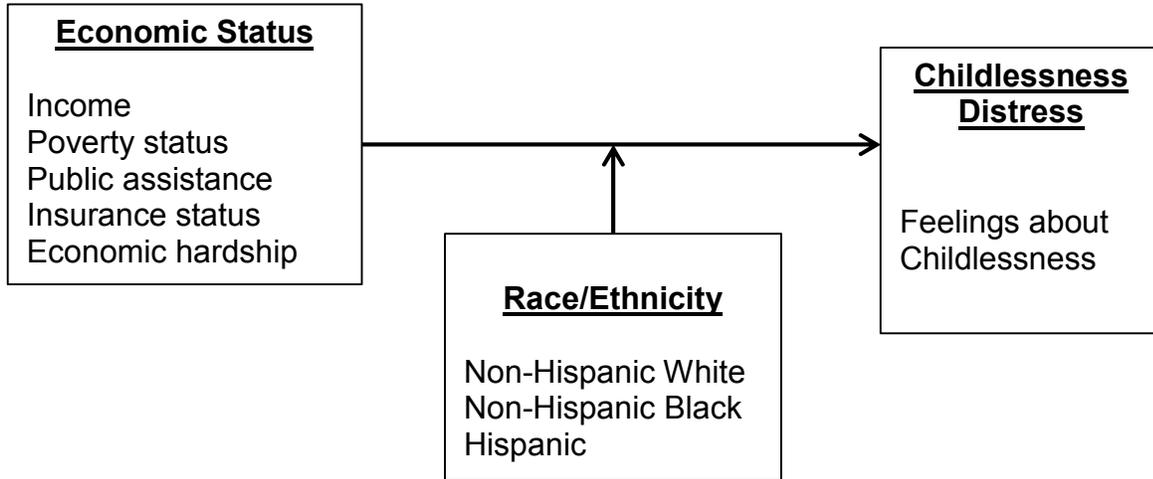
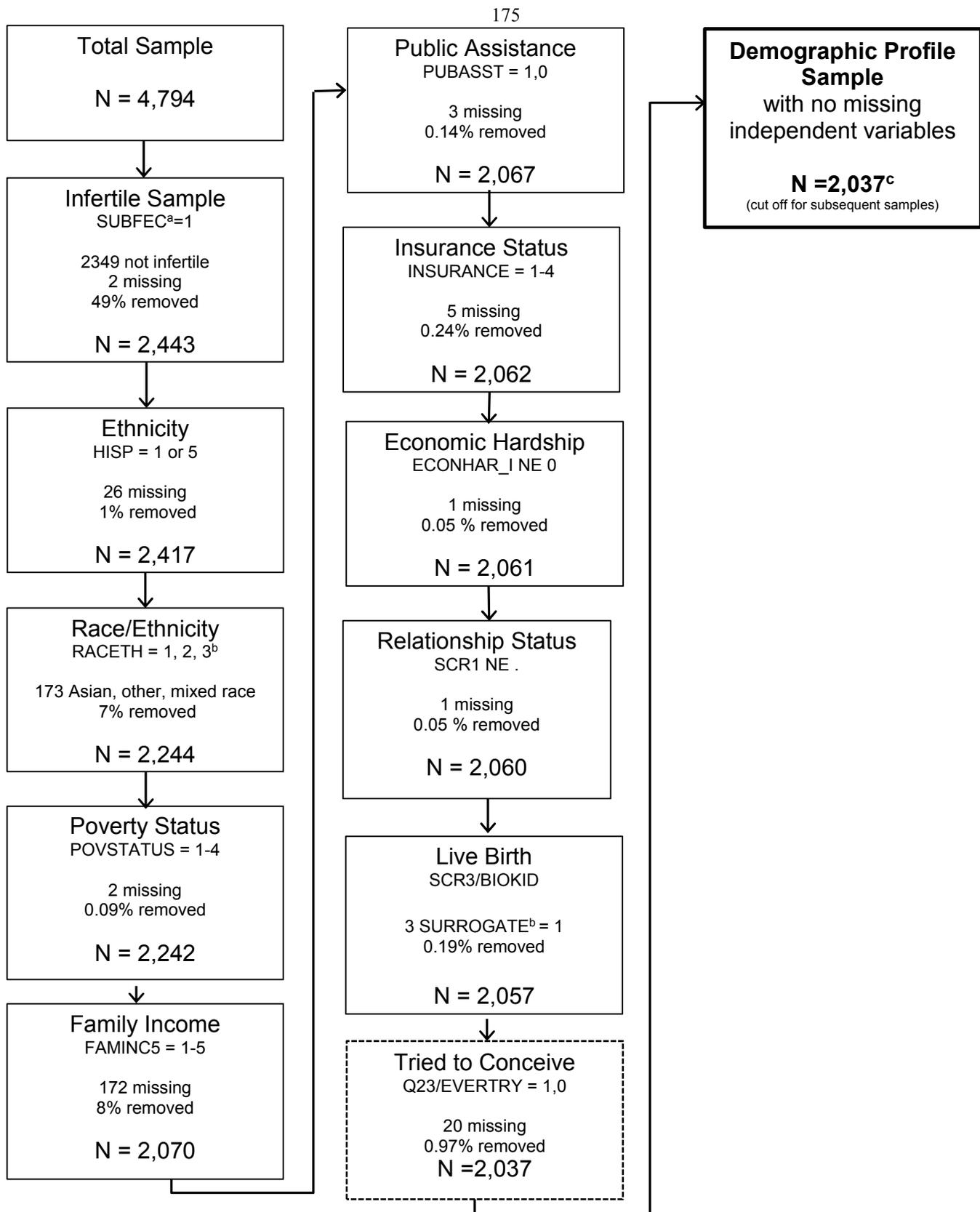


Figure 5: Factors associated with childlessness distress



^aThe NSFB uses a subfecund variable to measure infertility: failure to conceive after being sexually active in each of the past twelve months without using contraception, despite whether trying to conceive or not.

^b Woman reported not giving live birth but did report one or more living biological child, may have donated eggs.

^c Point at which the fertility salience sample selection deviates from the demographic profile selection.

Figure 6. Sample selection for demographic profile of infertile women (unweighted)

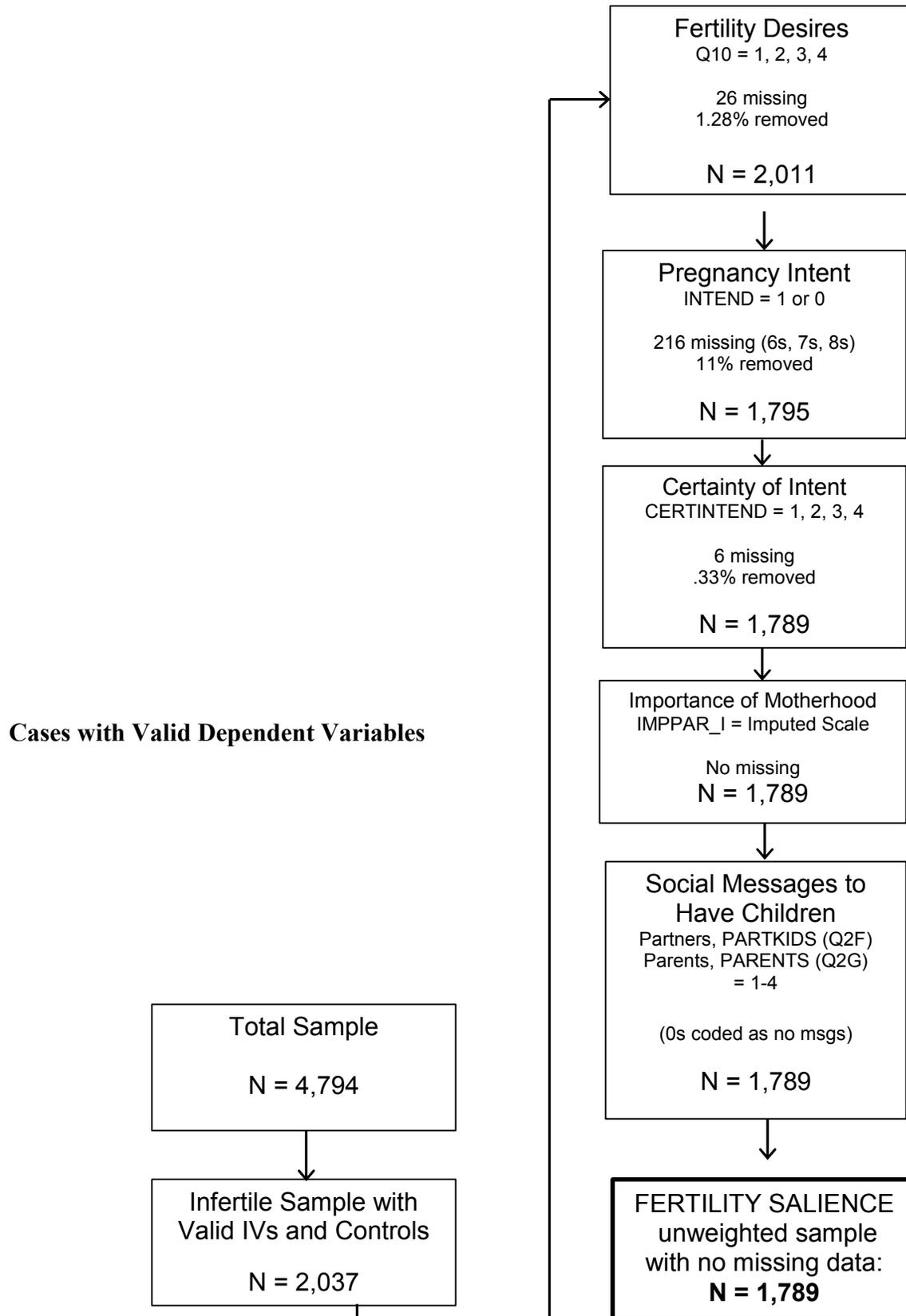


Figure 7. Flow of fertility salience sample selection and other key variables (unweighted)

Cases with Valid Dependent Variables

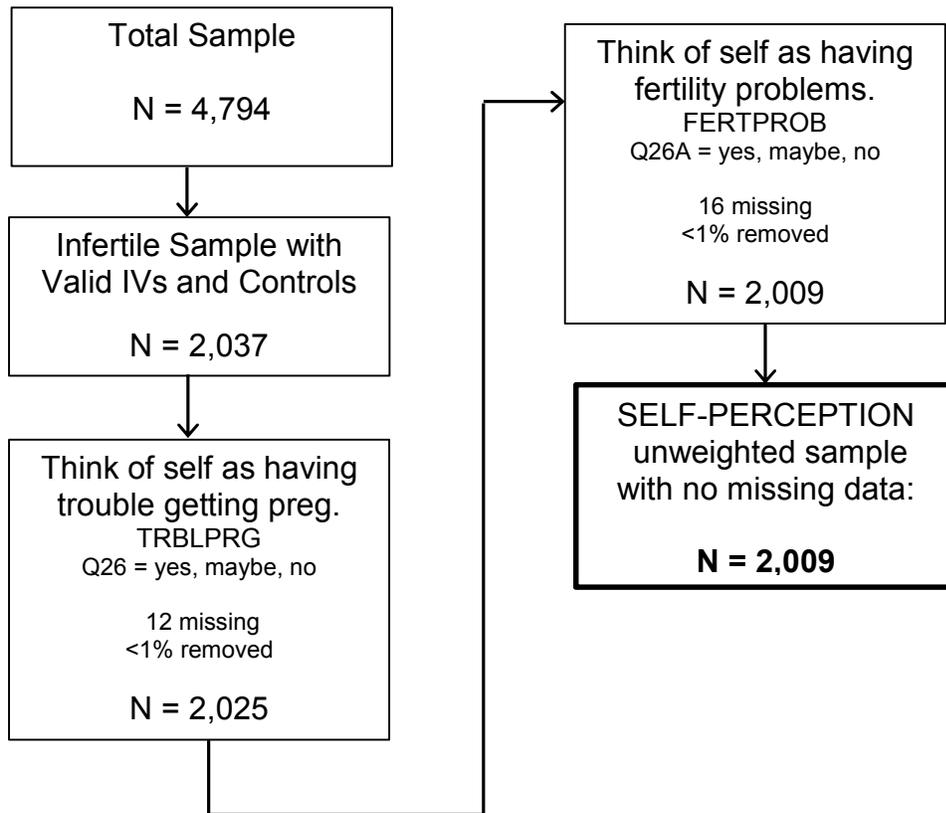
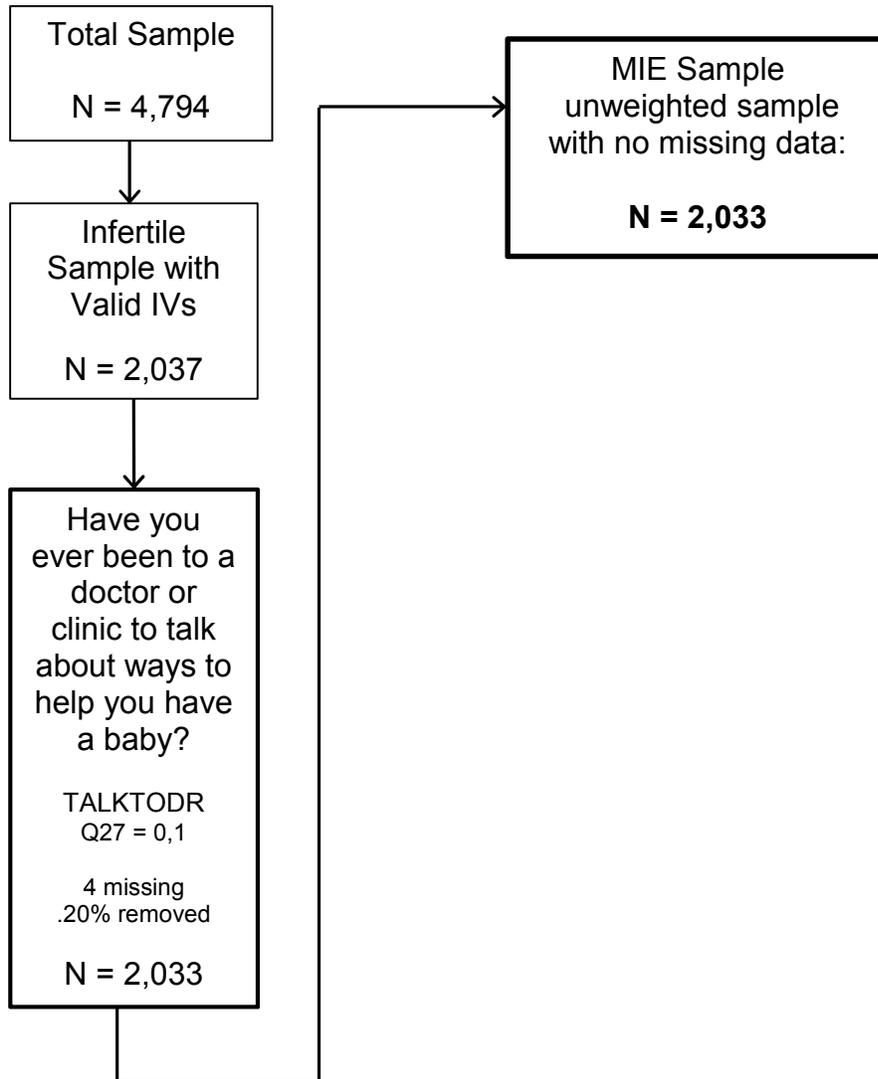


Figure 8. Flow of self-perception of infertility sample selection (unweighted)

Cases with Valid Dependent Variables**Figure 9. Flow of medicalized infertility experiences sample selection (unweighted)**

Cases with Valid Dependent Variables

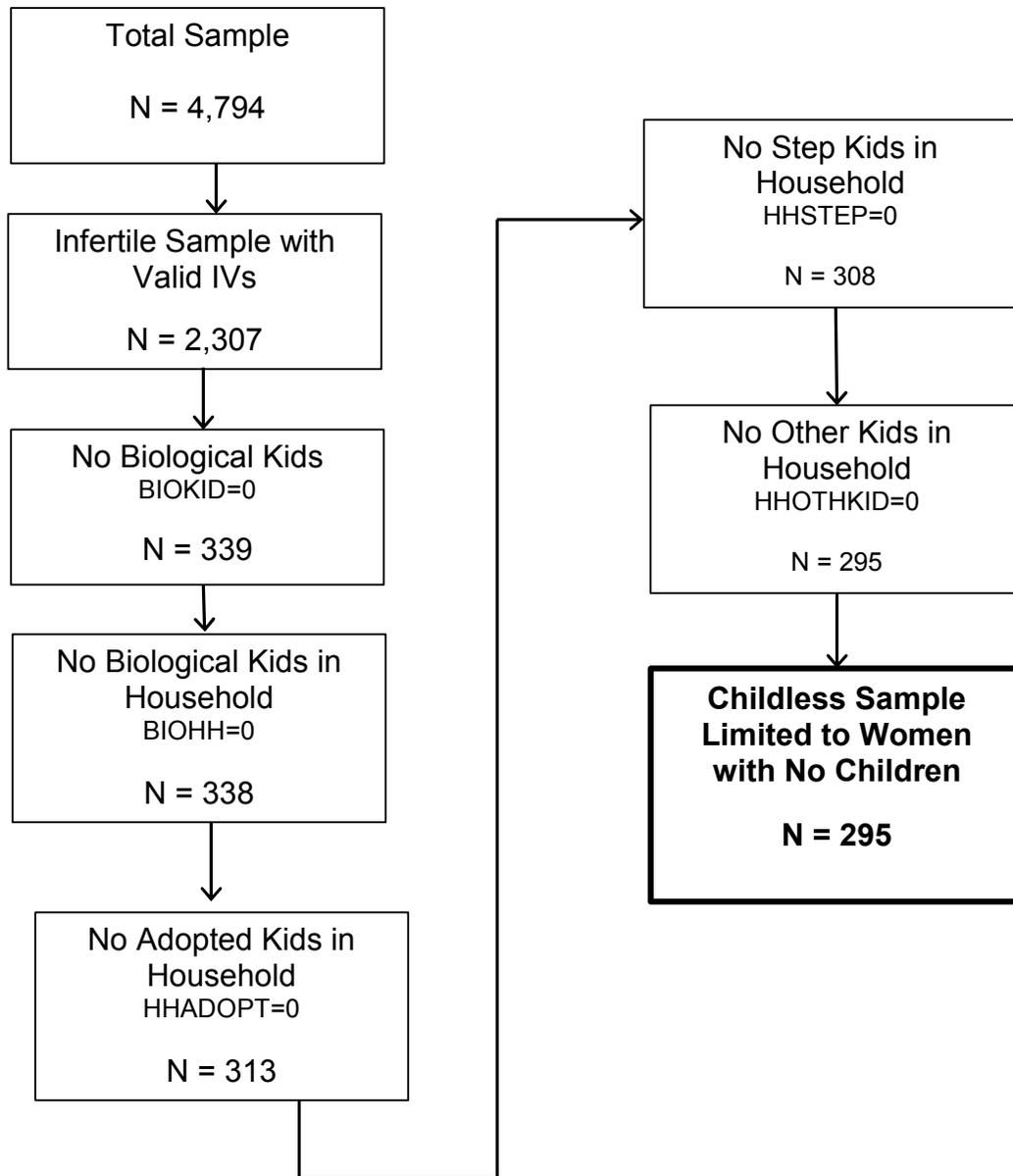


Figure 10. Flow of childlessness distress sample (unweighted)

TABLES

Table 3.1

Summary of Exploratory Factor Analysis Results for Economic Status Measure (N = 2,037)

Item	Factor Loadings
Household income	.85
Poverty status	.84
Public assistance ever received	.67
Insurance status	.72
Economic hardship	.55
Eigenvalue	2.72
% of variance	54.34

Note. Bold factor loadings denote variables contributing to each factor.

Table 3.2

Frequency Distribution of Level of Medical Help Encountered (N = 2,033)

MIE Level	Variable	n	%
1	Encountered no medical help for infertility	1,410	69.36
2	Talked to Dr./Clinic only	140	6.89
3	Talked with Dr. and Underwent Testing	125	6.15
4	Previous levels and Sought Treatment ¹	151	7.43
5	Received Treatment; Resulted in Pregnancy	40	1.97
6	Pregnancy Led to Live Birth	167	8.21

Note. Unweighted Ns and percentages, from the National Survey of Fertility Barriers.

¹Levels 4, 5, and 6 include the 48 women who had not reported testing (TEST = 0) but did report higher levels of MIE (treatment, pregnancy, and live birth).

Table 4.1

Demographic Characteristics of Infertile¹ Women Age 25 to 45 in the United States (N = 2,037)

Characteristic	<i>n</i>	%	<i>Mean</i>	<i>SD</i>
Economic Status				
Household income				
≤ \$24,999	429	27.6		
\$25,000 - \$49,999	604	30.2		
\$50,000 - \$74,999	474	22.2		
\$75,000 - \$100,000	273	11.4		
\$100,000 or more	257	8.6		
Poverty status				
0-99%	266	18.3		
100-149%	170	9.2		
150%-299%	536	27.7		
≥ 300%	1,065	44.7		
Public assistance ever received				
Yes	768	43.5		
No	1,269	56.5		
Insurance status				
Private	1,397	60.7		
Public	282	19.1		
None	273	15.8		
Other	85	4.3		
Economic hardship			5.11	1.83
Economic Status Index			2.80	1.71
Race/Ethnicity				
Non-Hispanic White	1,136	60.25		
Non-Hispanic Black	499	20.28		
Hispanic	402	19.47		
<i>Life Course Factors</i>				
Age	2,208		35.96	5.68
Relationship Status				
Married	1,340	62.7		
Cohabiting	191	11.8		
No partner	506	25.5		
Household Composition				
Types of children in household				
Biological	1,504	73.9		
Adopted	48	1.9		
Step	49	2.5		
Other ²	75	4.7		
Children < 6 ³	739	34.2		
Other household members	219	10.9		

Note. Weighted percentages and means and unweighted Ns.

¹Defined as failing to conceive after having regular intercourse (sexually active each month) with a continuously married or cohabiting partner for one year without using contraception.

Table 4.1 Continued

<i>Characteristic</i>	<i>n</i>	<i>%</i>	<i>M</i>	<i>SD</i>
<i>Fertility History</i>				
Ever try \geq 12 mos	890	39.0		
Ever had live birth	1,710	86.6		
Ever miscarried/had stillbirth	746	34.6		
Any biological children ⁴	1,689	86.0		
<i>Predisposing & Enabling Conditions</i>				
<i>Education</i>				
Less than HS	175	16.5		
High school or GED	466	32.5		
Some college	683	29.8		
Bachelor's degree	419	14.3		
Graduate	294	6.9		
<i>Employment</i>				
Full-time	1,142	50.8		
Part-time	273	14.5		
Homemaker	425	23.7		
Not employed	197	11.0		
Depression	2,037		17.93	4.72
Self esteem	2,037		10.38	1.32
Social support	2,037		14.07	2.54
Internal health locus of control	2,037		17.79	2.40
<i>General health</i>				
Poor	52	2.9		
Fair	348	20.0		
Good	1,087	53.5		
Excellent	550	23.63		
Ethical concerns	2,037		9.32	2.43

²Includes foster, relative, and non-relative children.

³Includes biological, adopted, step, and other.

⁴Does not include women who have had one or more live births but have no living children at time of survey. The small discrepancy in percentages between "ever had live birth" and "any biological children" is the result of women who had a live birth but whose child is no longer living.

Table 4.2

Comparison of Selected Demographic Characteristics of Infertile Women in the National Survey of Fertility Barriers and the National Survey of Family Growth

Characteristic	Sample 1	Sample 2	Sample 3
	NSFB (N = 2,208) %	NSFG (N = 6,731) %	NSFG (N = 1,886) %
Poverty status			
Below 100%	18.05	19.75	7.70
0%-300% poverty	53.92	55.86	37.42
300% or more	46.08	35.78	44.14
Race/Ethnicity			
Non-Hispanic White	55.46	61.65	50.26
Non-Hispanic Black	18.57	14.56	7.76
Hispanic	17.87	15.09	13.58
Asian, single race	-	2.44	3.83
Other	8.10	-	-
Relationship Status			
Married	62.49	46.03	81.46
Cohabiting	11.86	13.14	17.95
No Partner	25.84	40.29	-
Ever had live birth	85.43	54.10	43.63
Education			
Less than HS	15.77	10.79	8.57
High school or GED	31.70	18.12	18.15
Some college	28.86	24.27	14.90
Bachelor's degree	15.24	17.14	27.26
Graduate	8.42	7.63	8.68

Note. The NSFB weighted sample (1) is comprised of infertile women who had an episode of failing to conceive after having regular intercourse (sexually active each month) for one year or more without using contraception. The NSFG Sample 2 includes infertile women as well as those who are nonsurgically sterile, a long (36+ month) interval without conception, and those whose fecundity status reflects the status of their current husbands or partners for married and cohabiting women.

The NSFG Sample 3 is limited to married and cohabiting women but provides comparison figures for the 12-month (or more) NSFB infertility measure.

Adapted from Chandra, A., Copen, C. E., & Stephen, E. H. (2013). Infertility and impaired fecundity in the United States, 1982-2010: Data from the National Survey of Family Growth. *National health statistics reports; no. 67*. Hyattsville, MD: National Center for Health Statistics. Table 2: Fecundity status of all women aged 15-44, by selected characteristics: United States, 2006-2010, and Table 4 : Infertility status of married or cohabiting women aged 15-44, by selected characteristics: United States, 2006-2010.

Table 4.3

Bivariate Relationships between Economic Status and Demographics/Controls (N=2,037)

Variables	ESI mean score	SD	Sig. differences at $p < .05$
<i>Race/ethnicity</i>			
White (W)	3.29	1.66	W>B,H; B<H
Black (B)	2.07	1.48	
Hispanic (H)	2.29	1.68	
<i>Life Course Factors</i>			
<i>Age</i>			
< 35	2.50	1.69	<35 < 35+
35 and above (35 +)	3.03	1.69	
<i>Relationship Status</i>			
Married (M)	3.37	1.51	M>C,N; C>N
Cohabiting (C)	2.07	1.77	
No partner (N)	1.76	1.58	
<i>Family Composition</i>			
No children (N)	2.84	1.74	
Biological/adopted (B)	2.81	1.70	
Step/other ¹ (S)	2.36	1.67	
<i>Fertility History</i>			
Ever try \geq 12 mos	3.02	1.63	Yes > No
Ever miscarried/had stillbirth	2.70	1.65	
<i>Predisposing & Enabling Conditions</i>			
<i>Education</i>			
Less than HS (L)	1.32	1.77	L<H,S,B,G;
High school or GED (H)	2.46	1.92	H<S,B,G;
Some college (S)	3.06	1.51	S<BG
Bachelor's degree (B)	4.03	1.05	
Graduate (G)	4.33	0.75	
<i>Employment</i>			
Full-time (F)	3.25	1.49	F>P,H,N;
Part-time (P)	2.76	1.76	P>H,N; H>N
Homemaker (H)	2.34	1.81	
Not employed (N)	1.84	1.85	
<i>Depression</i>			
Low (L)	3.31	1.51	L>M,H; M>H
Medium (M)	2.83	1.65	
High (H)	2.07	1.85	
<i>Self esteem</i>			
Low (L)	2.11	1.76	L<M,H; M<H
Medium (M)	2.87	1.71	
High (H)	3.47	1.43	
<i>Social support</i>			
Low (L)	2.25	1.74	
Medium (M)	2.86	1.59	
High (H)	3.12	1.68	

¹Includes foster, relative, and non-relative children.

<i>Table 4.3 (continued)</i>	ESI mean score	SD	Sig. diff. at $p < .05$
Internal health locus of control			
Low (L)	2.86	1.70	L<M,H; M<H
Medium (M)	2.73	1.69	
High (H)	2.83	1.73	
General health			
Poor (P)	1.17	1.69	P<F,G,E;
Fair (F)	1.91	1.69	F<G,E; G<E
Good (G)	2.96	1.65	
Excellent (E)	3.41	1.49	
Ethical concerns			
Low (L)	3.02	1.71	L>H
Medium (M)	2.83	1.68	
High (H)	2.65	1.71	

Table 4.4

Bivariate Relationships between Race/Ethnicity and Demographics/Controls (N=2,037)

Variables	White (n=1136) % or M(SD)	Black (n=499) % or M(SD)	Hispanic (n=402) % or M(SD)	Significant Differences at $p < .05$
Economic Status				
Household income				
≤ \$24,999	17.0	43.1	44.3	W < B,H
\$25,000 - \$49,999	29.3	32.7	30.6	W < H
\$50,000 - \$74,999	27.1	14.5	14.9	W > B,H
\$75,000 - \$100,000	14.9	6.0	6.1	W > B,H
\$100,000 or more	11.7	3.7	4.2	W > B,H
Poverty status				
0-99%	10.0	30.5	31.5	W < B,H
100-149%	6.9	13.9	11.6	W < B,H
150%-299%	27.8	28.2	27.2	
≥ 300%	55.4	27.4	29.8	W > B,H
Public assistance ever received	35.2	64.6	47.0	B > W,H; H > W
Insurance status				
Private	70.5	48.0	43.9	W > B,H
Public	13.8	33.4	20.9	B > W,H; H > W
None	11.4	15.1	30.4	H > W,B
Other	4.4	3.4	4.7	
Economic hardship	4.92(1.8)	5.69(1.8)	5.2(1.8)	W < B,H; B > H
Economic Status Index	3.24(1.7)	2.03(1.5)	2.28(1.7)	W > B,H; B < H
Life Course Factors				
Age	36.71(5.74)	35.05(5.39)	34.58(5.49)	W > B,H
Relationship Status				
Married	73.7	33.5	59.1	W > B, H; B < H
Cohabiting	8.2	16.5	18.0	W < B,H
No partner	18.1	50.0	22.8	B > W,H
Household Composition				
Types of children in household				
Biological	73.4	76.2	73.0	
Adopted	2.7	1.2	0.3	W > H
Step	2.9	3.1	0.7	
Other ¹	2.9	7.8	6.9	W < H
Children < 6 ²	34.5	33.3	34.0	
Other household members	8.7	10.2	18.5	W < H
Fertility History				
Tried to conceive	41.2	31.6	39.9	W > B
Ever had live birth	84.3	89.1	91.3	W < B, H
Ever miscarried/had stillbirth	36.4	33.2	30.5	
Any biological children ³	83.6	88.3	90.8	W < B,H

Table 4.4 (continued)

Variables	White (n=1136) % or M(SD)	Black (n=499) % or M(SD)	Hispanic (n=402) % or M(SD)	Significant Differences at $p < .05$
<i>Predisposing & Enabling Conditions</i>				
Education				
Less than HS	9.3	18.0	37.2	W < B, H; B < H
High school or GED	33.7	32.3	29.0	
Some college	32.0	31.7	20.9	W,B > H
Bachelor's degree	16.7	12.8	8.4	W > H
Graduate	8.4	5.2	4.4	W > H,B
Employment				
Full-time	51.7	56.7	42.1	W, B > H
Part-time	15.0	10.4	17.0	W > B; H > W,B
Homemaker	25.0	12.6	31.2	B < W < H
Not employed	8.3	20.3	9.7	W, H < B
General depression	17.7(4.9)	18.3(4.1)	18.1(4.8)	W < B
Self esteem	10.5(1.3)	10.3(1.3)	10.0(1.2)	W > B,H; B>H
Social support	14.6(2.1)	13.7(2.5)	12.8(3.1)	W > B,H; B>H
Internal health locus of control	17.70(2.51)	17.80(2.32)	18.03(2.18)	W < H
General health				
Poor	2.3	3.1	4.4	W < H
Fair	15.8	22.1	30.9	W < B,H; B<H
Good	56.7	55.2	41.7	W,H > H
Excellent	25.2	19.6	23.0	W > B
Ethics	8.98(2.5)	10.01(2.2)	9.7(2.5)	W < B,H

Note. Weighted results from the National Survey of Fertility Barriers. % provided for categorical variables; M and SD provided for continuous variables.

¹Includes foster, relative, and non-relative children.

²Includes biological, adopted, step, and other.

³Does not include women who have had one or more live births but have no living children at time of survey. The small discrepancy in percentages between "ever had live birth" and "any biological children" is the result of women who had a live birth but whose child is no longer living.

Significant differences at $p < .05$ between race/ethnicity summarized as W = White; B = Black; H = Hispanic.

Table 5.1

Demographic Characteristics of Fertility Salience Subsample (N=1,789)

Variables	n	%/M	SD
<i>Economic Status</i>			
Household income			
≤ \$24,999	372	26.73	
\$25,000 - \$49,999	518	29.97	
\$50,000 - \$74,999	421	22.77	
\$75,000 - \$100,000	246	11.62	
\$100,000 or more	232	8.91	
Poverty status			
0-99%	229	17.37	
100-149%	145	9.07	
150%-299%	469	27.80	
≥ 300%	946	45.77	
Public assistance ever received	663	42.98	
Insurance status			
Private	1230	61.52	
Public	238	17.93	
None	245	16.16	
Other	76	4.39	
Economic hardship	1,789	5.12	1.83
Economic Status Index	1,789	2.80	1.71
<i>Race/ethnicity</i>			
Non-Hispanic White	989	59.87	
Non-Hispanic Black	455	20.86	
Hispanic	345	19.27	
<i>Life Course Factors</i>			
Age	1,789	35.99	5.70
Relationship Status			
Married	1180	62.94	
Cohabiting	164	11.66	
No partner	445	25.40	
Family Composition			
No Children	413	22.89	
Biological/adopted	1348	75.33	
Other ¹	28	1.78	
<i>Fertility History</i>			
Tried to conceive	772	38.37	
Ever had live birth	1508	87.06	
Ever miscarried/had stillbirth	644	33.84	
Primary infertility ²	224	10.54	

Table 5.1 continued

Variables	n	%/M	SD
<i>Predisposing & Enabling Conditions</i>			
Education			
Less than HS	151	16.41	
High school or GED	401	31.76	
Some college	607	30.68	
Bachelor's degree	360	13.91	
Graduate	270	7.25	
Employment			
Full-time	1024	52.35	
Part-time	244	14.81	
Homemaker	348	22.29	
Not employed	173	10.54	
General depression	1,789	17.85	4.64
Self esteem	1,789	10.39	1.30
Social support	1,789	14.08	2.51
Internal health locus of control	1,789	17.80	2.35
General health			
Poor	40	2.39	
Fair	300	19.61	
Good	962	54.26	
Excellent	487	23.74	
Ethics	1,789	9.30	2.44

Note. From the National Survey of Fertility Barriers.

Weighted percentages and means and unweighted Ns.

¹Includes step, foster, relative, and non-relative children.

²Women who have never conceived.

Table 5.2

Description of Fertility Salience Subsample (N=1,789)

Variable	n	%/M(SD)
Fertility desires		
Definitely no	787	47.62
Probably no	286	14.79
Probably yes	305	16.94
Definitely yes	411	20.65
Certainty of pregnancy intent		
Do not intend	1324	77.46
Intend, not sure	167	8.62
Intend, pretty sure	150	6.61
Intend, very sure	148	7.31
Importance of motherhood	1,789	13.06(2.14)
Social messages to have children		
Partner ¹		
No messages	459	26.15
Strongly disagree	44	2.18
Disagree	176	11.14
Agree	528	29.96
Strongly agree	582	30.58
Parents ²		
No messages	85	4.94
Strongly disagree	71	4.01
Disagree	454	26.82
Agree	756	42.09
Strongly agree	423	22.15
Fertility Salience Index	1,789	2.61(1.43)

Note. Weighted results from the National Survey of Fertility Barriers.

¹"It is important to my partner that we have children."

²"It is important to my parents that I have children."

Table 5.3

Bivariate Relationships between Economic Status and Fertility Salience (N=1,789)

Variable	Economic Status Index Mean	SD	Significant Differences at p < .05
Fertility desires			
Definitely no (DN)	2.80	1.77	DN<PN; PN>PY; PY<PN,DY
Probably no (PN)	3.18	1.69	
Probably yes (PY)	2.56	1.67	
Definitely yes (DY)	2.93	1.57	
Certainty of pregnancy intent			
Do not intend (DI)	2.82	1.76	DI, IN < IP
Intend, not sure (IN)	2.65	1.62	
Intend, pretty sure (IP)	3.18	1.36	
Intend, very sure (IV)	2.97	1.52	
Importance of motherhood			
Low (L)	2.65	1.74	L,M < H
Medium (M)	2.84	1.73	
High (H)	3.08	1.61	
Social messages to have children			
Partner ¹			
No messages (N)	1.85	1.61	N < SD,D,A,SA; D, A < SA
Strongly disagree (SD)	3.05	1.69	
Disagree (D)	2.81	1.84	
Agree (A)	3.03	1.62	
Strongly agree (SA)	3.49	1.47	
Parents ²			
No messages (N)	2.59	1.69	SD < N < A; SD < N,D,A,SA; D < SA
Strongly disagree (SD)	2.19	1.92	
Disagree (D)	2.70	1.74	
Agree (A)	2.89	1.68	
Strongly agree (SA)	3.08	1.61	

Note. Weighted results from the National Survey of Fertility Barriers.

¹"It is important to my partner that we have children."

²"It is important to my parents that I have children."

Table 5.4

Bivariate Relationships between Race/Ethnicity and Fertility Salience (N=1,789)

Variable	White (n=989) % or M(SD)	Black (n=455) % or M(SD)	Hispanic (n=345) % or M(SD)	Significant Differences at $p < .05$
Fertility desires				
Definitely no	48.28	49.47	43.58	
Probably no	16.36	9.92	15.16	B < W,H
Probably yes	15.17	17.70	21.62	H > W
Definitely yes	20.18	22.91	19.65	
Certainty of pregnancy intent				
Do not intend	79.74	72.39	75.86	W > B
Intend, not sure	6.85	9.03	13.65	H > W,B
Intend, pretty sure	6.64	8.87	4.09	B > H
Intend, very sure	6.77	9.71	6.40	
Importance of motherhood	13.32(2.25)	12.68(1.92)	12.66(1.99)	W > B,H
Social messages to have children				
Partner ¹				
No messages	18.98	50.56	22.00	B > W,H
Strongly disagree	2.44	1.36	2.24	
Disagree	10.97	10.05	12.84	
Agree	29.03	23.88	39.42	B < W,H; W < H
Strongly agree	38.58	14.15	23.50	W > H > B
Parents ²				
No messages	4.10	7.77	4.48	B > W,H
Strongly disagree	3.40	6.22	3.50	W < B
Disagree	24.28	34.14	26.75	B > W,H
Agree	41.57	35.73	50.59	H > W > B
Strongly agree	26.64	16.13	14.69	W > B,H
Fertility Salience Index	2.39(1.31)	1.86(1.17)	2.13(1.19)	W > H > B

Note. Weighted results from the National Survey of Fertility Barriers.

% provided for categorical variables; M and SD provided for continuous variables.

¹"It is important to my partner that we have children."

²"It is important to my parents that I have children."

Significant differences at $p < .05$ between race/ethnicity summarized as W = White; B = Black; H = Hispanic.

Table 5.5

Multivariate Relationships between Economic Status, Race/Ethnicity, and Fertility Salience (N=1,789)

Variables	Fertility Desires		Certainty of Intent		Motherhood		Partner Messages ³		Parent Messages	
	OR	SE	OR	SE	β	SE	OR	SE	OR	SE
Intercept	-	0.82	-	1.46	-	0.78	-	1.21	-	0.81
Economic Status Index	1.01	0.04	1.10	0.06	0.00	0.04	1.07	0.06	1.05	0.04
<i>Race/ethnicity</i>										
Non-Hispanic White	-	-	-	-	-	-	-	-	-	-
Non-Hispanic Black	1.46**	0.14	1.56*	0.18	0.28 *	0.13	0.85	0.21	0.75*	0.13
Hispanic	1.12	0.15	0.76 ²	0.21	0.34 *	0.14	0.91	0.21	0.92	0.15
<i>Life Course Factors</i>										
Age 35 and above	0.31***	0.11	0.15***	0.16	0.20	0.10	0.55**	0.17	0.86	0.11
<i>Relationship Status</i>										
Married	-	-	-	-	-	-	-	-	-	-
Cohabiting	0.98	0.19	1.44	0.24	0.42 *	0.18	0.26***	0.21	0.62**	0.18
No partner	0.81	0.15	0.98	0.20	0.60 ***	0.14	-	-	0.51***	0.14
<i>Family Composition</i>										
No Children	-	-	-	-	-	-	-	-	-	-
Biological/adopted	0.35***	0.13	0.39***	0.16	1.32 ***	0.12	2.45***	0.17	1.43**	0.12
Other ¹	0.99	0.43	2.02	0.45	0.34 ***	0.41	1.36	0.63	0.96	0.41
<i>Fertility History</i>										
Tried to conceive	2.10***	0.11	1.53**	0.15	0.68 ***	0.10	1.76**	0.17	1.13	0.11
Ever miscarried/had stillbirth	0.86	0.11	1.00	0.15	0.37 **	0.10	1.58**	0.17	1.08	0.11

Table 5.5 Continued

Variables	Fertility Desires		Certainty of Intent		Motherhood		Partner Messages ³		Parent Messages	
	OR	SE	OR	SE	β	SE	OR	SE	OR	SE
<i>Predisposing & Enabling Conditions</i>										
Education										
Less than HS	-	-	-	-	-	-	-	-	-	-
High school or GED	0.83	0.22	0.90	0.32	0.11	0.21	1.19	0.31	0.96	0.21
Some college	1.22	0.22	1.17	0.31	0.15	0.21	1.16	0.31	0.97	0.21
Bachelor's degree	1.34	0.24	1.79	0.33	0.18	0.23	1.34	0.34	1.10	0.24
Graduate	1.35	0.26	1.92	0.36	0.04	0.24	1.44	0.36	1.30	0.25
Employment										
Full-time	-	-	-	-	-	-	-	-	-	-
Part-time	0.84	0.16	0.81	0.23	0.20	0.15	1.27	0.24	1.17	0.16
Homemaker	0.97	0.15	1.06	0.20	0.28 *	0.14	2.20**	0.24	1.69**	0.16
Not employed	0.88	0.19	0.93	0.26	0.11	0.18	1.10	0.29	0.90	0.18
General depression	1.02	0.01	0.98	0.02	0.03 **	0.01	0.99	0.02	1.00	0.01
Self esteem	1.00	0.04	0.87*	0.06	0.11 **	0.04	1.04	0.06	1.00	0.04
Social support	0.97	0.02	1.08*	0.03	0.03	0.02	1.03	0.03	1.01	0.02
Internal health locus of control	0.99	0.02	1.02	0.03	0.12 ***	0.02	1.11**	0.03	1.08**	0.02
General health										
Poor	-	-	-	-	-	-	-	-	-	-
Fair	1.01	0.37	3.89	1.06	0.29	0.36	2.47	0.51	0.91	0.36
Good	0.86	0.36	5.42	1.05	0.02	0.35	1.53	0.49	1.23	0.35
Excellent	0.74	0.37	4.96	1.05	0.27	0.36	1.66	0.51	1.07	0.37
Ethics	0.99	0.02	1.00	0.03	0.03	0.02	1.02	0.03	1.02	0.02

Note. Sample of infertile women from the National Survey of Fertility Barriers.

¹Includes step, foster, relative, and non-relative children.

²Blacks significantly different from Hispanics at $p < 0.01$.

³Analysis using sample of partnered women ($n = 1,344$).

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 6.1

Description of Self Perception of Infertility Subsample (N=2,009)

Variable	n	%/M	SD
Think of self as having trouble getting pregnant			
Yes	821	36.66	
Maybe	64	3.33	
No	1124	60.01	
Think of self as someone with fertility problems			
Yes	580	28.87	
Maybe	35	1.74	
No	1394	69.39	
Economic Status			
Household income			
≤ \$24,999	420	27.53	
\$25,000 - \$49,999	595	30.19	
\$50,000 - \$74,999	470	22.17	
\$75,000 - \$100,000	269	11.41	
\$100,000 or more	255	8.70	
Poverty status			
0-99%	262	18.35	
100-149%	167	9.25	
150%-299%	531	27.87	
≥ 300%	1049	44.54	
Public assistance ever received	759	43.44	
Insurance status			
Private	1377	60.64	
Public	278	19.12	
None	269	15.89	
Other	85	4.35	
Economic hardship	2,009	5.12	1.84
Economic Status Index	2,009	2.80	1.71
Race/ethnicity			
Non-Hispanic White	1120	60.25	
Non-Hispanic Black	492	20.26	
Hispanic	397	19.49	
Life Course Factors			
Age	2,009	35.97	5.69
Relationship Status			
Married	1326	62.86	
Cohabiting	185	11.67	
No partner	498	25.47	

Table 6.1 (continued)	n	%/M	SD
<i>Family Composition</i>			
No Children	457	22.44	
Biological/adopted	1516	75.38	
Other ¹	36	2.18	
<i>Fertility History</i>			
Tried to conceive	878	38.96	
Ever miscarried/had stillbirth	742	34.81	
<i>Predisposing & Enabling Conditions</i>			
<i>Education</i>			
Less than HS	171	16.42	
High school or GED	460	32.50	
Some college	677	29.92	
Bachelor's degree	411	14.22	
Graduate	290	6.93	
<i>Employment</i>			
Full-time	1126	50.77	
Part-time	271	14.61	
Homemaker	419	23.73	
Not employed	193	10.89	
General depression	2,009	17.92	4.71
Self esteem	2,009	10.37	1.32
Social support	2,009	14.08	2.54
Internal health locus of control	2,009	17.80	2.39
<i>General health</i>			
Poor	51	2.86	
Fair	342	19.93	
Good	1073	53.54	
Excellent	543	23.67	
Ethics	2,009	9.31	2.43

Note. Sample of infertile women from the National Survey of Fertility Barriers.

Weighted percentages and means and unweighted Ns.

¹ Includes step, foster, relative, and non-relative children.

Table 6.2

Bivariate Relationships between Economic Status and Self-Perception of Infertility (N=2,009)

Variable	n	Economic Status Index Mean	SD	Significant Differences at $p < .0001$
Think of self as having trouble getting pregnant				Y > N
Yes/maybe (Y)	885	3.04	1.64	
No (N)	1124	2.64	1.75	
Think of self as someone with fertility problems				Y > N
Yes/maybe (Y)	615	3.27	1.54	
No (N)	1394	2.64	1.75	

Note. Weighted results from the National Survey of Fertility Barriers.

Table 6.3

Bivariate Relationships between Race/Ethnicity and Self-Perception of Infertility (N = 2,009)

Variable	White (n=1120)	Black (n=492)	Hispanic (n=327)	Significant Differences at $p < .05$
Think of self as having trouble getting pregnant				W > B, H
Yes/Maybe	45.46	33.85	29.47	
No	54.54	66.15	70.53	
Think of self as someone with fertility problems				W > B, H
Yes/Maybe	29.13	19.13	23.05	
No	70.87	80.87	76.95	

Note. Weighted results from the National Survey of Fertility Barriers.

Significant differences at $p < .05$ between race/ethnicity groups summarized as W = White; B = Black; H = Hispanic.

Table 6.4

Multivariate Relationships between Economic Status, Race/Ethnicity, and Self-Perception of Infertility (N=2,009)

Variables	Trouble Getting Pregnant				Fertility Problem			
	Model 1		Model 2		Model 3		Model 4	
	OR	SE	OR	SE	OR	SE	OR	SE
Intercept	-	0.83	-	0.85	-	0.89	-	0.91
Economic Status Index	1.01*	0.04	1.14*	0.05	1.17**	0.05	1.26***	0.05
<i>Race/ethnicity</i>								
Non-Hispanic White	-	-	-	-	-	-	-	-
Non-Hispanic Black	0.79 ²	0.14	0.89	0.27	0.80	0.16	1.38	0.31
Hispanic	0.49***	0.15	0.71	0.30	0.75	0.16	1.28	0.33
<i>Life Course Factors</i>								
Age 35 and above	0.96	0.11	0.96	0.11	1.12	0.12	1.12	0.12
<i>Relationship Status</i>								
Married	-	-	-	-	-	-	-	-
Cohabiting	0.91	0.20	0.91	0.20	0.78	0.22	0.77	0.22
No partner	0.86	0.15	0.86	0.15	0.69*	0.17	0.67*	0.17
<i>Family Composition</i>								
No Children	-	-	-	-	-	-	-	-
Biological/adopted	0.48***	0.13	0.48***	0.13	0.57***	0.14	0.57***	0.14
Other ¹	0.51	0.41	0.51	0.41	0.82	0.41	0.82	0.41
<i>Fertility History</i>								
Tried to conceive	9.47***	0.11	9.43***	0.11	10.62***	0.12	10.56***	0.12
Ever miscarried/had stillbirth	1.20	0.11	1.21	0.11	1.05	0.12	1.07	0.12
<i>Predisposing & Enabling Conditions</i>								
<i>Education</i>								
Less than HS	-	-	-	-	-	-	-	-
High school or GED	1.60*	0.23	1.67*	0.23	0.92	0.25	0.98	0.25
Some college	1.79*	0.23	1.86**	0.23	1.38	0.24	1.46	0.25
Bachelor's degree	1.60	0.25	1.65*	0.25	1.23	0.27	1.29	0.27
Graduate	2.16**	0.27	2.24**	0.27	1.95*	0.28	2.04*	0.29

Table 6.4 Continued

Variables	Trouble		Trouble		Problem		Problem	
	OR	SE	OR	SE	OR	SE	OR	SE
Employment								
Full-time	-	-	-	-	-	-	-	-
Part-time	0.83	0.17	0.82	0.17	0.98	0.17	0.94	0.18
Homemaker	0.92	0.15	0.91	0.44	0.99	0.16	0.97	0.16
Not employed	1.01	0.20	1.00	0.20	0.89	0.22	0.86	0.22
General depression	1.04**	0.01	1.04**	0.01	1.04*	0.01	1.04**	0.01
Self esteem	0.99	0.04	0.99	0.04	0.98	0.05	0.98	0.05
Social support	0.96	0.02	0.96	0.02	0.98	0.03	0.98	0.03
Internal health locus of control	1.00	0.02	1.00	0.02	1.00	0.02	1.00	0.02
General health								
Poor	-	-	-	-	-	-	-	-
Fair	0.79	0.36	0.79	0.36	0.78	0.37	0.76	0.37
Good	0.77	0.36	0.77	0.35	0.69	0.36	0.68	0.36
Excellent	0.50	0.37	0.50	0.37	0.49	0.38	0.47*	0.38
Ethics	1.00	0.02	1.00	0.02	0.99	0.02	0.99	0.02
<i>Interactions</i>								
Economic Status * Black	-	-	0.96	0.08	-	-	0.84*	0.09
Economic Status * Hispanic	-	-	0.89	0.08	-	-	0.85	0.09

Note. Sample of infertile women from the National Survey of Fertility Barriers.

¹Includes step, foster, relative, and non-relative children.

²Blacks significantly different from Hispanics at $p < 0.01$.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 7.1

Percent Distribution of Singular¹ Medicalized Infertility Experiences (N = 2,033)

Variable	n	%/M	SD
Talked to Dr./Clinic	623	26.36	
Underwent Testing	435	17.56	
Received Treatment	358	14.37	
Treatment Resulted in Pregnancy	207	8.20	
Pregnancy Led to Live Birth	167	6.48	
MIE Level Experienced	2,033	1.75	1.40

Note. Weighted %, *M*, and unweighted *N*s, from the National Survey of Fertility Barriers.

¹*N*s represent cases that encountered *only* that level of medical assistance and no other and therefore differ from frequency distribution of the MIE level variable in Table 3.2.

Table 7.2

Description of Infertile Women by Level of Medicalized Infertility Experiences (N=2,033)

Variable	Main Infertile Sample (n=2,033)	Talked to Dr./Clinic (n=623)	Got Testing (n=435)	Sought Treatment (n=310)	Treatment Resulted in Pregnancy (n=180)	Pregnancy Led to Live Birth (n=144)	MIE Level	
	%/M(SD)	%/M(SD)	%/M(SD)	%/M(SD)	%/M(SD)	%/M(SD)	Mean	SD
<i>Economic Status</i>								
Household income								
≤ \$24,999	27.49	16.95	12.58	12.57	8.63	7.34	1.38	1.10
\$25,000 - \$49,999	30.31	25.09	24.64	23.50	25.64	26.97	1.60	1.31
\$50,000 - \$74,999	22.22	25.79	25.29	22.92	20.73	19.90	1.84	1.39
\$75,000 - \$100,000	11.33	16.88	19.95	22.39	23.28	24.05	2.29	1.61
\$100,000 or more	8.65	15.28	17.55	18.62	21.62	21.75	2.51	1.51
Poverty status								
0-99%	18.19	10.15	7.82	7.81	6.90	5.27	1.34	1.12
100-149%	9.24	6.14	4.99	4.18	3.45	3.66	1.41	1.06
150%-299%	27.81	23.02	21.96	20.57	24.03	26.04	1.62	1.37
≥ 300%	44.77	60.69	65.23	67.44	65.61	65.02	2.06	1.48
Public assistance ever received								
Yes	43.42	28.18	22.54	19.61	15.24	13.26	1.41	1.08
No	56.58	71.82	77.46	80.39	84.76	86.74	2.01	1.52
Insurance status								
Private	60.82	76.63	79.23	81.73	86.42	87.04	1.98	1.48
Public	19.01	12.03	10.73	9.78	7.00	5.30	1.41	1.18
None	15.87	8.76	7.45	6.71	4.95	6.31	1.36	1.08
Other	4.31	2.58	2.59	1.78	1.63	1.35	1.42	1.10
Economic hardship	5.12(1.83)	4.85(1.58)	4.68(1.46)	4.63(1.49)	4.57(1.40)	4.64(1.37)	-	-
Economic Status Index	2.81(1.71)	3.48(1.45)	3.68(1.38)	3.77(1.37)	3.90(1.26)	3.92(1.21)	-	-

Table 7.2 (Continued)

<i>Race/ethnicity</i>								
Non-Hispanic White	60.19	71.07	74.76	77.31	79.09	77.46	1.92	1.59
Non-Hispanic Black	20.33	12.64	10.55	6.80	3.41	3.16	1.38	0.85
Hispanic	19.48	16.29	14.69	15.89	17.50	19.38	1.61	1.31
<i>Life Course Factors</i>								
Age	35.96(5.68)	36.68(4.34)	36.97(4.65)	37.33(4.49)	37.30(4.49)	36.69(4.48)	-	-
Relationship Status								
Married	62.80	77.86	85.05	86.88	86.94	89.64	1.98	1.54
Cohabiting	11.66	7.45	5.37	4.38	7.59	4.12	1.42	1.21
No Partner	25.54	14.69	9.55	8.73	5.48	6.25	1.32	0.88
Family Composition								
No Children	22.66	25.40	23.88	23.26	11.69	4.25	1.70	1.18
Biological/Adopted	75.05	71.25	72.05	74.34	86.13	93.63	1.76	1.46
Other	2.29	3.35	4.07	2.41	2.18	2.12	1.99	1.57
Fertility History								
Tried to conceive Ever	38.85	81.10	89.27	92.47	88.01	90.47	2.63	1.65
miscarried/had stillbirth	34.43	42.27	41.95	41.13	45.62	39.25	1.91	1.46
<i>Predisposing & Enabling Conditions</i>								
Education								
Less than HS	16.36	12.13	11.83	13.05	10.67	6.73	1.50	1.57
High school or GED	32.52	27.69	23.99	23.24	24.73	26.95	1.59	1.50
Some college	29.85	31.26	32.01	30.80	30.63	31.28	1.79	1.35
Bachelor's degree	14.33	17.89	18.86	18.94	18.86	21.16	2.00	1.24
Graduate	6.95	11.02	13.32	13.98	15.11	13.88	2.36	1.22
Employment								
Full-time	50.95	50.39	47.71	45.34	42.04	41.73	1.70	1.28
Part-time	14.46	15.81	14.85	16.50	20.68	20.28	1.86	1.60
Homemaker	23.77	25.10	27.00	28.77	28.51	31.52	1.83	1.60
Not employed	10.83	8.70	10.43	9.39	8.77	6.47	1.61	1.34

Table 7.2 (Continued)

Depression	17.93(4.71)	17.81(4.75)	17.52(4.43)	17.56(4.51)	17.49(4.35)	17.55(4.49)	-	-
Self esteem	10.37(1.32)	10.59(1.20)	10.63(1.15)	10.62(1.17)	10.77(0.97)	10.79(1.01)	-	-
Social support	14.07(2.54)	14.17(2.37)	14.31(2.25)	14.31(2.34)	14.39(2.28)	14.34(2.41)	-	-
Internal health locus of control	17.79(2.41)	17.64(2.17)	17.57(2.15)	17.58(2.12)	17.63(1.95)	17.67(1.93)	-	-
General health								
Poor	2.86	3.48	3.05	3.68	3.46	1.48	1.87	1.55
Fair	20.02	18.86	17.83	17.62	16.55	18.08	1.68	1.44
Good	53.55	52.36	49.61	49.03	46.89	48.32	1.70	1.35
Excellent	23.69	25.30	29.51	29.67	33.10	32.12	1.90	1.46
Ethics	9.32(2.43)	9.13(2.17)	9.01(2.03)	8.71(1.86)	8.84(1.78)	8.79(1.83)	-	-

Note. Weighted sample from the National Survey of Fertility Barriers. Mean MIE level and standard deviations provided for categorical variables.

¹Includes step, foster, relative, and non-relative children.

Table 7.3

Bivariate Relationships between Economic Status and Medicalized Infertility Experiences (N=2,033)

Level	Variable	n	Economic Status Index		F Value	p Value
			Mean	SD		
1	No medicalized experience	1410	2.57	1.75		
2	Talked to Dr./clinic only	140	3.03	1.59		
3	Self or partner got tests	125	3.45	1.37		
4	Sought treatment	151	3.46	1.55		
5	Treatment resulted in pregnancy	40	3.81	1.40		
6	Pregnancy resulted in live birth	167	3.91	1.40		
MIE Level Variable		2,033	2.81	1.71	123.40	$p < .0001$

Note. Weighted means and unweighted Ns from the National Survey of Fertility Barriers.

Table 7.4

Bivariate Relationships between Race/Ethnicity and Medicalized Infertility Experiences (N = 2,033)

Race/ethnicity	n	MIE Level Mean(SD)
White	1,134	1.92(1.59)
Black	499	1.38(0.85)
Hispanic	400	1.61(1.31)
Significant differences at $p < .05$		W > H > B

Note. Weighted results from the National Survey of Fertility Barriers.

Significant differences between race/ethnicity groups summarized as W = White; B = Black; H = Hispanic.

Table 7.5

Multivariate Relationships between Economic Status, Race/Ethnicity, and Medicalized Infertility Experiences (N=2,033)

Variables	MIE Level		MIE Level Interaction Model	
	β	SE	β	SE
Intercept	0.61	0.45	0.42	0.47
Economic Status Index	0.12***	0.02	0.16***	0.03
<i>Race/ethnicity</i>				
Non-Hispanic White	-	-	-	-
Non-Hispanic Black	-0.10	0.07	0.10	0.14
Hispanic	-0.13	0.08	0.13	0.16
<i>Life Course Factors</i>				
Age 35 and above	0.11	0.06	0.11	0.06
<i>Relationship Status</i>				
Married	-	-	-	-
Cohabiting	-0.29**	0.11	-0.29**	0.11
No partner	-0.32***	0.08	0.33***	0.08
<i>Family Composition</i>				
No Children	-	-	-	-
Biological/adopted	0.10	0.07	0.10	0.07
Other ¹	0.11	0.23	0.12	0.23
<i>Fertility History</i>				
Tried to conceive	1.46***	0.06	1.46***	0.06
Ever miscarried/had stillbirth	0.14*	0.06	0.14*	0.06
<i>Predisposing & Enabling Conditions</i>				
<i>Education</i>				
Less than HS	-	-	-	-
High school or GED	0.12	0.12	0.14	0.12
Some college	0.15	0.12	0.17	0.12
Bachelor's degree	0.15	0.14	0.17	0.14
Graduate	0.38**	0.14	0.39**	0.15
<i>Employment</i>				
Full-time	-	-	-	-
Part-time	0.15	0.09	0.13	0.09
Homemaker	0.23**	0.08	0.22**	0.08
Not employed	0.09	0.11	0.07	0.11
General depression	0.01	0.01	0.01	0.01
Self esteem	0.02	0.02	0.02	0.02
Social support	-0.01	0.01	-0.00	0.01
Internal health locus of control	-0.01	0.01	-0.01	0.01

Table 7.5 Continued

General health				
Poor	-	-	-	-
Fair	0.15	0.20	0.14	0.20
Good	0.12	0.20	0.11	0.20
Excellent	0.12	0.20	0.11	0.20
Ethics	-0.03*	0.01	-0.03*	0.03
<i>Interactions</i>				
Economic Status * Black	-	-	-0.06	0.04
Economic Status * Hispanic	-	-	-0.08	0.05

Note. Sample of infertile women from the National Survey of Fertility Barriers.

¹Includes step, foster, relative, and non-relative children.

²Blacks significantly different from Hispanics at $p < 0.01$.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 8.1

Demographic Characteristics of Childlessness Distress Sample of Infertile Women (N=295)

Variable	n	%/M	SD
<i>Childlessness Distress</i>			
0	90	28.61	
1	90	30.61	
2	40	13.11	
3	31	10.60	
4	28	11.71	
5	15	5.26	
6	1	0.11	
Mean	295	1.62	1.34
<i>Economic Status</i>			
Household income			
≤ \$24,999	48	22.28	
\$25,000 - \$49,999	83	28.77	
\$50,000 - \$74,999	77	24.00	
\$75,000 - \$100,000	38	12.38	
\$100,000 or more	49	12.56	
Poverty status			
0-99%	13	7.13	
100-149%	13	6.26	
150%-299%	51	19.99	
≥ 300%	218	66.62	
Public assistance ever received			
	43	18.71	
Insurance status			
Private	229	68.63	
Public	17	10.28	
None	42	18.34	
Other	7	2.75	
Economic hardship	295	5.05	1.77
Economic Status Index	295	3.39	1.50
<i>Race/ethnicity</i>			
Non-Hispanic White	187	68.00	
Non-Hispanic Black	61	17.52	
Hispanic	47	14.48	
<i>Life Course Factors</i>			
Age	295	35.44	5.50
Relationship Status			
Married	163	48.51	
Cohabiting	39	16.05	

Table 8.1 Continued

No Partner	93	35.44	
Fertility History			
Tried to conceive	160	51.29	
Ever miscarried/had stillbirth	66	22.52	
<i>Predisposing & Enabling Conditions</i>			
Education			
Less than HS	14	10.47	
High school or GED	45	23.63	
Some college	81	29.16	
Bachelor's degree	73	20.23	
Graduate	82	16.51	
Employment			
Full-time	226	71.19	
Part-time	29	10.18	
Homemaker	24	10.78	
Not employed	16	7.85	
Depression	295	17.50	4.45
Self esteem	295	10.29	1.37
Social support	295	14.21	2.23
Internal health locus of control	295	17.39	2.02
General health			
Poor	5	3.23	
Fair	48	20.65	
Good	149	49.18	
Excellent	93	26.94	
Ethics	295	8.72	2.46

Note. Weighted percentages and means with unweighted Ns. Sample from the National Survey of Fertility Barriers.

Table 8.2

Bivariate Relationships between Economic Status and Childlessness Distress (N=295)

Value of Childlessness Distress	n	Economic Status Index Mean	SD	Significant Differences
No Distress (0)	90	3.34	1.44	-
Low Distress (1)	90	3.44	1.44	-
High (2-6)	115	3.39	1.61	-
Full Sample	295	3.39	1.50	-

Note. Weighted results from the National Survey of Fertility Barriers.

Table 8.3

Bivariate Relationships between Race/Ethnicity and Childlessness Distress (N = 295)

Race/ethnicity	n	Distress Mean(SD)
White	187	1.64(1.41)
Black	61	1.79(1.28)
Hispanic	47	1.36(1.10)
Significant differences at $p < .05$		-

Note. Weighted results from the National Survey of Fertility Barriers.

Table 8.4

Multivariate Relationships between Economic Status, Race/Ethnicity, and Childlessness Distress (N=295)

Variables	Model 1		Model 2		Model 3		Model 4	
	β	SE	β	SE	OR	SE	OR	SE
Intercept	0.54	1.39	1.00	1.43	-	-	-	-
Intercept 3	-	-	-	-	-	2.51	-	2.12
Intercept 2	-	-	-	-	-	2.50	-	2.11
Economic Status Index	0.09	0.09	0.02	0.09	1.16	0.10	1.40 *	0.17
<i>Race/ethnicity</i>								
Non-Hispanic White	-	-	-	-	-	-	2.90	0.74
Non-Hispanic Black	0.19	0.22	-0.45	0.49	1.09	0.32	-	-
Hispanic	-0.29	0.24	-0.71	0.59	0.77	0.34	0.94	0.87
<i>Life Course Factors</i>								
Age 35 and above	0.10	0.17	0.07	0.17	1.08	0.25	1.01	0.25
<i>Relationship Status</i>								
Married	-	-	-	-	-	-	-	-
Cohabiting	-0.25	0.27	-0.21	0.27	0.75	0.39	0.83	0.39
No partner	-0.43	0.20	-0.45	0.20	0.73	0.29	0.69	0.29
<i>Fertility History</i>								
Tried to conceive	0.97***	0.18	0.98***	0.18	4.11***	0.26	4.39***	0.26
Ever miscarried/had stillbirth	0.09	0.20	0.08	0.20	3.71	1.39	0.79	0.29
<i>Predisposing & Enabling Conditions</i>								
<i>Education</i>								
Less than HS	-	-	-	-	-	-	-	-
High school or GED	-0.12	0.45	-0.16	0.45	1.42	0.66	1.20	0.67
Some college	-0.43	0.44	-0.46	0.44	0.70	0.64	0.63	0.66
Bachelor's degree	-0.44	0.45	-0.48	0.45	0.72	0.66	0.65	0.67
Graduate	-0.65	0.46	-0.69	0.46	0.50	0.67	0.45	0.68

Table 8.4 (Continued)

	Model 1		Model 2		Model 3		Model 4	
	β	SE	β	SE	OR	SE	OR	SE
Employment								
Full-time	-	-	-	-	-	-	-	-
Part-time	-0.23	0.29	-0.23	0.29	0.66	0.42	0.65	0.42
Homemaker	-0.04	0.32	-0.01	0.33	0.83	0.48	0.84	0.48
Not employed	-0.31	0.38	-0.34	0.38	0.52	0.56	0.45	0.57
General depression	0.07**	0.02	0.07**	0.02	1.09**	0.03	1.09**	0.03
Self esteem	-0.07	0.07	-0.07	0.07	0.90	0.10	0.90	0.10
Social support	0.01	0.04	0.01	0.04	1.02	0.05	1.01	0.05
Internal health locus of control	0.02	0.03	0.02	0.03	1.01	0.05	1.01	0.05
General health								
Poor	-	-	-	-	-	-	-	-
Fair	-0.34	0.67	-0.32	0.67	0.42	1.16	0.45	1.19
Good	-0.58	0.66	-0.55	0.69	0.31	1.15	0.34	1.18
Excellent	-0.59	0.68	-0.56	0.68	0.32	1.18	0.32	1.20
Ethics	0.03	0.03	0.03	0.03	1.07	0.04	1.06	0.04
<i>Interactions</i>								
Economic Status * White	-	-	-	-	-	-	0.73 [#]	0.19
Economic Status * Black	-	-	0.18	0.13	-	-	-	-
Economic Status * Hispanic	-	-	0.10	0.14	-	-	0.90	0.23

Note. Sample of infertile women from the National Survey of Fertility Barriers.

[#] $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 9.1

Summary of Empirical Support for Hypotheses from Full Regression Model Results

Hypotheses	Outcome variables	Economic Status	Race/ethnicity	Joint Effects
1-3	Fertility Saliency			
	Fertility desires	not supported	not supported	not supported
	Certainty of pregnancy intent	not supported	supported	not supported
	Importance of motherhood	not supported	supported	not supported
	Social messages from partners	not supported	not supported	not supported
	Social messages from parents	not supported	supported	not supported
4-6	Self-Perception of Infertility			
	Trouble getting pregnant	supported	supported	not supported
	Fertility problem	supported	not supported	not supported
7-9	MIE Level	supported	not supported	not supported
10-12	Childlessness Distress	not supported	not supported	supported