

SOCIAL SUPPORT AS A MEDIATOR  
OF DEMOGRAPHIC DISPARITIES IN  
CONTRACEPTIVE USE AMONG U.S. WOMEN

by

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## ABSTRACT

This study is a secondary data analysis of the Behavioral Risk Factor Surveillance System (2010). Using a selective sample of 2,688 participants, this study examines contraceptive use among U.S. women of reproductive age. The overall aim of this study is to examine the effects of seven demographic variables, and receipt of social and emotional support as a possible mediator variable, on whether women report using contraception.

The chi-square analysis results indicate that, of the original demographic variables, employment status and marital status are not significantly related to contraceptive use. The remaining five demographic variables are all significantly related to contraceptive use. These variables include region of residence, age, race/ethnicity, educational attainment, and total household income. In addition, contraceptive use is significantly related to receipt of emotional and social support. Mediated logistic regression revealed that social support does, in fact, mediate the effects of age and race/ethnicity on contraceptive use. Findings from this study may be used to develop more comprehensive and appropriate interventions and public policies to affect contraceptive use among women of reproductive age.

## LIST OF ABBREVIATIONS AND SYMBOLS

%	Percent
$f$	Frequency
$p$	The probability that the null hypothesis (that of no relationship) is correct
SD	Standard deviation
<	Less than

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## CONTENTS

ABSTRACT.....	ii
LIST OF ABBREVIATIONS AND SYMBOLS .....	iii
ACKNOWLEDGEMENTS .....	iv
LIST OF TABLES .....	vii
LIST OF FIGURES .....	viii
1. RESEARCH PROBLEM.....	1
a. Background	
b. Relevance to Social Work	
c. Research Questions	
2. LITERATURE REVIEW .....	6
a. Female Reproductive Health	
b. Health Inequalities	
c. Contraceptive Use	
d. Social Determinants of Health	
e. Social Support	
f. Theoretical Framework	
g. Hypotheses	
3. RESEARCH METHODS .....	23
a. Data Set	

b. Data Collection	
c. Exclusion Criteria	
d. Procedures for Data Analysis	
e. Institutional Review Board Information	
f. Expected Results and Potential Usefulness of Study for Social Work	
4. RESULTS .....	30
a. Initial BRFSS Population	
b. BRFSS Population Recoded for Analysis	
c. Chi-Square Analyses	
d. Mediated Logistic Regression	
e. Summary of Findings by Hypotheses	
5. DISCUSSION .....	54
a. Overview	
b. Discussion of Findings by Hypotheses	
c. Characteristics of the Sample Population	
d. Strengths and Limitations	
e. Implications and Future Directions	
6. REFERENCES .....	70
7. APPENDICES .....	78
A. Timetable for Completion	
B. BRFSS Questionnaires	
C. Terminology	

## LIST OF TABLES

1. Selection of Participants .....	27
2. Distribution of Respondents by Demographic Variables, Original Categorical Variables .....	32
3. Distribution of Respondents by Demographic Variables, Original Continuous Variables .....	34
4. Most Typical Respondent .....	35
5. Receipt of Social and Emotional Support.....	36
6. Contraceptive Methods .....	36
7. Childbearing Intentions.....	37
8. Distribution of Respondents by Demographic Variables, Recoded for Analysis.....	40
9. Distribution of Contraceptive Use by Demographic Categories, Chi-Square Test Results.....	42
10. Distribution of Social and Emotional Support by Demographic Variables, Chi-Square Test Results.....	45
11. Distribution of Contraceptive Use by Receipt of Social and Emotional Support, Chi-Square Test Results.....	46
12. Distribution of Contraceptive Use by Demographic Categories With Social Support included as a Mediator Variable, Logistic Regression and Mediated Logistic Regression Results .....	50

## LIST OF FIGURES

1. Potential Impact of Social and Emotional Support.....	15
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## CHAPTER 1

### **Research Problem**

#### **Background**

The purpose of this dissertation is to explore the relationship of the social determinants of health, particularly social support, to contraceptive use among US women. A second goal is to examine social support as a mediator of contraceptive use. As explored in greater detail below, female reproductive health inequalities affect lifecourse development and opportunities for women. Furthermore, lifecourse development and opportunities for women affect female reproductive health inequalities. This is particularly relevant to women during their reproductive years, when unwanted or mistimed pregnancies can significantly alter life outcomes for families. Female reproductive health inequalities must be examined within the broad context of the social determinants of health, as opposed to the traditionally minute focus on individual biological determinants. This multifaceted approach is in keeping with the social work emphasis on social justice and the person-in-environment perspective.

This chapter will provide a discussion of female reproductive health and will be followed by a presentation of health inequalities, particularly as related to contraceptive use. The term social determinants of health will be introduced, along with an overview of social support, as a key social determinant of female reproductive health. Finally, the chapter will conclude with an overview of the relevance of this topic to the social work profession and proposed research questions.

## **Relevance to Social Work**

For a profession that seeks to banish social injustice, reproductive health is a fitting place to focus social work efforts (Lieberman & Davis, 1992). The challenge for social workers is to eliminate reproductive health disparities among women, regardless of income, socioeconomic status, geographical residence, or any of the other social determinants (Boonstra, Gold, Richards, & Finer, 2006). More than one-tenth of social workers (13%) work in health care settings (excluding mental health). Among social work professionals with an MSW, health is the second-most common field of practice. Maternal and child health is also an essential area for social workers (Alzate, 2009).

Social workers can advocate and intervene to reduce structural barriers to reproductive inequalities for women. Some of the structural barriers that may inhibit the ability of a woman to obtain reproductive health services include time and location of available services, transportation, child care, and cost (Sable & Libbus, 1998). “Gender inequality at the neighborhood or small area level might create social barriers to access to contraception, such that women may feel uncomfortable purchasing contraceptives from a pharmacy or supermarket or requesting emergency contraception from a general practitioner” (Bentley & Kavanagh, 2008, p. 66). Examples of opportunities for social workers in this regard include provision of condoms in strategic locations (such as women’s restrooms in public facilities), lobbying efforts to extend public transportation routes and hours of operation, and negotiations for extended clinical hours for health care services.

Women at the lower end of the income spectrum are less able to access alternative resources outside of the publicly established social service delivery system. The gap in reproductive health between poor and affluent women in the United States has been growing

since 1994 (Tanne, 2006). It has long been asserted that half of all pregnancies in the U.S. are unintended (Kulczycki, 2007; Sable & Galambos, 2006). According to Sable and Galambos (2006), unintended pregnancies occur disproportionately among women who are “young, unmarried, African American, and have low income” (p. 163). Such conditions indicate a disparity in reproductive choice between women of differing socioeconomic positions. This disparity is a definite starting point for social work efforts, as disparities in choice and conditions speak directly to a social justice perspective and the dignity and worth of every person (NASW, 2008).

It has been asserted that social work must prioritize the alleviation of such inequalities in reproductive health (Alzate, 2009; Blyth, 2008; Ely & Dulmus, 2010; Lieberman & Davis, 1992). It is the responsibility of social workers to incorporate reproductive health into existing policy, practice, and research concerning human rights. Regardless of particular professional focus, many social workers will eventually encounter issues related to reproductive health, as this area affects numerous clients across spectrums of diversity (Alzate, 2009). As presented in a policy statement by the International Federation of Social Workers, “...social workers must commit themselves to enhancing the well being of women and girls as an essential aspect of the profession’s ethical and practice commitment to human rights” (2010, p. 1).

### **Research Questions**

Information regarding the association between family planning and the social determinants of health is available in the academic literature, and primarily concerns qualitative exploration or specific focus on particular social determinants. Several studies have examined the family planning experiences of women in qualitative or mixed methods approaches\_ (Livingood, Brady, Pierce, Atrash, Hou, & Bryant III, 2010; Mullings, Wali, McLean, Mitchell,

Prince, Thomas, & Tovar, 2001; Polakoff & Gregory, 2002).

Specific social determinants of family planning have been explored in previous literature. For example, Frost, Singh, and Finer (2007) examined the relationship between contraceptive use and predictive factors such as ambivalence about avoiding pregnancy, age, race, relationship status, educational attainment, and provider approachability. The data were drawn from a sample of just under 2000 women, taken in 2004 and published in 2007. However, much of the present literature addresses adolescent populations (e.g., Arkes & Klerman, 2009; Averett, Rees, & Argys, 2002; Lee & Hahm, 2010; Manlove, Ryan, & Franzetta, 2007).

In addition, international populations are well represented in the current literature (for example, see Agadjanian, 2005; Behrman, Kohler, & Watkins, 2002; Stephenson, Baschieri, Clements, Hennink, & Madise, 2007). In a 2003 article, Madhaven, Adams, and Simon explored the support networks of female participants in Mali as related to fertility behaviors. The authors concluded that social networks and social influences, both aspects of social support, have particular relevance to contraceptive use. A 2010 article that focused on contraceptive use in Cambodia reached similar conclusions. The authors stated that in order to “promote contraceptive use, family planning programs should focus on increasing men’s approval of contraception, improving partner communication around family planning and bolstering women’s confidence in their reproductive decision making” (Samandari, Speizer, & O’Connell, 2010, p. 122).

It is worth noting that much of the current literature focuses on an international perspective. Social support as a social determinant of female reproductive health within the United States has been less explored. A 2009 pilot study used social support to address stigma and provide correct information to women who had received abortions. Specifically, the

intervention focused on “socio-cultural factors and influences” (p. 419). According to the authors, every single participant reported that the social support intervention was helpful (Littman, Zarcadoolas, & Jacobs, 2009). In 2000, a study explored factors that influenced contraceptive use among women seeking pregnancy tests in Missouri in 1997 (the data are from 1997, while the article was published in 2000). The authors reported that contraceptive use was strongly influenced by peers, partners, and family (Sable, Libbus, & Chiu, 2000).

Given the findings discussed above, I have constructed two formal research questions. These questions focus on the relationship between the social determinants of health and contraceptive use (as a specific aspect of female reproductive health) among United States women of reproductive age.

- 1.) How does social support impact contraceptive use among women of reproductive age?
- 2.) How do demographic factors influence contraceptive use among women of reproductive age?

## CHAPTER 2

### Literature Review

#### Female Reproductive Health

Reproductive health is a cornerstone of overall wellbeing, particularly among women. Although there is no universally accepted definition for the phrase “reproductive health” (Graham, 1998), a generally accepted definition was officially stated in the Report of the International Conference on Population and Development (1994):

Reproductive health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and to its functions and processes... (p. 43, para. 7.2).

The World Health Organization further elaborates upon this definition:

... reproductive health addresses the reproductive processes, functions and system at all stages of life. Reproductive health, therefore, implies that people are able to have a responsible, satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so. Implicit in this are the rights of men and women to be informed of and to have access to safe, effective, affordable and acceptable methods of fertility regulation of their choice, and the right of access to appropriate health care services that will enable women to go safely through pregnancy and childbirth and provide couples with the best chance of having a healthy infant (n.d.b, para. 1).

Within the literature, the broad framework of reproductive health is asserted to include sexual

violence, family planning and contraceptive use, sexual dysfunction, maternal and child health, infertility, and sexually transmitted infections (STIs) (Dudgeon & Inhorn, 2004).

It is quite common to find significant overlap in the literature between the phrases “reproductive health” and “reproductive rights.” Reproductive rights are more often a legal or political assertion of reproductive health matters. Reproductive rights are a specific aspect of reproductive health. Merrick and Blank (2003) offered the following definition for *reproductive rights*: “In general, reproductive rights include a right not to have children, a right to have children, and a right to have children of a particular quality and quantity” (p. 2). My focus is on the broader category of reproductive health inequalities, including reproductive rights. For this study, contraceptive use will serve as a specific aspect of reproductive health.

### **Health Inequalities**

Two phrases are commonly used to mean inequalities in health or its determinants: health inequalities and social inequalities in health (Braveman & Gruskin, 2003). *Health inequality* is a descriptive term lacking implied moral judgment, used to point out differences in health among groups and individuals. Health inequalities may not be inherently unfair, as in the case of voluntarily assumed risks (such as skydiving), life stage differences (e.g., a young person may reasonably be expected to have better health than an older person), and pure chance (such as a random genetic mutation). However, an *inequity* in health means that the inequality is unjust (Kawachi, Subramanian, & Almeida-Filho, 2002). Health inequality refers to a health distribution in which health is unequally spread (through groups or individuals, as defined by the researcher). As defined by the World Health Organization, a health inequality is a difference “in health status or in the distribution of health determinants between different population groups” (n.d.a, para. 3).

There is much literature linking social determinants (such as access to healthy and affordable food, safe housing, and supportive social networks) to health outcomes. Persistent health disparities are directly related to unequal distribution of resources. However, it is the opinion of this researcher that there is little guidance as to how to reduce health disparities by way of social determinants, and evidence is needed to directly link each disparity with individual determinants. Furthermore, there is wide debate concerning the most important social determinants; arguments exist for socioeconomic status, race/ethnicity, sexual orientation, and disability status, among others. Debating about the most salient social determinant prevents recognition of the fact that bad health is very much associated with “multiple disadvantages and inequities” (Baker, Metzler, & Galea, 2005).

Equity in health has been popularly defined as the absence of unjust health disparities. Health must be recognized as a state of wellbeing, encompassing both physical and mental realms, rather than simply the absence of infirmity. Some health disparities must be perceived as just, and this distinction is vital. For instance, infant girls typically weigh less than infant boys, and younger people typically experience better health than older people. Such disparities are not unjust. In order to better operationalize/research/measure the concept, health equity is defined as “the absence of systematic disparities in health (or in all the major social determinants of health) between social groups” with various social positions (Braveman & Gruskin, 2003, p. 254). By their very nature, health inequalities further disadvantage already disadvantaged groups of people (e.g., women, people in poverty) (Braveman & Gruskin, 2003).

It is impossible for any single program or policy to achieve the ultimate goal of eliminating health disparities. Rather, in designing initiatives, specific accomplishable goals should be clearly outlined. Community involvement and expertise are important in development

of a potentially effective initiative (Baker, Metzler, & Galea, 2005). In light of that assertion, this dissertation will focus on family planning as a specific aspect of female reproductive health.

### **Contraceptive Use**

Contraception, also referred to as birth control, may include sterilization, hormonal methods, barrier methods (such as condoms), withdrawal, periodic abstinence and natural family planning methods, and spermicides such as foams, creams, or jellies (Mosher & Jones, 2010). In essence, contraception is the prevention of pregnancy (or attempted prevention of pregnancy). Over 20 million women in the U.S. access contraceptive services every year, and 24% of these women use a publicly funded family planning clinic. Such clinics offer contraceptive counseling and methods, along with information and education related to family planning methods and disease prevention, STD testing and treatment, and preventive care (exams, such as mammograms and the Papanicolaou test, also known as a pap smear).

Differently structured and funded provider types play various roles according to geographic location. Medicaid and Title X, together, are the main family-planning programs with federal funding support. Title X provides direct funding to clinics (not linked to clients served or services offered), but current appropriations have declined to just 40% of 1980 appropriations. This means that direct funding to public clinics has drastically declined over the previous thirty years, representing decreased access to services for women who rely on public clinics. Medicaid links federal and state funding, and has been expanded in several states to offer family planning services to individuals who do not qualify for full Medicaid coverage (Frost, Frohwirth, & Purcell, 2004). In 2001, states were able to meet the need for publicly funded contraceptive services with varying degrees of success. “By state, the proportion of need met...by all publicly funded family planning clinics varied from 15% in Hawaii to 76% in Alaska. Among clinics

funded by Title X, the proportion varied from 14% in Indiana to 53% in Mississippi” (Frost, Frohwirth et al., 2004, para. 37).

Factors that affect contraceptive use and family planning include policy and funding changes, availability of services, knowledge about contraceptive methods, and family and community influence. Contraceptive education and counseling must be readily available to all women throughout the childbearing years. Further research is needed to construct evidence-based guidelines to ensure availability and effectiveness of reproductive health services (Miller, Lakin, Ager, & Essenmacher, 2000). In addition, male cooperation is essential to proper contraceptive use (even female-based contraceptives, such as the birth control pill, may require male permission to access resources). The unmet need for contraceptives in the US is related to three factors: issues related to the method, social opposition, and lack of knowledge about the method (Dudgeon & Inhorn, 2004).

Reproductive health necessarily includes the right to decide if and when to have children, and disparities in unintended pregnancies among particular subgroups represent a potential opportunity for intervention and advocacy efforts (Finer & Henshaw, 2006). Currently, the term “unintended” is applied to pregnancies that occur sooner than wanted by the mother (mistimed) or that are not wanted at any time by the mother (unwanted).

Contraceptive use among U.S. women increased between the early 1980s and mid 1990s. Because of this increase, the rates of unintended pregnancy and abortion declined. However, this decline in unintended pregnancy stopped between 1994 and 2001. If the level of unintended pregnancy continues to stall, almost 50% of U.S. women will have an unintended pregnancy at some point. Only 11% of women at risk of unintended pregnancy do not use contraception, but these 11% account for 50% of all unintended pregnancies that occur. Low-income women’s

contraceptive use has declined from 92% to 86% (1995-2002), and their rate of unintended pregnancy rose by 29% (during this same time period, the rate of unintended pregnancy for affluent women fell by 20%). A poor woman has a four times greater likelihood of experiencing an unintended pregnancy, as compared to an affluent woman. In addition, a poor woman is five times more likely to have an unplanned birth (poor women are more likely to continue with an unplanned pregnancy). Poor women are three times more likely to have an abortion than wealthier women, and poor women made up 27% of all abortions in 2000 (despite representing only 13% of reproductive age women) (Gold, 2006). Because poor women are so much more likely to have an unplanned pregnancy, they are both more likely to have an unplanned birth than wealthier women *and* more likely to have an abortion as compared to wealthier women; the numbers of poor women in both categories are higher than the numbers of wealthier women.

A landmark study by Finer and Henshaw (2006), using data from 1995-2001, concluded that 51% of pregnancies in 2001 were intended, while 49% were unintended. Almost 5% of women of reproductive age reported an unintended pregnancy in 2001. Younger women had higher rates of unintended pregnancy, with women ages 18-24 reporting one unintended pregnancy per ten women (twice the rate of women overall). In 2001, there were 6.4 million US pregnancies, of which 1.1 million resulted in fetal loss, 1.3 million resulted in abortion, and 4 million resulted in births. Over 3 million of these pregnancies (3.3 million) were intended. The vast majority of intended pregnancies (80%) resulted in births (Finer & Henshaw, 2006).

Cohabiting women reported higher rates of unintended pregnancy compared to married women or women not cohabitating (the rates were more than doubled). Three-fourths of pregnancies among unmarried women, and 70% of those among cohabitating women, were unintended in 2001. This represents a decline in unintended pregnancy among unmarried women

between 1994 and 2001. Over half (58%) of unintended pregnancies among unmarried women were aborted, while 27% of unintended pregnancies among married women ended with abortion. Over 25% of pregnancies among married women in 2001 were unintended (Finer & Henshaw, 2006).

Between 1994 and 2001, unintended pregnancy among poor women increased 29%. During this same time period, unintended pregnancy among women at or above 200% of the poverty level fell by 20%. The rate of unintended births for poor women in 2001 was five times that of women in the wealthiest category (p. 94). Disparities in rates of unintended pregnancy also increased between women with low educational attainment and women with college degrees, and between women of color and white women. Those with the highest rates of unintended pregnancy and abortion are poor women, minority women (African American women more so than Latina women), young women (ages 18-24), and cohabitating women (Finer & Henshaw, 2006).

### **Social Determinants of Health**

The Commission on the Social Determinants of Health, convened by the World Health Organization in 2005, offered the following broad summary definition of the social determinants of health: "Together, the structural determinants and conditions of daily life constitute the social determinants of health..." (2008, p. 1). The recent focus on social determinants of health represents "recognition that health behavior is also influenced by social, political, and economic factors..." (Wuest, Merritt-Gray, Berman, & Ford-Gilboe, 2002, p. 796). Social determinants that affect health include such things as geographical factors (e.g., neighborhoods), economic factors (e.g., ability to monetarily afford access to health care), and individual factors (e.g., the quality of the patient-provider relationship) (Assai, Siddiqi, & Watts, 2006; Gilliam & Hernandez,

2007; Harrington & Estes, 2008; Irwin et al., 2006; Wuest et al., 2002). Other social determinants of health “include such factors as education, income, employment, working conditions, environment, health services, and social support” (Wuest et al., p. 795).

The Centers for Disease Control and Prevention provided a detailed description of SDH:

Five determinants of population health are generally recognized in the scientific literature: biology and genetics (e.g., sex), individual behavior (e.g., alcohol or injection-drug use, unprotected sex, smoking), social environment (e.g., discrimination, income, education level, marital status), physical environment (e.g., place of residence, crowding conditions, built environment...), and health services (e.g., access to and quality of care, insurance status)...SDH typically refers to the latter three categories (i.e., social environment, physical environment, and health services), which are not controllable by the individual but affect the individual’s environment (2010, p. 7).

Many of the identified social determinants of health and health inequalities are intricately connected to the overall concept of socioeconomic status (Crimmins & Saito, 2001; Foege, 2010; Irwin et al., 2006; Regidor, 2006). Authors both employ this term interchangeably with and use this term as an overall representation of the concepts of social class, income level, socioeconomic position, wealth, educational level, and poverty status (Regidor, 2006). For the purposes of the current work, the term socioeconomic status will encompass the concepts of social class, income level, socioeconomic position, wealth, educational level, and poverty status.

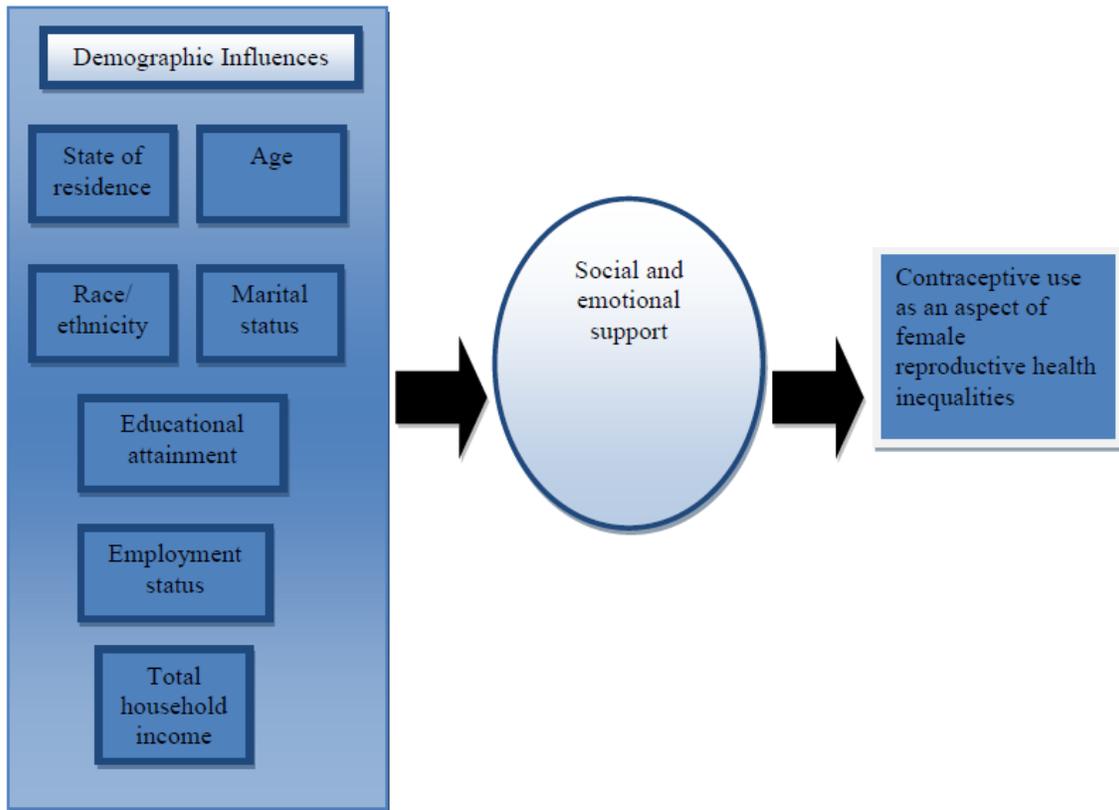
### **Social Support**

Social support is a particular social determinant of health, as evidenced by its inclusion in past research examinations of the social determinants of health (Culhane & Elo, 2005; Link, & Phelan, 1995; McCarthy, 2000; Mullings et al., 2001; Wuest et al., 2002). The literature abounds

with differing definitions of social support. As defined by Paranjape and Kaaslow (2010), social support refers to “the availability of people to provide assistance with physical, psychological, and material needs in times of distress” (p. 1900). Social support encompasses the immediate resources to tangibly address issues (such as a family member who can provide emergency child care), as well as the perception of intangible supportive mechanisms (such as the approval of family and friends regarding pregnancy decisions) (Lucey, 2007). According to Richmond, Ross, and Egeland, the protective effects of social support extend to defense from certain health problems (2007).

Social support is listed as one of the key social determinants of health in the landmark book, “The Social Determinants of Health: The Solid Facts” (Wilkinson & Marmot, 2003). In the detailed chapter (chapter seven), social support is presented as a major contributor to overall health outcomes. In fact, the absence of adequate social support is associated with “less well-being, more depression, a greater risk of pregnancy complications and higher levels of disability from chronic diseases” (p. 22). Social support is a foundational aspect of the social determinants of health. Given these assertions, this dissertation will further examine the effects of social support as a social determinant of female reproductive health.

Figure 1 shows the potential of social support to impact female reproductive health through the social determinants of health:



*Figure 1.* Potential Impact of Social and Emotional Support

## **Theoretical Framework**

The major themes and theoretical frameworks that are *most* relevant to the subject of the social determinants of female reproductive health include feminist theory, community engagement and partnership approaches, social justice, and the lifecourse perspective. While each of these does not necessarily meet the criteria for a formally developed research theory, the frameworks have all been employed in this particular subject area. Therefore, a brief overview of each framework, and its relevance to the social determinants of female reproductive health inequalities, will be presented. This section will conclude with a description of the lifecourse perspective, one of the most common approaches to research regarding the social determinants of health. Finally, the chapter will conclude with several hypotheses.

### **Feminist theory.**

Feminist theory provides an approach for hearing the oppressed. A simple tenant of feminist theory is that vulnerable and oppressed populations deserve to express their own experiences (Kolmar & Bartowski, 2005). “Feminist thinking concerns the political, social, cultural, and other forms of domination of women and their social relations by patriarchy” (Payne, 2005, pg. 251). The underlying tenets of feminist theory suggest that macro conditions influence individual behaviors and experiences. In this way, feminist theory acknowledges that the social determinants of health are the result of structural conditions. The reproductive health experiences of women deserve to be acknowledged and interpreted within a respectful framework such as feminist theory (Bianchi, 1999; Dudgeon & Inhorn, 2004; Fitzpatrick & Gomez, 1997).

### **Community engagement and partnership approaches.**

The core principle of community engagement and partnership models is the idea that the community members should be valued partners in research and intervention activities. Rather than the traditional view of community members as passive research subjects, this model seeks partnership with community leaders and installs community members as key stakeholders in proposed projects. Community engagement and partnership approaches do not represent a formal theory. Instead, these approaches comprise a framework for practice, policy, and research. This framework is particularly useful in examination of the social determinants of health, as it acknowledges the need for change that is directed and meaningful. Community engagement and partnership approaches have been utilized in projects related to the social determinants of female reproductive health (Baker et al., 2005; Lavery, Smith, Esparza, Hrushow, & Moore, 2005; Livingood et al., 2010; Mullings et al., 2001; Price & Hawkins, 2002).

### **Social justice.**

In keeping with both feminist theory and the community engagement and partnership approaches, the social justice framework emphasizes both structural conditions and individual contributions. Social justice is a core value of the social work profession, and social workers are bound to seek alleviation of societal ills. The social determinants of health, as an unequally distributed burden, are a clear cause for social workers. Discussions of health inequities, which naturally imply a moral component, typically include an implicit social justice component. As an approach to the social determinants of health, social justice is featured notably in the literature (Asada, 2005; Campbell & Mosher, 2000; Dudgeon, & Inhorn, 2004; Finer & Henshaw, 2006; McCarthy, 2000; Fitzpatrick & Gomez, 1997; Daniels, Kennedy, & Kawachi, 1999). The social justice approach to the social determinants of health emphasizes the equity dimension of health

inequalities. As such, discussion of health inequities in general tends to feature a social justice component. After all, the term health inequity implies an ethical dimension, one inherently related to social justice.

### **Lifecourse perspective.**

The lifecourse perspective is central to discussions of the social determinants of health and also inseparable from the social determinants. Indeed, reproductive health must be conceptualized as an intricate system within the lifecourse perspective, related to social, political, and economic conditions and particularly formed by the factors affecting individual women (Freedman & Isaacs, 1993). The lifecourse perspective has been employed in examination of health-related matters for well over a century. Public health has focused on lifecourse influences since the late 1800s, when maternal influence and early life disadvantage were first recognized (this focus continued well into the mid-1900s). During the late 1900s, health efforts focused more on mid-life influences of chronic disease. Recent work related to health has focused more widely on social determinants, including early life, socioeconomic conditions, and childhood circumstances (Graham, 2002). The lifecourse perspective is an ideal conceptual approach that considers health-affecting experiences, including intergenerational, cohort, and individual lifespan (from pre-conception) (Moss, 2002).

Three conceptual models are commonly used to illuminate lifecourse influences on health inequalities. The first set of models, *critical period models*, focus heavily on sensitive periods of development, and emphasize the long-term effects of early life deprivation (including infant/childhood instability and insecurity). The *pathway models* assume that the early effects of disadvantage work in an indirect way to influence later outcomes, by influencing social opportunities such as education (which is then related to SES and later health behaviors).

*Accumulation models* focus less on childhood exposure in particular and instead emphasize overall exposure to poor circumstance. Each of these models seeks an explanation for the determination of lifetime SES, which can only be addressed through an upstream focus that includes broad economic and social structures (Graham, 2002).

The lifecourse perspective is pervasive in the reproductive health literature; it appears as an assumed undercurrent in many discussions. As eloquently stated by Freedman and Isaacs (1993):

Reproductive health strategies are built around a core insight that is at once simple and deeply revolutionary: that women as full, thinking, feeling personalities, shaped by the particular social, economic, and cultural conditions in which each of them lives, are central to their own reproduction. Thus, health policies and programs cannot treat reproduction as mere mechanics, as isolated biological events of conception and birth; rather they must treat it as a lifelong process inextricably linked to the status and roles of women in their homes and societies. (p. 18)

The lifecourse perspective, also referred to as the lifespan perspective (primarily within the medical literature), is a recognition of the complex interplay of factors that ultimately influence individual development, perceptions, and existence. These factors may include the fetal environment, childhood experiences, social and cultural norms, social and family support systems, neighborhood context and physical environment, and a myriad of other constructs. All of these influences interact to form a uniquely individual experience that ultimately influences individual development, including health. Differential access to resources and distinct cohort norms also influence the social determinants of health.

The lifecourse perspective is almost omnipresent in the literature regarding the social

determinants of health, and it is also widely present in the literature regarding female reproductive and sexual health (Bigrigg et al, 2005; Campbell & Mosher, 2000; Freedman, & Isaacs, 1993; Graham, 2002; Kawachi et al., 2002; Moss, 2002; Polakoff, & Gregory, 2002). According to a 2007 *Nursing Economics* article, the lifecourse perspective (referred to within the article as “lifecourse theory”) “offers some optimism that the course of risk can be altered by attention to the key components” (Lucey, p. 104). This dissertation will employ the lifecourse perspective for several reasons: it accounts for multiple influences throughout the individual lifespan; it is in keeping with the biopsychosocial perspective of social work; it is a common perspective within the related literature; and it allows for optimism about possibly altering the risk for individuals and groups through concentrated efforts.

The previous discussion has mentioned several gaps in the current state of knowledge. These gaps include knowledge about how to reduce health disparities through influence on the social determinants of health. In addition, there is a lack of information to connect specific social determinants of health, such as social and emotional support, to specific aspects of health. This study will examine the possible connections among demographic variables, emotional and social support, and contraceptive use as an aspect of reproductive health.

## **Hypotheses**

### **Primary hypothesis.**

The purpose of the primary hypotheses is to examine the relationship of social support to contraceptive use, particularly as a possible mediator of demographic variables. The primary hypothesis is as follows:

Receipt of *social and emotional support* will mediate the effects of demographic variables on the outcome variable *contraceptive use*.

### **Demographic hypotheses.**

The purpose of these demographic hypotheses is to examine the rates of contraceptive use across various demographic categories. Previous research has indicated that unplanned pregnancy rates differ across demographic categories of age, race/ethnicity, marital status, and income (Finer & Henshaw, 2006; Mosher & Jones, 2010). This study will examine those demographic categories, as well as region of residence, educational attainment, and employment status. The demographic hypotheses are as follows:

1. There will be differences in contraceptive use rates between women in the northern regions of the US and women in the southern regions of the US. This hypothesis is non-directional (two-tailed).
2. Women in progressively older age categories will report higher rates of contraceptive use as compared to women in younger age categories. This hypothesis is directional (one-tailed) based on the literature, as presented above.
3. White women will report higher rates of contraceptive use as compared to categories of women of color. This hypothesis is directional (one-tailed) based on the literature, as presented above.
4. Married women will report higher rates of contraceptive use as compared to categories of unmarried women. This hypothesis is directional (one-tailed) based on the literature, as presented above.
5. Women who have achieved higher levels of educational attainment will report higher rates of contraceptive use as compared to women who report lower levels of

educational attainment. This hypothesis is directional (one-tailed) based on the literature, as presented above.

6. There will be differences in contraceptive use rates between women in various employment categories. This hypothesis is non-directional (two-tailed).
7. Women who report higher total household incomes will also report higher rates of contraceptive use as compared to women who report lower levels of total household income. This hypothesis is directional (one-tailed) based on the literature, as presented above.

## CHAPTER 3

### **Research Methods**

#### **Data Set**

The Behavioral Risk Factor Surveillance System (BRFSS) is a large-scale public health survey that is designed and administered by the Centers for Disease Control and Prevention and the public health departments of all 50 US states and territories. The telephone survey is intended to examine behavioral risk factors for non-institutionalized adults ages 18 and over. The latest available BRFSS data is from 2010. The BRFSS dataset is appropriate for this particular research because it contains a large, random sample of participants. This will allow an examination of social support, demographic factors, and family planning behaviors that can then be generalized to a larger population. Furthermore, this dataset contains rich data regarding these topics that has yet to be explored in-depth. Thus, it makes sense to analyze this existing data set than to use resources embarking on new data collection endeavors in search of the same information.

Every year, the CDC partners with state public health departments to administer the BRFSS. While feedback is welcome and even sought, the final BRFSS questions must be adhered to by every state health department. In other words, each state is welcome to suggest modifications. However, once the BRFSS questions have been finalized each year, each state

must administer at least the core module. The core module contains questions that are non-negotiable; these questions must be asked by every state. In addition, the CDC prepares optional modules that each state health department may choose to include at their own discretion. The optional modules cover such areas as diabetes, inadequate sleep, veteran's health, and family planning.

As with every year, the 2010 survey included a core component, constituting the questions which were asked of all respondents in every state. In addition, optional modules were available for states and territories to include as desired. The core component factors that relate to the social determinants of health include *demographic information* and *emotional support* (see Appendix 2 for a thorough list). The relevant demographic information includes age, race, marital status, highest grade or year of school completed, employment status, income level, sex of respondent, and pregnancy status. Optional module 7 was specifically related to *family planning*, and posed questions related to contraceptive use and family planning behaviors (see appendix 3 for a detailed list) (CDC, 2008).

### **Data Collection**

The BRFSS relies strictly on data gathered through a random sample of landline telephone surveys, and so automatically excludes persons who do not maintain a landline telephone. This population is likely to include rural and impoverished households. In addition, an increasing population of adults do not maintain a landline, in favor of reliance on cellular phones

as a primary telephone connection. In 2005, 6.7% of adults relied solely on wireless telephone coverage (Blumberg, Luke, & Cynamon, 2006).

### **Exclusion Criteria**

Since this analysis examines social determinants of family planning, only those states that included the optional family planning module will be included. In 2010, these states included Delaware, Florida, Kentucky, Mississippi, and Montana.

Specifically, only women ages 18-44 from those five states who completed the 2010 BRFSS are included as part of the sample. The age range of 15-44 is used by Medicaid to encompass the category “women of reproductive age” (Kaiser Family Foundation, n.d., p. 13). However, this study is concerned with adult women only. In addition, the BRFSS only surveys adults. For these reasons, women younger than 18 years of age are excluded from the results.

In addition, women who are incapable of pregnancy are excluded from the data analysis. This includes women who report a current pregnancy, exclusive current breastfeeding, a sterile partner, personal sterility, the absence of a partner, sexual inactivity, or a same-sex partner. The data set used for analysis in this study also excludes participants who did not respond or refused to respond to any of the selected questions. Finally, the analysis excludes women who reported that they wanted a pregnancy sometime over the next 12 months. After selecting the inclusion criteria in this analysis, a total of 2,688 participants remain in the data set. The total number of participants for the 2010 BRFSS was 451,075. The application of exclusion criteria, and

subsequent diminishing sample size, is shown in Table 1.

Table 1

*Selection of Participants*

Participant Selection		
	Selection Criteria	Population size after selection criteria
	Total BRFSS population, 2010	451, 075
Step 1	Excluded incomplete interviews	425, 013
Step 2	Age: Only included persons between the ages of 18 and 44	99, 088
Step 3	Race: Excluded don't know/not sure/refused responses	98, 201
Step 4	Marital status: Excluded refused/blank responses	97, 985
Step 5	Educational attainment: Excluded refused/blank responses	97, 813
Step 6	Employment status: Excluded refused/blank responses	97, 532
Step 7	Household income: Excluded don't know/not sure/refused/blank responses	87, 701
Step 8	Sex: Excluded male respondents	54, 143
Step 9	Pregnancy status: Excluded currently pregnant/refused/blank responses	51, 890
Step 10	Social and emotional support: Excluded don't know/not sure/ refused/blank responses	51, 637
Step 11	Birth control: Excluded no partner/not sexually active/same-sex partner/refused/blank responses (this excluded all respondents from states that did not include the optional <i>family planning</i> module)	5, 066
Step 12	Feelings about having a child now or in the near future: Excluded respondents who replied that they wanted a child, less than 12 months from the time of the survey	2, 688

## **Procedures for Data Analysis**

The primary outcome/dependent variable is *contraceptive use*, which is posed in the survey as a dichotomous variable (Are you and/or your partner currently doing anything to keep from getting pregnant?). The primary predictor/independent variable is receipt of *social and emotional support*, which is measured using a Likert scale (How often do you receive the social and emotional support that you need?). The data analysis will involve two significant steps. Step 1 will include an exploration of whether each individual demographic variable is related to *contraceptive use*. This will involve the use of crosstabs, followed by logistic regression if the demographic variable involves more than two categories. The final analysis in step 1 will include a crosstab analysis of receipt of *social and emotional support* and *contraceptive use*.

The second step will involve mediated logistic regression, performed only if the demographic variable is found to be significantly related to *contraceptive use*. This logistic regression will include the receipt of *social and emotional support* variable, in order to examine receipt of *social and emotional support* as a possible mediator variable. Should a demographic variable remain significant even after the inclusion of receipt of *social and emotional support*, then that particular demographic variable will have been shown to not be mediated by receipt of *social and emotional support*.

## **Institutional Review Board Information**

The BRFSS data set has been approved by the Institutional Review Board at The University of Alabama as a “public dataset approved for secondary analysis without IRB approval.” Since this project will not involve data other than the data present in the 2010 BRFSS; there is no need for IRB approval.

## **Expected Results and Potential Usefulness of the Study for Social Work**

It is expected that the identified social determinants of health will be related to family planning among women. Indeed, social determinants may even predict family planning behaviors, such as contraceptive use. These results could help to solidify the speculative link between the social determinants of health and family planning behaviors, especially given the large dataset. The results could assist social workers and other health care professionals with knowledge needed for further exploration and eventual action. Social workers can influence current policy, practice, and research to better address the social determinants of health, especially with regard to family planning. This study could potentially impact the way that social workers approach family planning efforts and campaigns, in a shift toward the macro level of intervention.

## CHAPTER 4

### Results

The purpose of this study is to examine the effects of demographic differences and social support on contraceptive use among US women of reproductive age. The study examined seven demographic hypotheses individually using chi square analyses, and then employed multiple logistic regression to examine each demographic variable in conjunction with social support. The total sample size prior to imposition of inclusion criteria was just under 500,000. Once specific selection criteria had been imposed, the remaining sample consisted of 2,688 participants. This chapter will present each hypothesis, followed by the results of analysis.

#### **Initial BRFSS Population**

The initial 2,688 selected participants are organized into categories including state of residence, race/ethnicity, marital status, educational attainment, and employment status. In addition, age and total household income are also reported for each participant. For the demographic variable *race*, three particular questions were combined in the BRFSS dataset in order to create a calculated race variable. This calculated variable was created by the original researchers, and provided within the publicly accessible BRFSS dataset. The three questions included one question related to whether respondents identified as Hispanic or Latino, and another question that asked respondents to choose a racial category that best represented their own race. These questions (12.1, 12.2, and 12.3) are contained in full length in the appendix. The original distribution of the categorical demographic attributes of selected participants is

shown in the following table:

Table 2

*Distribution of Respondents by Demographic Variables, Original Categorical Variables*

Demographics	Frequency	Percent
State of residence		
Florida	1343	50.0
Kentucky	415	15.4
Mississippi	394	14.7
Montana	357	13.3
Delaware	179	6.7
Race/ethnicity		
White only, non-Hispanic	1936	72.0
Black only, non-Hispanic	405	15.1
Hispanic	209	7.8
American Indian or Alaskan		
Native only, non Hispanic	64	2.4
Multiracial, non-Hispanic	44	1.6
Asian only, non-Hispanic	21	0.8
Other race only, non-Hispanic	5	0.2
Native Hawaiian or Pacific		
Islander only, non-Hispanic	4	0.1
Marital status		
Married	1597	59.4
Never married	591	22.0
Divorced	235	8.7
Member of unmarried couple	149	5.5
Separated	98	3.6
Widowed	18	0.7
Educational attainment		
College 4+ years	1042	38.8
College 1-3 years	816	30.4
Grade 12 or GED	635	23.6
Grades 9-11	161	6.0
Grades 1-8	31	1.2
Never attended school or		
Only kindergarten	3	0.1
Employment status		
Employed for wages	1570	58.4
Homemaker	436	16.2
Self-employed	178	6.6
Student	154	5.7
Out of work for more than 1 year	140	5.2
Out of work for less than 1 year	125	4.7
Unable to work	82	3.1
Retired	3	0.1

As shown in Table 2, the most typical participant is from Florida, identifies as white and married, has attended 4 years or more of college, and is employed for wages.

The original distribution of the continuous demographic attributes of selected participants is shown in Table 3.

Table 3

*Distribution of Respondents by Demographic Variables, Original Continuous Variables*

Demographics	Frequency	Percent	Cumulative Percent	M	SD
Age				32.85	6.914
18	43	1.6	1.6		
19	36	1.3	2.9		
20	34	1.3	4.2		
21	56	2.1	6.3		
22	62	2.3	8.6		
23	54	2.0	10.6		
24	90	3.3	14.0		
25	86	3.2	17.2		
26	91	3.4	20.5		
27	102	3.8	24.3		
28	117	4.4	28.7		
29	126	4.7	33.4		
30	132	4.9	38.3		
31	130	4.8	43.1		
32	111	4.1	47.2		
33	109	4.1	51.3		
34	112	4.2	55.5		
35	131	4.9	60.3		
36	103	3.8	64.2		
37	133	4.9	69.1		
38	128	4.8	73.9		
39	119	4.4	78.3		
40	154	5.7	84.0		
41	107	4.0	88.0		
42	127	4.7	92.7		
43	99	3.7	96.4		
44	96	3.6	100.0		
Total household income				\$35-50,000	2.16 categories
Less than \$10,000	180	6.7	6.7		
Less than \$15,000	148	5.5	12.2		
Less than \$20,000	218	8.1	20.3		
Less than \$25,000	272	10.1	30.4		
Less than \$35,000	320	11.9	42.3		
Less than \$50,000	447	16.6	59.0		
Less than \$75,000	486	18.1	77.0		
\$75,000 or more	617	23.0	100.0		

As shown in Table 4, the most typical participant is 32.85 years of age and reported a total household income of \$35,000-\$50,000, reported her home state as Florida, identifies as white and married, has attended 4 years or more of college, and is employed for wages.

Table 4

*Most Typical Respondent*

Demographic Variable	Measure of Central Tendency	Result
Age	Mean	32.85
Total household income	Mean	\$35,000-\$50,000
Resident state	Mode	Florida
Race/ethnicity	Mode	White only
Marital status	Mode	Married
Educational attainment	Mode	College 4+ years
Employment status	Mode	Employed for wages

This most typical respondent differs from the population more often affected by unplanned pregnancy, as described in the literature review section. The population most likely to be affected by unplanned pregnancy includes minority women who are younger, have lower incomes, report lower levels of educational attainment, and are not married (Finer & Henshaw, 2006). By contrast, the women in this sample tend to be white, married, and possess college degrees.

Interestingly, almost half--49.3% (1,324)--of respondents reported that they always get the emotional and social support that they need. Fewer than 2% (47) of respondents reported that they never receive needed social and emotional support. Receipt of *social and emotional support* as reported by participants is shown in Table 5.

Table 5 *Receipt of Social and Emotional Support*

Support	Frequency	Percent
Receipt of support		
Always	1324	49.3
Usually	915	34
Sometimes	327	12.2
Rarely	75	2.8
Never	47	1.7

Most of the respondents (81.5%) reported that they were doing something to avoid pregnancy. Almost 500 women (18.5%) reported that they were not doing anything to avoid pregnancy (these women are coded as “missing” in the table below). Of those women who were using a stated method of family planning, 31.2% reported that they used some type of birth control pills. The methods used to avoid pregnancy are included in Table 6.

Table 6 *Contraceptive Methods*

Method	Frequency	Percent	Valid Percent
Birth control pills, any kind	839	31.2	38.3
Male condoms	526	19.6	24.0
IUD	304	11.3	13.9
Other methods	145	5.4	6.6
Shots	94	3.5	4.3
Withdrawal	93	3.5	4.2
Refused	69	2.6	3.2
Contraceptive implant	46	1.7	2.1
Contraceptive ring	31	1.2	1.4
Diaphragm, cervical cap, or sponge	11	.4	.5
Contraceptive patch	9	.3	.4
Female condoms	8	.3	.4
Don't know/not sure	6	.2	.3
Foam, jelly, or cream	4	.1	.2
Emergency contraceptives	4	.1	.2
Tubes tied or female sterilization	1	.0	.0
Total	2190	81.5	
Missing (women not using contraception)*	498	18.5	

\* These are the women who reported that they were not currently using any method of contraception.

The 2010 BRFSS included a question specifically related to pregnancy intentions. The question asked respondents, “How would you feel about having a child, now or sometime in the future? Would you say...” Respondents were then offered a list of options concerning pregnancy intentions. Since this study is only interested in women who are not currently trying to become pregnant, I eliminated all of the participants who stated that they wanted a child less than 12 months from “now” (the time of the survey). Only those participants who did not indicate that they wanted a child in less than 12 months were included in this study. The remaining participants comprised the sample of 2688 women included for this study. Included participants most often tended to report that they did not want a child (54.2%). The distribution of pregnancy intendedness among participants is shown in table 7.

Table 7

*Childbearing Intentions*

Intentions	Frequency	Percent
You don't want to have one	1457	54.2
You do want to have one, between 12 months to less than 2 years from now	421	15.7
You do want to have one, between 2 years to less than 5 years from now	447	16.6
You do want to have one, 5 years or more from now	213	7.9
Don't know/not sure	150	5.6

**BRFSS Population Recoded for Analysis**

For the purposes of analysis, I recoded several of the original BRFSS variables. For instance, I divided the respondents into two categories based upon resident state. Category one included respondents from the northern states of Delaware and Montana, while category two included respondents from the southern states of Florida, Kentucky, and Mississippi. Based upon

this division, 536 (19.94%) respondents were from the northern region, while 2,152 (80.06%) respondents were from the southern region. In order to best examine the variable *age*, I changed the continuous responses into five separate categories. This allowed for a closer examination of the variable, as well as fairly evenly distributed categories.

In order to best examine the variable *race/ethnicity*, I collapsed the original eight categories into four categories. This allowed for a much more even distribution, and eliminated miniscule categories. The distribution among the *race/ethnicity* categories included 1939 (72% of the sample) women who identified as white only, non-Hispanic. Women who identified as Black only, non-Hispanic comprised 15.1% of the sample, or 405 total respondents. The third category represented 5.1% of the total (138 women), and included women who identified as Asian only (non-Hispanic), Native Hawaiian or other Pacific Islander only (non-Hispanic), American Indian or Alaskan native only (non-Hispanic), other race only (non-Hispanic), and multiracial (non-Hispanic). Women who identified as Hispanic comprised 7.8% of the respondents, with a total of 209 women in this category.

In order to best examine the variable *marital status*, I collapsed the original six categories into four categories. This allowed for a much more even distribution, and eliminated miniscule categories. The distribution among the *marital status* categories included 1,597 women who identified as married. This category represented 59.4% of the total. Women who identified as divorced, widowed, or separated comprised 13.1% of the sample (or 351 respondents). More than one-fifth of the respondents (22%, or 591) reported that they had never been married, while 5.5% of the respondents identified as members of an unmarried couple.

In order to best examine the variable *educational attainment*, I altered the original six categories to combine women with less than a high school education into one distinct category.

This allowed for an adequate number of respondents in each category, as well as fairly evenly distributed categories. However, I kept separate categories for various educational levels beyond high school, as the distribution showed that each category would maintain a large number of respondents.

In order to best examine the variable *employment status*, I collapsed the original eight categories into two categories. The distribution among the *employment status* categories included 1,570 women who reported that they were employed outside of the home. This category represented 58.4% of the total. Women who reported that they were not employed outside of the home comprised 41.6% of the sample (or 1,118 respondents), and included women who identified as self-employed, out of work for more than one year, out of work for less than one year, homemakers, students, retired, and unable to work.

In order to best examine the variable *total household income*, I altered the original eight categories to combine women with household incomes of less than \$25,000 into one distinct category. This allowed for an adequate number of respondents in each category, as well as fairly evenly distributed categories. However, I decided to maintain two categories for women with higher incomes, in order to better show the dispersion among respondents. Table 8 shows the distribution of participants after my recoding.

Table 8

*Distribution of Respondents by Demographic Variables, Recoded for Analysis*

Demographics	Frequency	Percent	M	SD
Region of residence			-	-
Northern	536	19.94		
Southern	2152	80.06		
Age			32.85	6.914
18-24	374	14.0		
25-29	522	19.4		
30-34	594	22.1		
35-39	614	22.8		
40-44	583	21.7		
Race/ethnicity			-	-
White only, non-Hispanic	1936	72.0		
Black only, non-Hispanic	405	15.1		
Hispanic	209	7.8		
Other*	138	5.1		
Marital status			-	-
Married	1597	59.4		
Never married	591	22.0		
Other**	351	13.1		
Member of unmarried couple	149	5.5		
Educational attainment			-	-
Less than high school	195	7.3		
Grade 12 or GED	635	23.6		
College 1-3 years	816	30.4		
College 4+ years	1042	38.8		
Employment status			-	-
Employed outside home	1570	58.4		
Not employed outside home	1118	41.6		
Total household income			\$35-50,000	2.16 categories
<\$25,000	818	30.4		
\$25,000-\$49,999	767	28.5		
\$50,000 or more	1103	41.0		

\*Other race/ethnicity includes women who identified as Asian only (non-Hispanic), Native Hawaiian or other Pacific Islander only (non-Hispanic), American Indian or Alaskan native only (non-Hispanic), other race only (non-Hispanic), and multiracial (non-Hispanic).

\*\*Other marital status includes women who identified as divorced, widowed, or separated.

Contraceptive use differs across various demographic indicators. Women in the southern region are more likely to report that they use contraception than women in the northern region (82.5% of women in the south use contraception, as compared to 77.4% of women in the north). With regards to age, contraceptive use appears to lessen as women grow older. For instance, 87.7% of participants ages 18-24 report using contraception, while 74.3% of women ages 40-44 report using contraception. White women are more likely to use contraception than women in other racial categories, and the difference is most stark when compared to women who identify as Asian only (non-Hispanic), Native Hawaiian or other Pacific Islander only (non-Hispanic), American Indian or Alaskan native only (non-Hispanic), other race only (non-Hispanic), and multiracial (non-Hispanic).

Marital status does not appear to have much effect on rates of contraceptive use, but educational attainment does make a difference. Women who reported that they held a four year college degree use contraception at a rate of 84.7%, while women who reported that they did not finish high school use contraception at a rate of 71.8%. Employment status did not appear to have a major effect on rates of contraceptive use. Finally, total household income affected reported rates of contraceptive use by as much as 6.9%. Table 9 shows contraceptive use rates by demographic categories.

Table 9

*Distribution of Contraceptive Use by Demographic Categories, Chi-Square Test Results*

<u>Demographics</u>	<u>Contraceptive Use</u>		<u>Chi-square results</u> <i>p</i>
	<u>Yes</u> Frequency (Percent)	<u>No</u> Frequency (Percent)	
Region of residence			.007***
Northern	415 (77.4)	121 (22.6)	
Southern	1775 (82.5)	377 (17.5)	
Age			<.001****
18-24	329 (87.7)	46 (12.3)	
25-29	449 (86.0)	73 (14.0)	
30-34	496 (83.5)	98 (16.5)	
35-39	483 (78.7)	131 (21.3)	
40-44	433 (74.3)	150 (25.7)	
Race/ethnicity			.017***
White only, non-Hispanic	1603 (82.8)	333 (17.2)	
Black only, non-Hispanic	318 (78.5)	87 (21.5)	
Hispanic	167 (79.9)	42 (20.1)	
Other*	102, 73.9	36 (26.1)	
Marital status			.663
Married	1291 (80.8)	306 (19.2)	
Never married	485 (82.1)	106 (7.9)	
Other**	288 (82.1)	63 (17.9)	
Member of unmarried couple	126 (84.6)	23 (15.4)	
Educational attainment			<.001****
Less than high school	140 (71.8)	55 (28.2)	
Grade 12 or GED	493 (77.6)	142 (22.4)	
College 1-3 years	674 (82.6)	142 (17.4)	
College 4+ years	883 (84.7)	159 (15.3)	
Employment status			.072
Employed outside home	1297 (82.6)	273 (17.4)	
Not employed outside home	893 (79.9)	225 (20.1)	
Total household income			.001***
<\$25,000	634 (77.5)	184 (22.5)	
\$25,000-\$49,999	625 (81.5)	142 (18.5)	
\$50,000 or more	931 (84.4)	173 (15.6)	

\*Other race/ethnicity includes women who identified as Asian only (non-Hispanic), Native Hawaiian or other Pacific Islander only (non-Hispanic), America Indian or Alaskan native only (non-Hispanic), other race only (non-Hispanic), and multiracial (non-Hispanic).

\*\*Other marital status includes women who identified as divorced, widowed, or separated.

\*\*\* $p < .05$

\*\*\*\* $p < .001$

## Chi-Square Analyses

The chi-square analyses showed that *region* of residence, *age*, *race/ethnicity*, *educational attainment*, and total household *income* are each significantly related to *contraceptive use*.

*Region* of residence is significantly related to whether women use contraception, with a significance level of .007. The rate of reported contraceptive use is significantly higher in the South, and significantly lower in the North. In the Southern region, 82.5% of respondents reported that they were using contraceptives, while the rate for women in the Northern region was 77.4%. This result indicates that the original hypothesis concerning region of residence is supported. The chi square analysis shows that *age* is significantly related to whether women use contraception, with a significance level of less than .001. The reported rate of *contraceptive use* is significantly higher among women in younger age categories, and significantly lower among women in older age categories. In the youngest category of women ages 18-24, 87.7% of respondents reported that they were using contraceptives, while the rate for women in the oldest category of 40-44 was 74.3%. This result indicates that the original hypothesis concerning *age* is supported.

The chi square analysis showed that *race/ethnicity* is significantly related to whether women use contraception, with a significance level of .017. The reported rate of *contraceptive use* is significantly higher among women who identify as white only (non-Hispanic), and significantly lower among women of color. This result indicates that the original hypothesis concerning *race/ethnicity* is supported. *Marital status* is not significantly related to whether women use contraception, with a significance level of .663. The rate of *contraceptive use* is not significantly higher among women in any of the four categories of *marital status*. This result indicates that the original hypothesis concerning *marital status* is not supported.

The chi square analysis showed that *educational attainment* is significantly related to whether women use contraception, with a significance level of less than .001. The reported rate of *contraceptive use* is significantly higher among women who reported higher levels of *educational attainment*, and significantly lower among women who reported lower levels of *educational attainment*. In the category of women who reported having received less than a high school education, 71.8% of respondents reported that they were using contraceptives, while the rate for women in the most highly educated category was 84.7%. This result indicates that the original hypothesis concerning *educational attainment* is supported.

The analysis showed that *employment status* is not significantly related to whether women use contraception, with a significance level of .072. The reported rate of *contraceptive use* is not significantly higher among women who identify as in either category of *employment status*. This result indicates that the original hypothesis concerning *employment status* is not supported. The chi square analysis showed that reported total household *income* is significantly related to whether women use contraception, with a significance level of .001. The rate of *contraceptive use* is significantly higher among women who reported higher levels of total household *income*, and significantly lower among women who reported lower levels of total household *income*. In the category of women who reported total household incomes of lower than \$25,000, 77.5% of respondents reported that they were using contraceptives, while the rate for women in the highest income category was 84.4%. This result indicates that the original hypothesis concerning total household *income* is supported.

The results of the chi-square analyses of the demographic variables are summarized in Table 9.

Table 10

*Distribution of Social and Emotional Support by Demographic Variables, Chi-Square Test Results*

Demographics	Receipt of Social and Emotional Support					Chi Square Results
	Always	Usually	Sometimes	Rarely	Never	
Frequency (Percent)						<i>p</i>
Region of residence						.021 <sup>t</sup>
Northern	254 (47.4)	207 (38.6)	62 (11.6)	9 (1.7)	4 (0.7)	
Southern	1070 (49.7)	708 (32.9)	265 (12.3)	66 (3.1)	43 (2.0)	
Age						.055
18-24	193 (51.5)	107 (28.5)	49 (13.1)	15 (4.0)	11 (2.9)	
25-29	276 (52.9)	168 (32.2)	59 (11.3)	9 (1.7)	10 (1.9)	
30-34	303 (51.0)	194 (32.7)	74 (12.5)	18 (3.0)	5 (0.8)	
35-39	283 (45.9)	229 (37.3)	70 (11.4)	21 (3.4)	12 (2.0)	
40-44	270 (46.3)	217 (37.2)	75 (12.9)	12 (2.1)	9 (1.5)	
Race/ethnicity						<.001 <sup>tt</sup>
White only, non-Hispanic	975 (50.4)	699 (36.1)	209 (10.8)	38 (2.0)	15 (0.8)	
Black only, non-Hispanic	181 (44.7)	105 (25.9)	80 (19.8)	23 (5.7)	16 (4.0)	
Hispanic	104 (49.8)	62 (29.7)	21 (10.0)	10 (4.8)	12 (5.7)	
Other*	64 (46.6)	49 (35.5)	17 (12.3)	4 (2.9)	4 (2.9)	
Marital status						<.001 <sup>tt</sup>
Married	848 (53.1)	565 (35.4)	142 (8.9)	25 (1.6)	17 (1.1)	
Never married	256 (43.3)	185 (31.1)	99 (16.8)	30 (5.1)	21 (3.6)	
Other**	150 (42.7)	111 (31.6)	70 (19.9)	15 (4.3)	5 (1.4)	
Member of unmarried couple	70 (47.0)	54 (36.2)	16 (10.7)	5 (3.4)	4 (2.7)	
Educational attainment						<.001 <sup>tt</sup>
Less than high school	86 (44.1)	47 (24.1)	33 (16.9)	15 (7.7)	14 (7.2)	
Grade 12 or GED	308 (48.5)	192 (30.2)	97 (15.3)	24 (3.8)	14 (2.2)	
College 1-3 years	403 (49.4)	261 (32.0)	112 (13.7)	25 (3.1)	15 (1.8)	
College 4+ years	527 (50.6)	415 (39.8)	85 (8.2)	11 (1.1)	4 (0.4)	
Employment status						<.001 <sup>tt</sup>
Employed outside home	783 (49.9)	565 (36.0)	171 (10.9)	32 (2.0)	19 (1.2)	
Not employed outside home	541 (48.4)	350 (31.3)	156 (14.0)	43 (3.8)	28 (2.5)	
Total household income						<.001 <sup>tt</sup>
<\$25,000	362 (44.3)	213 (26.0)	166 (20.3)	44 (5.4)	33 (4.0)	
\$25,000-\$49,999	380 (49.5)	278 (36.2)	80 (10.4)	21 (2.7)	8 (1.0)	
\$50,000 or more	582 (52.8)	424 (38.4)	81 (7.3)	10 (0.9)	6 (0.5)	

\*Other race/ethnicity includes women who identified as Asian only (non-Hispanic), Native Hawaiian or other Pacific Islander only (non-Hispanic), American Indian or Alaskan native only (non-Hispanic), other race only (non-Hispanic), and multiracial (non-Hispanic).

\*\*Other marital status includes women who identified as divorced, widowed, or separated.

<sup>t</sup>*p*<.05

<sup>tt</sup>*p*<.001

Chi square analyses showed that *region of residence, race/ethnicity, marital status, educational attainment, employment status*, and total household *income* are all significantly related to *receipt of social and emotional support*. In particular, *race/ethnicity, marital status, educational attainment, employment status, and income* appear to be strongly related to receipt of support ( $p < .001$ ).

I also used chi square analysis to examine the relationship between contraceptive use and social and emotional support. Table 10 shows the results of the chi square analysis involving *contraceptive use* (dependent) and receipt of *social and emotional support* (independent). The rate of contraceptive use is significantly higher among women who reported higher levels of emotional and social support, and significantly lower among women who reported lower levels of emotional and social support. In the category of women who reported that they never received needed emotional and social support, 66% of respondents reported that they were using contraceptives, while the rate of reported contraceptive use for women who reported that they always received needed emotional and social support was 81.9%.

Table 11

*Distribution of Contraceptive Use by Receipt of Social and Emotional Support, Chi Square Test Results*

<u>Support</u>	<u>Yes</u>		<u>Contraceptive Use</u>		<u>Chi-square Test Results</u> <i>p</i>
	<u>Frequency</u>	<u>Percent</u>	<u>No</u>	<u>Percent</u>	
Receipt of support					.007*
Always	1084	81.9	240	18.1	
Usually	763	83.4	152	16.6	
Sometimes	255	78.0	72	22.0	
Rarely	57	76.0	18	24.0	
Never	31	66.0	16	34.0	

\* $P < .05$

Binary logistic regression analysis showed that respondents who reported that they always received needed emotional and social support when needed were more likely to report contraceptive use than those who reported that they never received needed support (O.R. = 2.331), with a significance level of .007. Respondents who reported that they usually received support were more likely to report contraceptive use as compared to respondents who reported that they never received support (O.R. = 2.59), with a significance level of .003.

Respondents who reported that they sometimes or rarely received needed emotional and social support did not differ significantly in reports of contraceptive use, as compared to respondents who reported that they never received needed emotional and social support. Respondents who reported that they sometimes received emotional and social support when needed were not much more likely to report contraceptive use than respondents who reported that they never received emotional and social support (O.R. = 1.83), with a significance level of .072. Respondents who reported that they rarely received emotional and social support were more likely to report contraceptive use as compared to respondents who reported that they never received emotional and social support (O.R. = 1.63), with a significance level of .230.

### **Mediated Logistic Regression**

In the mediated regression analyses, I examined the demographic variables that were significantly related to contraceptive use in the crosstab and logistic regression analyses. The variables *marital status* and *employment status* were both not statistically significant in my previous analysis. For this reason, neither of these demographic variables was included in the following mediated regression analysis. The mediated regression analysis examines the demographic variables *age*, *race/ethnicity*, *educational attainment*, *total household income*, and *region of residence*. Each of these independent demographic variables is examined in

conjunction with the dependent variable *contraceptive use*. *Social and emotional support* is included in each analysis as a possible mediator variable.

Binary logistic regression analysis showed that *region* is a significant predictor of *contraceptive use*, with a significance level of .007. Mediated regression analysis showed that receipt of *emotional and social support* does not mediate the effect of *region* on contraceptive use. Even with *emotional and social support* included in the analysis, *region* is still significantly related to *contraceptive use*, with a significance level of .003.

Binary logistic regression analysis showed that *age* is a significant predictor of *contraceptive use*, with a significance level of less than .001. Mediated regression analysis showed that receipt of *social and emotional support* does not mediate the effect of *age* on contraceptive use. Even with *social and emotional support* included in the analysis, *age* is still significantly related to contraceptive use, with a significance level of less than .001.

Binary logistic regression analysis showed that *race/ethnicity* is a significant predictor of *contraceptive use*, with a significance level of .018. Once *social and emotional support* was added to the analyses as a mediator variable, *race/ethnicity* ceased to be statistically significant. Mediated regression analysis showed that receipt of *social and emotional support* might slightly mediate the effect of *race/ethnicity* on contraceptive use. Even with *social and emotional support* included in the analysis, *race/ethnicity* is still nearly related to contraceptive use, with a significance level of .056.

Binary logistic regression analysis showed that *educational attainment* is a significant predictor of *contraceptive use*, with a significance level of less than .001. Mediated regression analysis showed that receipt of *social and emotional support* does not mediate the effect of *educational attainment* on *contraceptive use*. Even with *social and emotional support* included

in the analysis as a possible mediator variable, *educational attainment* is significantly related to contraceptive use, with a significance level of less than .001.

Binary logistic regression analysis showed that *income* is a significant predictor of *contraceptive use*, with a significance level of .001. Mediated regression analysis showed that receipt of *social and emotional support* does not mediate the effect of *income* on *contraceptive use*. Even with receipt of *social and emotional support* included in the analysis, *income* is significantly related to *contraceptive use*, with a significance level of .008.

The results of the mediated regression analyses with receipt of *social and emotional support* as a mediator variable are summarized in Table 11.

Table 12

*Distribution of Contraceptive Use by Demographic Categories with Social Support included as a Mediator Variable, Logistic Regression and Mediated Logistic Regression Results*

<u>Demographics</u>	<u>Contraceptive Use</u>		<u>Analysis results</u>	
	<u>Yes</u> Frequency (Percent)	<u>No</u> Frequency (Percent)	$p^t$	$p^{tt}$
Region of residence			.007***	.003***
Northern	415 (77.4)	121 (22.6)		
Southern	1775 (82.5)	377 (17.5)		
Age			<.001****	<.001****
18-24	329 (87.7)	46 (12.3)		
25-29	449 (86.0)	73 (14.0)		
30-34	496 (83.5)	98 (16.5)		
35-39	483 (78.7)	131 (21.3)		
40-44	433 (74.3)	150 (25.7)		
Race/ethnicity			.018***	.056
White only, non-Hispanic	1603 (82.8)	333 (17.2)		
Black only, non-Hispanic	318 (78.5)	87 (21.5)		
Hispanic	167 (79.9)	42 (20.1)		
Other*	102 (73.9)	36 (26.1)		
Marital status			.664	
Married	1291 (80.8)	306 (19.2)		
Never married	485 (82.1)	106 (7.9)		
Other**	288 (82.1)	63 (17.9)		
Member of unmarried couple	126 (84.6)	23 (15.4)		
Educational attainment			<.001****	<.001****
Less than high school	140 (71.8)	55 (28.2)		
Grade 12 or GED	493 (77.6)	142 (22.4)		
College 1-3 years	674 (82.6)	142 (17.4)		
College 4+ years	883 (84.7)	159 (15.3)		
Employment status			.072	
Employed outside home	1297 (82.6)	273 (17.4)		
Not employed outside home	893 (79.9)	225 (20.1)		
Total household income			.001***	.008***
<\$25,000	634 (77.5)	184 (22.5)		
\$25,000-\$49,999	625 (81.5)	142 (18.5)		
\$50,000 or more	931 (84.4)	173 (15.6)		

\*Other race/ethnicity includes women who identified as Asian only (non-Hispanic), Native Hawaiian or other Pacific Islander only (non-Hispanic), American Indian or Alaskan native only (non-Hispanic), other race only (non-Hispanic), and multiracial (non-Hispanic).

\*\*Other marital status includes women who identified as divorced, widowed, or separated.

\*\*\* $P < .05$

\*\*\*\* $P < .001$

<sup>t</sup> indicates the logistic regression  $p$  value without the inclusion of social support as a mediator variable

<sup>tt</sup> indicates the  $p$  value with the inclusion of social support as a mediator variable

## **Summary of Findings by Hypotheses**

### **Primary hypothesis.**

*Receipt of social and emotional support will mediate the effects of demographic variables on the outcome variable contraceptive use.*

This hypothesis is partially supported. Receipt of *social and emotional support* might slightly mediate the effects of *race/ethnicity* on *contraceptive use*. However, receipt of *social and emotional support* does not mediate the effects of *age, educational attainment, region of residence, or total household income*.

### **Hypothesis 1.**

*There will be differences in contraceptive use rates between women in the northern regions of the U.S. and women in the southern regions of the U.S.*

This hypothesis is supported by the data analysis, which indicates that there are differences in rates of *contraceptive use* among women from the northern and southern regions of the country.

### **Hypothesis 2.**

*Women in progressively older age categories will report higher rates of contraceptive use as compared to women in younger age categories.*

This hypothesis is not supported by the data analysis. In fact, women in progressively younger age categories reported higher rates of *contraceptive use* as compared to women in older age categories.

### **Hypothesis 3.**

*White women will report higher rates of contraceptive use as compared to categories of women of color.*

This hypothesis is supported by the data analysis, which shows that white women have the highest rates of *contraceptive use*, followed by women who identify as Black only, non-Hispanic.

**Hypothesis 4.**

*Married women will report higher rates of contraceptive use as compared to categories of unmarried women.*

This hypothesis is not supported by the data analysis, which shows that women who identify as members of unmarried couples tend to report the highest rates of contraceptive use. Based on this data analysis, *marital status* is not a significant predictor of *contraceptive use*.

**Hypothesis 5.**

*Women who have achieved higher levels of educational attainment will report higher rates of contraceptive use than women who report lower levels of educational attainment.*

This hypothesis is supported by the data analysis, which revealed increasing rates of reported contraceptive use among progressively higher categories of *educational attainment*.

**Hypothesis 6.**

*There will be differences in contraceptive use rates between women in various categories of employment status.*

This hypothesis is slightly supported by the data analysis, which shows that women who are employed outside the home report higher rates of contraceptive use than women who are not employed outside the home. Based on this analysis, *employment status* is not a significant predictor of *contraceptive use*.

### **Hypothesis 7.**

*Women who report higher total household incomes will also report higher rates of contraceptive use as compared to women who report lower levels of total household income.*

This hypothesis is supported by the data analysis, which shows that women with higher levels of household *income* tend to report higher levels of *contraceptive use*.

## CHAPTER 5

### Discussion

#### Overview

This chapter will provide a discussion of the results of the data analysis, including directions for future research and implications for social work policy, practice, and research. Findings from this study suggest that receipt of *social and emotional support* is associated with *contraceptive use*. Women who report receipt of needed *social and emotional support* are much more likely to use contraception. However, the effect of receipt of *social and emotional support* does not appear to be independent of most other demographic variables, most notably *region* of residence, *age*, *educational attainment*, and total household *income*. *Marital status* and *employment status* do not appear to be significantly related to *contraceptive use* among this sample population. *Race/ethnicity* might be mediated by receipt of *social and emotional support*, a conclusion that warrants further exploration.

#### Discussion of Findings by Hypotheses

##### Primary hypothesis.

*Receipt of social and emotional support will mediate the effects of demographic variables on the outcome variable contraceptive use.*

This hypothesis is partially supported. Receipt of *social and emotional support* might slightly mediate the effects of *race/ethnicity* on *contraceptive use*. However, receipt of *social and emotional support* does not mediate the effects of *age*, *educational attainment*, *region* of residence, or total household *income*. Receipt of *social and emotional support* was statistically

significantly related to *region, age, marital status, educational attainment, employment status,* and total household *income*. The relationship of each of these demographic variables to receipt of *social and emotional support* indicates a need for possible further exploration. Based on this analysis, it appears that receipt of *social and emotional support* does not mediate the effects of most of the included demographic variables on *contraceptive use*.

The link between social support and health has been documented in previous research. For instance, a 2009 study concluded that older adults with higher self-reported health statuses also tended to report greater levels of satisfaction with their receipt of emotional support. While particular to older adults, the findings clearly link receipt of support with health measures (White, Philogene, Fine, & Sinha, 2009). This is remarkably similar to the results of the current study.

Furthermore, findings from Jackson's 2006 study point to a link between levels of social support and health practices among women. Women who report higher levels of social support seem to be more likely to engage in specific health practices, including better dietary habits and willingness to adhere to a schedule of routine medical examinations (Jackson, 2006). The relationship between social support and health practices, however, was not observed for men.

This study found support for the relationship of receipt of *social and emotional support* and *contraceptive use*, and indicated that *contraceptive use* might slightly mediate the effects of *race/ethnicity* on *contraceptive use*. These findings are not entirely surprising, given that *social support* has previously been linked to specific health practices. It is worth noting, however, that *social support* may influence *contraceptive use* above and beyond the effects of *race/ethnicity*. This could indicate a definitive direction for future interventions that seek to provide *social support* as an inducement for *contraceptive use* among populations not seeking a pregnancy.

### **Hypothesis 1.**

*There will be differences in contraceptive use rates between women in the northern regions of the U.S. and women in the southern regions of the U.S.*

This hypothesis is supported by the data analysis, which indicates that there are differences in rates of *contraceptive use* among women from the northern and southern regions of the country. This is in keeping with earlier research, which has indicated that contraceptive use differs by area of the country. For instance, 2002 BRFSS data showed that contraceptive use rates (among women not seeking a pregnancy and currently at risk of pregnancy) ranged from a high of 88.2% in Idaho to a low of 75.2% in Hawaii (Bensyl, Iuliano, Carter, Santelli, & Gilbert, 2002). Such differences indicate a need for tailored approaches that target specific regions according to needs. Interventions in Idaho may need to focus on effective methods and adherence, while interventions in Hawaii may need to focus more on contraceptive education and access.

### **Hypothesis 2.**

*Women in progressively older age categories will report higher rates of contraceptive use as compared to women in younger age categories.*

This hypothesis is not supported by the data analysis. In fact, women in progressively younger age categories reported higher rates of *contraceptive use* as compared to women in older age categories. Given the higher rates of unintended pregnancies among younger women, it would seem that younger women would also have lower rates of contraceptive use. However, categories of older women tend to have lower rates of contraceptive use, as compared to categories of younger women. Older women may mistakenly believe that they do not need to use contraception due to their age, or report concerns about the possible side effects of

contraceptives (Godfrey, Chin, Fielding, Fiscella, & Dozier, 2011).

The findings regarding age categories and contraceptive use indicate a need for efforts targeted at populations of women in the older age categories of their reproductive years. Health education and community outreach and engagement efforts may be key tools for increasing contraceptive use among women in older age categories. Establishing rapport and trusting relationships with community members could be essential prerequisites to dispelling beliefs about age-related risks and contraceptive side effects.

### **Hypothesis 3.**

*White women will report higher rates of contraceptive use as compared to categories of women of color.*

This hypothesis is supported by the data analysis, which shows that white women have the highest rates of *contraceptive use*, followed by women who identify as Black only, non-Hispanic. Variations in rates of unintended pregnancies by *race/ethnicity* have been extensively documented in previous research (Dehlendorf, Rodriguez, Levy, Borrero, & Steinauer, 2010; Finer & Henshaw, 2006). This study further links *contraceptive use* to *race/ethnicity*, in keeping with earlier findings by Mosher and Jones (2010). In the 2010 Mosher and Jones report, women who identified as white reported the highest rates of *contraceptive use* (91%), along with women who identified as Hispanic. Women who identified as Black only, non-Hispanic reported the lowest rates of *contraceptive use* (84%).

This finding must be tempered with the primary finding that receipt of *social and emotional support* may slightly mediate the effect of *race/ethnicity* on *contraceptive use*. In other words, it is worth noting that women who report high levels of *social and emotional support* are more likely to use contraception, regardless of *race/ethnicity*. Interventions should, of course,

focus on those populations identified as at-risk. However, *social and emotional support* interventions may be able to influence *contraceptive use* rates for women of color.

#### **Hypothesis 4.**

*Married women will report higher rates of contraceptive use as compared to categories of unmarried women.*

This hypothesis is not supported by the data analysis, which shows that women who identify as members of unmarried couples tend to report the highest rates of contraceptive use. Based on this data analysis, *marital status* is not a significant predictor of *contraceptive use*. This finding is not quite in accordance with previous research. A report based on data from the National Survey of Family Growth (NSFG), 1982-2008, found that married women used contraception at a higher rate (78.6%) than their counterparts who identified as cohabiting (71.2%), formerly married (60.6%), or never married (39.3%) (Mosher & Jones, 2010). Another report based on 2002 NSFG data also found that married women tend to be more likely to use contraception (72.9%), as compared to their counterparts who identify as cohabiting (72.5%), formerly married (64.4%), or never married (44.0%) (Mosher, Martinez, Chandra, Abma, & Wilson, 2004).

The NSFG includes women ages 15-44, while this study involved women ages 18-44. In addition, the NSFG employs slightly different classification categories. The category of “no contraception” in the NSFG data includes women who are currently seeking pregnancy, women who are pregnant or postpartum, and women who are not sexually active. The altered classification system could account for the slight differences in contraceptive use rates among populations, as the current study uses BRFSS data and excludes women who are seeking pregnancy, currently pregnant, or not sexually active.

### **Hypothesis 5.**

*Women who have achieved higher levels of educational attainment will report higher rates of contraceptive use than women who report lower levels of educational attainment.*

This hypothesis is supported by the data analysis, which revealed increasing rates of contraceptive use among progressively higher categories of *educational attainment*. This finding is consistent with existing research which has demonstrated that unintended pregnancies are highest among women from particular demographic groups, including women who have not completed a high school education (Frost, Singh, & Finer, 2007). This suggests that intervention efforts should target women who have lower levels of educational attainment. In particular, health education and community outreach and engagement efforts could be critical in the development and provision of social and emotional support.

### **Hypothesis 6.**

*There will be differences in contraceptive use rates between women in various categories of employment status.*

This hypothesis is slightly supported by the data analysis, which shows that women who are employed outside the home have higher rates of contraceptive use than women who are not employed outside the home. Based on this analysis, *employment status* is not a significant predictor of *contraceptive use*. Because this hypothesis was not supported, it seems that employment status might not be a vital consideration in the development of targeted intervention efforts. This finding is not at odds with the existing literature. Much of the existing research involving employment status and contraceptive use has focused on international populations (for example, see Gordon, Sabates, Bond, & Wubshet, 2011; Shapiro & Tambash, 1994), and the relationship might simply not be as relevant in the “developed” world.

### **Hypothesis 7.**

*Women who report higher total household incomes will also report higher rates of contraceptive use as compared to women who report lower levels of total household income.*

This hypothesis is supported by the data analysis, which shows that women with higher levels of household *income* tend to report higher levels of *contraceptive use*. Previous research has indicated that unplanned pregnancy rates differ across income levels, with women who report lower incomes also reporting lower levels of contraceptive use (Finer & Henshaw, 2006; Mosher & Jones, 2010).

### **Characteristics of the Sample Population**

This sample population differed from the typical population affected by the lack of contraceptive use. The differences were apparent in primarily demographic distinctions. For instance, the populations most typically affected by unplanned pregnancies tend to include low-income, younger, minority women. However, this sample included a larger representation from women in upper income brackets, as 41% of respondents reported an annual household income of \$50,000 or more. In addition, many of the women in this sample were in the older age categories of reproductive years, with 22.1% of respondents age 30-34, 22.8% of respondents age 35-39, and 21.7% of respondents age 40-44. Based on this age distribution, just 33.4% of the sample included women in the younger age categories of 18-29.

Finally, 72% of respondents (1,936) identified as white only, non-Hispanic, while 752 respondents (28%) were women of color. Despite these differences from the demographic characteristics of populations more usually represented in groups of women who do not use contraception to avoid pregnancy, 18.5% of respondents (498 total) reported that they were not using any contraceptive method to avoid pregnancy.

These findings were both consistent with and different from the results of a 2009 study that reported that women at high risk of unplanned pregnancy tended to be older, Black, non-Hispanic, and married (Xaverius, Tenkku, & Salas, 2009). The 2009 study relied on BRFSS data from 2002 and 2004, while the current project is dependent upon the 2010 BRFSS.

Of particular interest in this study are those women who reported using less reliable contraceptive methods, such as withdrawal, foams or creams, sponges, and male condoms. While such methods do indeed constitute a form of birth control, they are notably less reliable than hormonal methods. Taken together, these categories of less reliable birth control comprise 28.8% of respondents. In addition, 498 women (18.53% of the sample population) did not record a response for this question. These are the 498 women who reported that they were not doing anything to avoid pregnancy.

### **Strengths and Limitations**

#### **Strengths.**

A major strength of this study is the large sample size, which includes 2688 participants. In addition, the sample included a varied group of participants. In particular, the demographic variables included representation from diverse participants across categories of *age*, total household *income*, *educational attainment*, and *race/ethnicity*.

Previous literature has indicated a need for studies that link specific social determinants of health to actual aspects of health. This study provides a clear starting point for research concerning the relationship between receipt of social and emotional support and contraceptive use as an aspect of female reproductive health. It is clear that receipt of social and emotional support is related to contraceptive use, and also differs by various demographic factors. This study avoids the issues that inevitably arise when trying to distinguish the actual impacts of

specific social determinants of health; this is accomplished through a particular focus on one predetermined social determinant of health.

Unplanned pregnancies impact many segments of the female population, and this study provides a closer look at contraceptive use as examined by specific demographic variables and receipt of social and emotional support. It is notable that the population represented in this study, and the population that is somewhat less likely to use contraception, differs from the population most typically affected by unplanned pregnancies. For instance, women affected by unplanned pregnancies tend to identify as lower income, minority, and unmarried with lower levels of educational attainment. However, the women in this study were overwhelmingly white, married, educated women with higher incomes. And yet, just under 20% of the sample (18.5%) reported no current use of contraception.

In particular, women in older age categories report lower levels of contraceptive use. This is notable, especially since women in younger age categories (ages 18-24) tend to report higher levels of unplanned pregnancies. However, this is likely related to decreasing fertility levels among women as they age.

The results of this study provide a clearer picture of contraceptive use patterns among women of reproductive age, and also highlight the potential impact of receipt of social and emotional support.

### **Limitations.**

The sample size might have impacted the results, slightly skewing the analyses to show significance where no significance might actually exist. For instance, *region* of residence was a significant predictor of *contraceptive use*, with a significance level of .007. However, the differences between women in the northern and southern regions did not surpass 6%. This could

indicate that *region* of residence was statistically significant due to the sample size.

In addition, there remains the delicate question of factual reporting when examining such personal issues as contraceptive use. The women included in this sample participated in a telephone interview with a complete stranger, and agreed to provide sensitive personal health information. It is quite possible that at least some of the participants may have reported results more along the lines of socially acceptable answers than along the lines of actuality. This could perhaps be better addressed through a more anonymous survey format, such as an internet survey.

Sampling error could have contributed to the results of this research. The actual data set is not representative of the population most typically affected by unplanned pregnancies. The population most typically affected by unplanned pregnancies tends to be comprised of women who identify as minority, lower income, younger, unmarried, and with lower educational attainment. However, the data set for this research included women who were predominantly white (72%), married (59.4%), highly educated (38.8% reported 4+ years of college), employed (58.4%), and fairly middle class (with an average income range of \$35,000-\$50,000). In addition, the women in this data set are older than the population most typically affected by unplanned pregnancies. Adult women affected by unplanned pregnancies tend to be between the ages of 18 and 24 (as previously reported in this document), while the average age of participants in this study is 32.85.

The participants in this data set differ from the United States population in several key areas. According to data from the 2010 U.S. Census, 29.9% of the total U.S. population has achieved at least a college degree. In the current sample employed for this research, 38.8% of the women reported having attended college for 4 years or more. In the 2010 U.S. Census, 65.1% of

female respondents reported that they were currently married. In the BRFSS population employed for this research, 59.4% of the women reported their marital status as “married.”

The median age of all adult women in the U.S. was 38.5 in 2010 (U.S. Census Bureau, 2012d), while the median age of this sample population is 32.85. However, the sample population used in this research specifically included only women between the ages of 18 and 44. This indicates that the current sample population differs from the overall U.S. population, in that the sample population specifically included only women between the ages of 18 and 44, while the U.S. population includes women of all ages. The median household income of the U.S. population in 2010 was \$49,445 (DeNavas-Walt, Proctor, & Smith, 2011). The most common income category for women in the current research sample is between \$35,000 and \$50,000.

The race/ethnicity of the sample population is comparable with the overall U.S. population, and yet different in some regards (U.S. Census Bureau, 2012a). The overall U.S. population is 72.4% white and 12.6% Black or African American, while the current sample population is 72% white and 15.1% Black. This indicates that the percentage of Black and white respondents included in the current sample is comparable with the total population. However, the overall U.S. population is 16.3% Hispanic or Latino (U.S. Census Bureau, 2012a), while the current BRFSS sample population is 7.8% Hispanic. This represents a difference in race/ethnicity between the overall U.S. population and the sample population employed in the current research.

As a final note on possible population differences, 50% of this sample population reported that Florida was their resident state. Nearly 15% of respondents reported Kentucky (15.4%), Mississippi (14.7%), or Montana (13.3%) as their resident state, and just 6.7% of respondents reported Delaware as their resident state. In the overall United States, Florida claims

18,801,310 residents, while Delaware claims just 897,934 residents (U.S. Census Bureau, 2012e; United States Census Bureau, 2012f). The large representation from Florida in this particular sample could have contributed to a possible skew in the results. For instance, Florida claims a larger percentage of persons of Hispanic or Latino origin than the overall United States; 22.5% of Florida residents identify as Hispanic or Latino, compared to 16.3% of the overall U.S. population (U.S. Census Bureau, 2012f).

Finally, this survey utilized a measure of receipt of social and emotional support, as opposed to a measure of only social support. Social support as a social determinant of health has been explored in previous literature, and has typically included “emotional support” as an implicit assumption since social support has been defined to include both tangible and intangible support (Lucey, 2007). This survey explicitly included both social and emotional support, rather than relying upon the inclusion of emotional support as an assumed aspect of the social support variable. The respondents to this survey were asked, “How often do you get the social and emotional support you need?” Interviewers were instructed to tell respondents to “please include support from any source” [emphasis included in original BRFSS questionnaire document] only if the participants requested further explanation of the question.

### **Implications and Future Directions**

This research is directly relevant to social work practice, public policy, and social work and public health research. The finding that social support is significantly related to contraceptive use, and may mediate the effects of race/ethnicity, possesses direct implications for social work research, practice, and policy. These implications are discussed in greater detail below.

### **Social work research.**

Research has shown that contraceptive use may be influenced by multiple factors, including demographics, partner support, socioeconomic status, contraceptive knowledge and access, and personal, political, and religious beliefs (Gelberg, Lu, Leake, Andersen, Morgenstern, & Nyamathi, 2008; Henshaw, 1998). Researchers have speculated that social support, or the lack thereof, contributes to the consistently worse birth outcomes for women of color (Norris, 2012). More research is needed to specifically show the formal links between social support and aspects of reproductive health. Birth outcomes, contraceptive use, and abortion are all aspects of reproductive health that could benefit from [a](#) more detailed exploration of the influence of social support. This study showed a link between social and emotional support and contraceptive use, and also linked contraceptive use to particular demographic variables. Further research could point the direction for intervention activities directed at contraceptive use among women who receive lower levels of social support.

In addition, further research could provide a clear operationalization of the variable receipt of *social and emotional support*. The measure employed in this study involved a self-reported response to a Likert-scale type survey question. This measure adequately assessed individual perceptions of received social and emotional support, and could perhaps be repeated in future research in order to establish a standard. For the purposes of health research, social support has typically been defined to include measures of intangible support (such as emotional support) and tangible support (such as transportation assistance).

The relationship between receipt of social support and positive health practices is extensively documented, and social support has been repeatedly linked to health (Yarcheski, Mahon, Yarcheski, & Cannella, 2004). The operationalization of social support, particularly with

regards to health, is a subject for further study. A foundational comprehensive social support inventory was originally developed to address the various available definitions of the concept of social support. This inventory employed in-depth, semistructured interviews to compile an inventory of relevant items. The included items warrant further exploration in relation to reproductive health, and could perhaps provide a foundation for more quantitative measures. The relevant sources of support that could be further explored in this particular area include partner support, support from children, support from relatives, support from close friends, support from co-workers, support from spiritual and religious groups, support from spiritual faith, support from community or neighborhood groups, support from professional or service providers, support from special groups, and support from media sources (Cooke, Rossman, McCubbin, & Patterson, 1988).

### **Social work practice.**

If women who feel that they receive adequate social support are more likely to engage in family planning behaviors, then we, as social workers, can work on providing better social support systems. In turn, better social support systems could lower the rates of unplanned pregnancies. By providing a clear link between social support and family planning behaviors, I hope to establish a starting point for interventions and community engagement activities.

The results of this research indicate that receipt of social and emotional support is significantly related to race/ethnicity, marital status, educational attainment, employment status, and total household income. Each of these demographic indicators contributes to a composite impression of those populations that would likely benefit from a social and emotional support intervention. For instance, there are various levels of reported receipt of social and emotional support reported by women according to income categories. Women in the highest income

category (\$50,000 or more per year) reported that they always receive needed social and emotional support at a rate of 52.8%. This is in stark contrast to women in the lowest income category (less than \$25,000 per year), who reported that they always receive social and emotional support at a rate of 44.3%. This indicates that intervention efforts should target women who have lower levels of total household *income*. In particular, health education and community outreach and engagement efforts could be critical in the development and provision of social and emotional support for women who report lower income levels.

In addition, half of all white women report that they always receive needed social and emotional support, compared to 44.7% of all Black women. This difference could have implications for practice interventions, as a link between health and receipt of social and emotional support could provide basic guidelines for the establishment of social support interventions intended to impact health. In particular, an increase in receipt of social and emotional support could potentially decrease the existing gaps in contraceptive use between demographic populations.

### **Social work policy.**

Many social workers will encounter various intervention and advocacy opportunities in the field of reproductive health and reproductive health inequalities. Structural barriers that may inhibit the ability of a woman to obtain reproductive health services include time and location of available services, transportation, child care, and cost (Sable & Libbus, 1998). “Gender inequality at the neighborhood or small area level might create social barriers to access to contraception, such that women may feel uncomfortable purchasing contraceptives from a pharmacy or supermarket or requesting emergency contraception from a general practitioner” (Bentley & Kavanagh, 2008, p. 66). Social workers can advocate and intervene to reduce such

structural barriers for women. Examples of opportunities for social workers in this area include provision of condoms in strategically placed locations (such as women's restrooms in public facilities); lobbying efforts to extend public transportation routes and hours of operation; and negotiations for extended clinical hours for health care services. Furthermore, based on this research, social workers can provide emotional and social support to women most at risk of unwanted pregnancy.

This dissertation provided a formal link between social support, demographic factors, and contraceptive use among a large and diverse sample of women. Social support is directly related to contraceptive use among women, and may even mediate the effects of race/ethnicity. This serves as initial evidence that social workers can affect family planning behaviors through the provision of social support, which offers a defined starting point for future interventions.

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*Appendix A*

**Timetable for Completion**

MILESTONES	TASKS	TIMELINE
<b>1. Dissertation Proposal</b>		
	1a. First draft of proposal to Dr. Simon	August-December
	1b. Edited draft of proposal to committee	
	1c. Defense of proposal - Edits according to preferences of committee members	
<b>2. Data Analysis</b>		
	2a. Complete preliminary data analysis	December-January
	2b. Review data analysis with Drs. Leeper and Simon	
	2c. Write data analysis section	
<b>3. Dissertation</b>		
	3a. Complete dissertation draft	January-February
	3b. First complete draft to Dr. Simon	
	3c. Edited proposal to committee	
	3d. Edits according to preferences of committee members	
	3e. Final draft prepared	
<b>4. Dissertation Defense</b>		
	4a. Complete all requested revisions	March
	4b. Schedule defense	
	4c. Complete defense	
	4e. Submit to graduate school	

*Appendix B*

**BRFSS Questionnaires**

BRFSS Questionnaire: *Section 12-List of Survey Questions on Demographics*

Domain	Question	Response
Age	12.1 What is your age?	__ __ Code age in years 0 7 Don't Know/Not sure 0 9 Refused
Ethnicity	12.2 Are you Hispanic or Latino?	1 Yes 2 No 7 Don't Know/Not sure 9 Refused
	12.3 Which one or more of the following would you say is your race?	1 White 2 Black or African American 3 Asian 4 Native Hawaiian or Other Pacific Islander 5 American Indian or Alaska Native 6 Other [specify] _____ 8 No additional choices 7 Don't Know/ Not sure 9 Refused
	12.4 Which one of these groups would you say best represents your race?	1 White 2 Black or African American 3 Asian 4 Native Hawaiian or Other Pacific Islander 5 American Indian or Alaska Native 6 Other [specify] _____ 7 Don't Know/ Not sure 9 Refused
	12.6 Are you...?	1 Married 2 Divorced 3 Widowed 4 Separated 5 Never married 6 A member of an unmarried couple 9 Refused
Education	12.8 What is your highest grade or year of school you completed?	1 Never attended school or only attended kindergarten 2 Grades 1 through 8 (Elementary) 3 Grades 9 through 11 (Some high school) 4 Grade 12 or GED (High school graduate) 5 College 1 year to 3 years (Some college or technical school)

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		6 College 4 years or more (College graduate) 9 Refused
Employment	12.9 Are you currently...?	1 Employed for wages 2 Self-employed 3 Out of work for more than 1 year 4 Out of work for less than 1 year 5 A Homemaker 6 A Student 7 Retired 8 Unable to work 9 Refused
Income	12.10 Is your annual household income from all sources---	0 4 Less than \$25,000 0 3 Less than \$20,000 0 2 Less than \$15,000 0 1 Less than \$10,000 0 5 Less than \$35,000 0 6 Less than \$50,000 0 7 Less than \$75,000 0 8 \$75,000 or more 7 7 Don't know/Not sure 9 9 Refused
Gender	12. 19 Indicate sex of respondent. Ask only if necessary.	1 Male 2 Female
Pregnancy	12.20 To your knowledge, are you now pregnant?	1 Yes 2 No 7 Don't Know/ Not sure 9 Refused

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*Source: BRFSS Questionnaires Section 12, demographics*

BRFSS Questionnaire: *Section 22-List of Survey Questions on Emotional Support and Life Satisfaction*

Domain	Question	Response
Emotional Support	22.1 How often do you get the social and emotional support you need?	1 Always 2 Usually 3 Sometimes 4 Rarely 5 Never 7 Don't know/ Not sure 9 Refused
Life Satisfaction	22.2 In general, how satisfied are you with your life?	1 Very satisfied 2 Satisfied 3 Dissatisfied 4 Very dissatisfied 7 Don't know/Not sure 9 Refused

*Source: BRFSS Questionnaires Section 22, emotional support and life satisfaction*

BRFSS Questionnaire: *Optional Module 7-List of Survey Questions on Family Planning*

Domain	Question	Response
Family Planning	1. Are you or your [If female, insert "husband/partner," if male, insert "wife/partner"] doing anything <u>now</u> to keep [If female, insert "you," if male, insert "her"] from getting pregnant?	1 Yes 2 No 3 No partner/not sexually active 4 Same sex partner 7 Don't know/Not sure 9 Refused
	2. What are you or your [If female, insert "husband/partner," if male, insert "wife/partner"] doing <u>now</u> to keep from [If female, insert "you,"	0 1 Tubes tied (or female sterilization) 0 2 Vasectomy (or male sterilization) 0 3 Birth control pills, any kind 0 4 Male condoms

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if male, insert "her"] getting pregnant?	0 5 Female condoms 0 6 Contraceptive implant (for example, Implanon) 0 7 Shots (for example, Depo- Provera) 0 8 Contraceptive ring (for example, Nuvaring) 0 9 Contraceptive patch (for example, Ortho Evra) 1 0 Diaphragm, cervical cap, or sponge 1 1 Foam, jelly, or cream 1 2 IUD (for example, Mirena) 1 3 Emergency contraceptive (morning after pill) 1 4 Withdrawal (or pulling out) 1 5 Other method 7 7 Don't know/Not sure 9 9 Refused
4. How do you feel about having a child now or sometime in the future? Would you say:	0 1 You don't want to have one. 0 2 You do want to have one, less than 12 months from now. 0 3 You do want have one, between 12 months to less than 2 years from now. 0 4 You do want to have one, between 2 years to less than 5 years from now. 0 5 You do want to have one, 5 or more years from now.

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0 7 Don't know/Not  
sure  
0 9 Refused

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*Source: BRFSS Questionnaires module 7, family planning*

Appendix C  
Terminology

**Acronyms**

AMA – American Medical Association

BRFSS – Behavioral Risk Factor Surveillance System

CAB – Community advisory board

COC – Combined oral contraceptive

FDA – Food and Drug Administration

FQHC – Federally qualified health centers (includes community health centers and  
Indian Health Services, among others)

GAF – Growth of American Families Study

KAP – Knowledge, attitude, practice surveys

LBW – Low birth weight

LGTTQ – Lesbian, gay, transgender, queer (sometimes also LGBTQ, including bisexual)

LHD – Local health department

NFS – National Fertility Study

NSFG – National Survey of Family Growth

PP – Planned parenthood agencies

PTB – Pre-term birth

SDH - Social determinants of health

SEP - Socioeconomic position

SES - Socioeconomic status

STD – Sexually transmitted disease

STI – Sexually transmitted infection

UN – United Nations

VDT – Video display terminal

WHO – World Health Organization

## **Definitions**

Absolute income hypothesis - Asserts that health depends only on individual income  
(ability to maintain normative level of consumption)

Absolute poverty – Inability to meet basic needs

Accumulation models - Used to illuminate lifecourse influences on health inequalities;  
focus less on childhood exposure in particular and instead emphasize overall  
exposure to poor circumstance

Allostatic load - Refers to the everyday wear and tear caused by exposure to stressful  
conditions

Area or place effects - The overall concept that points out variables with health effects  
that reveal characteristics of places rather than only people

Collective effect - Refers to group features that affect individuals, such as living in an  
area with a high concentration of lower SES residents

Contextual effect - Refers to the overlying context, including institutional and cultural  
contexts, such as public welfare policies

Contextual factors - Risks imposed by other people or the environment

Contraception – Birth control; includes methods used to actively prevent pregnancy

Critical period models - Used to illuminate lifecourse influences on health inequalities;  
focus heavily on sensitive periods of development, and emphasize the long-term  
effects of early life deprivation (including infant/childhood instability and  
insecurity)

Cultural diffusion models – An approach to sexual and reproductive health research in which culture itself (mostly values and attitudes) is viewed as both a hindrance to and supporter of knowledge spread and resultant behavior changes

Cumulative effects - Refers to an increasing-dose effect of lifetime exposure to living conditions

Early life experiences perspective- Refers to the lifecourse perspective, which asserts that experiences accumulate over the entire individual life span to impact health. This directly contrasts with the notion that perhaps childhood experiences have a greater health impact.

Early lifecourse influences – Influences that occur early in the lifecourse (for example, the long-term effects of fetal nutrition

Economic-rationalist models – An approach to sexual and reproductive health research in which fertility behavior is viewed as existing within a simplistic cost-benefit calculation

Fecundicity – Often used interchangeably with fertility; refers more precisely to the production of many offspring. In population studies, refers to the ability to produce offspring.

Fertility – Condition of being fertile; also refers to the birthrate of a population. In population studies, refers to actual reproduction.

Gender - An extension of sex-based constructs and includes social roles and norms assigned due to biology

Gini coefficient - An algebraic summary measure of income distribution, with 0 representing a completely equal societal income distribution and 1 representing the most unequal distribution possible

Health inequality -A descriptive term lacking implied moral judgment, used to point out differences in health among groups and individuals. Health inequalities may not be inherently unfair, as in the case of voluntarily assumed risks (such as skydiving), life stage differences (for example, a young person may reasonably be expected to have better health than an older person), and pure chance (such as a random genetic mutation). Also referred to as *social inequalities in health*.

Health inequity - The existence of unjust health disparities; the moral component of a health inequality

Healthification – A current public health practice method, involving placing a “least harm” rule on social issues formerly addressed by the judicial system, such as provision of clean needles for intravenous drug users

Individual health status – A purely descriptive way to view health in a given population (more purely descriptive, as it strips people of social relations in the analysis)

Inequality - Refers to non-egalitarian distribution of reproductive health

Inequity - Refers to the justice component of inequality

Institutional demography approach - An approach to sexual and reproductive health research that tends to place reproduction within the broad context of power inequities with politics and organizations

Latent effects - Refers to the effects of early life conditions on adult health

Lifecourse effects - Refers to the effects on health of lifelong conditions, from fetal to adulthood

Lifecourse perspective – A conceptual approach that considers health-affecting experiences, including intergenerational, cohort, and individual lifespan (from pre-conception)

Material interpretation – An approach to health inequalities that focuses on access to material resources

Medicalization - A process that medicalizes behavior, by introducing new technologies to “solve” problems that had previously been addressed within social and personal realms (such as infertility)

Multilevel analytical approach - Asserts that health inequality determinants occur at the same time over several levels (macro to micro)

Multilevel regression analysis - May be used to illuminate characteristics of each of the levels, and may be hierarchic or non-hierarchic (for example, longitudinal or repeated analysis, cross-classified analysis, and multivariate analysis of more than one outcome)

Negative rights - Generally indicate only a right to be left alone to exercise that right; these rights tend to be prioritized because they require less action/money on the part of society (such as the right to private property or the right to access public spaces)

Neighborhood context - Includes three factors: social environment (crime, civic duty, socioeconomic variables, etc. – all factors that influence stress exposure and availability of social support), service environment (what services are available?), and physical environment (housing quality, availability of public space, pollution, etc)

Networks model - A model to understand the policy process as related to SDH; emphasizes the interconnectedness of the policy process through a focus on networks of stakeholders.

Pathway effects - Refer to the way that early life conditions influence entire life trajectories and adult health

Pathway models - Used to illuminate lifecourse influences on health inequalities; assume that the early effects of disadvantage work in an indirect way to influence later outcomes, by influencing social opportunities such as education (which is then related to SES and later health behaviors)

*Planned Parenthood of Southeastern Pennsylvania v. Casey* (1992) - Imposed the current standard of “undue burden,” thereby allowing further regulation of abortion

Political-economic demography - An approach to sexual and reproductive health research that tends to place fertility decisions in the context of social inequalities and larger economic processes

Positive rights - Indicate that others must act to exercise that right; these rights tend not to be prioritized because they require action/money on the part on society, such as the right to quality public education

Power over - Negative power held over another

Power to - Positive power over oneself

Psychosocial interpretation – An approach to health inequalities that emphasizes the effects of stress on health, with stress viewed as a result of SES, relative poverty, and inability to meet societal standards

Relative income hypothesis - Asserts that health depends on individual income relative to the incomes of others in the same society, closely related to actual social rank and distance from average income

Relative inequality - Refers to the structures of society that impact health, as evidenced by the relationship of mortality to income inequality (closer relationship within cities and states than compared to overall average)

Reproductive health - An intricate system within the lifecourse perspective, related to social, political, and economic conditions and particularly formed by the factors affecting individual women.

“Reproductive health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and its functions and processes” (Graham, H., quoting 1994 Cairo conference, p. 1925).

Reproductive health framework - Includes sexual violence, family planning, sexual dysfunction, maternal and child health, infertility, and sexually transmitted infections (STIs). However, men have not been traditionally included in such research.

*Roe v. Wade* (1973) - Mandated that the right to terminate a pregnancy was included under constitutional privacy rights

Segregation - Physical and/or social separation based on racial/ethnic identity

Social capital - Refers to all resources provided by social relationships, including both psychosocial factors (such as social support) and tangible factors (such as services). Includes social structures, social trust, personal relationships, and/or social support

Social demography approach - An approach to sexual and reproductive health research that places behavior within a cultural context, while also emphasizing fertility decline in developing countries as an inevitable result of the infusion of western ideas.

Social determinants of health (SDH) - Includes ascriptive characteristics (traits existing at the time of birth, such as sex), culture, political situation, and personal resources. Commonly identified social determinants of health include poverty, income inequalities, social institutions (economic systems, religious institutions, political structures), social relationships, individual health behaviors, household living conditions, education, income, housing, the environment, employment, wealth, the status of women, sanitation, supply of clean water, health care, food access, surroundings, freedom, safe jobs, equal opportunity, social bases of self-respect, historic and current systems (economic, political, legal), technological resources of society, material societal resources, the social gradient, stress, social exclusion, early life, social support, addiction, transportation, risk factors, individual lifestyles, access to care, and social context

Social structure - Social epidemiological models tend to include social structure as an umbrella health determinant, but it is not yet an operationalized term.

Social support - A measure of the quality of the contact obtained through social networks; it is therefore a sort of sub-measure of social capital.

Socioeconomic gradient of health - Refers to the fact that people experience worse health than those in better socioeconomic positions, and this applies even to people who fall fairly high on the scale

Socioeconomic position (SEP) - Representative of social class, social stratification, social inequality, and SES

Socioeconomic status (SES) - Encompasses the income, education, and social class factors that influence health

Stages model - A model to understand the policy process as related to SDH; outlines specific stages of the policy process, although the identified stages are not always separate and distinct. The stages vary according the particular author, but may be broadly recognized as including awareness/recognition, information/measurement, initial actions (may be isolated and then lead to structure), formulation/implementation, and resource allocation.

Streams model – A model to understand the policy process as related to SDH; focuses on the creation of policy; it is largely concerned with the process that moves issues to the forefront of the policy agenda. Three “streams” are identified in this process, including problems, policies, and politics.

Title X – The only federally funded program to focus exclusively on nationally available family planning services. Title X funds are typically allotted through a diverse pool of local agencies, including health departments (state, county, and local) and Planned Parenthood, and usually provide for only one-quarter of the total operating budgets of these programs. This federal grant program falls under the umbrella of the federal Department of Health and Human Services, and is administered by the Office of Family Planning. Title X dictates a set of standards for care provision that must be followed by every agency that uses any Title X funding. These standards include confidential care, sliding-scale fees based on income, voluntary services, preventive health services, and openness to all women.

Unintended pregnancy - Pregnancies that occur sooner than wanted by the mother (mistimed) or that are not wanted at any time by the mother (unwanted)

*Webster v. Reproductive Health Services* (1989) - Allowed states (Missouri, in this case) to prohibit the use of public resources (both personnel and facilities) to terminate pregnancy

Work relationships - Refer to workplace diseases, unemployment, and psychosocial factors present at work