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Jill D. Daugherty Date

Men and Unintended Births:
The Influence of Procreative Consciousness and Procreative Responsibility

By

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Doctor of Philosophy

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Men and Unintended Birth:
The Influence of Procreative Consciousness and Procreative Responsibility

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An abstract of
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Abstract

Men and Unintended Birth:
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By Jill D. Daugherty

Background: Approximately half of all pregnancies and 35-37% of all births are unintended in the US. Unintended pregnancies and births are associated with negative consequences for the mother, father, and child. Relatively few studies have incorporated the preferences of men, despite the knowledge that they do have an influence on reproductive decisions. Men's ideas about virility, child-bearing desires, and the responsibility they feel for initiating or preventing conception could affect unintended pregnancy rates.

Aims: Using William Marsiglio's conceptual framework describing men's procreative identities, I investigate how men's senses of procreative consciousness (PC) and procreative responsibility (PR) affect their risk of fathering an unintended birth (UIB) and how differences in the expression of PC and PR among demographic groups help to account for disparities in UIB rates.

Methods: In this mixed methods project, I use the National Survey of Family Growth (NSFG) to examine the impact that different measures of PC and PR have on a man's likelihood of fathering an UIB. On the qualitative side, I analyze the transcripts of focus groups conducted with young, socioeconomically disadvantaged African American and Puerto Rican men to examine how men who have demonstrated high rates of UIB talk about PC, PR, and pregnancy planning.

Results: Analyses of NSFG data reveal that certain aspects of PC and PR have statistically significant effects on the probability that a man fathered an UIB. However, socio-demographic measures (e.g. age, educational attainment, and marital status) still exert an important effect on men's risk for UIB. Analyses of the transcripts demonstrate that men often have a very active sense of PC and a lagging sense of PR, at least in terms of responsibility for pregnancy prevention. However, men consider fatherhood to be an important role and look forward to parenting children. These factors may contribute to their relatively higher risk for an UIB.

Conclusions: My project demonstrates that men do play a role in unintended pregnancy and birth through their values, attitudes, and behaviors towards reproduction. However, the socio-structural position of men in society still has a large, independent impact on a man's risk of fathering an UIB.

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Chapter 1: Introduction and Background

Introduction

For most of modern history, births that occurred to married couples were considered intended and wanted while those that occurred outside of marriage were considered unintended and unwanted (Klerman, 2000). Now it is more widely recognized that anyone, regardless of age, marital status, or parity, may have a pregnancy that is unintended. In most current national surveys that examine pregnancy intentions (e.g. the National Survey of Family Growth and the Pregnancy Risk Assessment Monitoring System), unwanted pregnancies or births are defined as those that are not wanted at any time (from conception onward) by the woman or the couple (if asked). Mistimed pregnancies or births are not desired at the time the pregnancy occurred, although the woman or couple wanted to have one or more children at some point in the future. The term "unintended" is usually applied to both categories of pregnancies or births (Campbell and Mosher 2000).

Unintended pregnancy is an important matter because it is often framed as both human rights and quality of life issues. As stated at the 1994 International Conference on Population and Development (ICPD) held in Cairo, the Program of Action asserted that "all couples and individuals have the basic right to decide freely and responsibly the number and spacing of their children and to have the information, education and means to do so" (ICPD 1994: Principle 8) (Gipson, Koenig, & Hindin, 2008). In the United States, the Institute of Medicine (IOM) has also focused on the importance of having the ability to plan one's pregnancies. The IOM committee on unintended pregnancy "urges, first and foremost, that the nation adopt a new social norm: All pregnancies should be

intended" (Brown and Eisenberg 1995, pg. 3). If we could ensure that all pregnancies in the world were intended and wanted, the Guttmacher Institute data suggests that we would avoid 22 million induced abortions, 1.4 million infant deaths, and 142,000 maternal deaths worldwide each year (Singh, Darroch, Vlassoff, and Nadeau 2003). Moreover, unintended pregnancies are known to be associated with negative consequences for the mother, father, child, and union both in the short-term and long-term (Amato and Maynard 2007; Barber, Axinn, and Thornton 1999; Hardee, Eggleston, Wong, Irwanto, and Hull 2004; Lara, Asuncion, and Navarrete 2006).

Unintended pregnancy can also be considered an economic issue. According to figures put out by the Guttmacher Institute, the cost of one Medicaid-covered birth in the US (including prenatal care, delivery, postpartum care, and infant care for one year) was estimated to be $12,613 in 2008. In contrast, the national per-client cost for contraceptive care in 2008 was $257 for one year (Frost, Henshaw, and Sonfield 2010). Plus, every $1 spent on public funding for family planning saves American taxpayers $3.74 on pregnancy-related costs (Frost, Henshaw, and Sonfield 2010). Thus, unintended pregnancy is a public health concern with social, financial, and human rights consequences.

Extent of the Problem

According to research in the US the prevalence of unintended pregnancy is high and the issue is not expected to improve anytime soon. Most surveys report the proportion of all pregnancies and/or births that were considered unintended (mistimed or unwanted) at the time of conception. The most recent analyses find that nearly half of all pregnancies are considered unintended at the time of conception (Finer and Henshaw

2006b) while approximately 35-37% of all births are unintended (Gaydos, Kramer, and Hogue 2010; Mosher, Jones, and Abma 2012)[1]. Analysis of the National Survey of Family Growth (NSFG) data demonstrate that the proportion of *intended* births decreased from 69.1% to 64.7% between 1995 and 2002; this follows a two decade increase in the proportion of intended births (Finer & Henshaw, 2006; Wildsmith, Guzzo, & Hayford, 2010). The most recent data from the 2006 Pregnancy Risk Assessment Monitoring System PRAMS and the 2006-2010 NSFG actually shows that the proportion of births that are intended has fallen even lower, to 62-63% (Mosher, Jones, and Abma 2012; Young Jr. 2004). Kissin and colleagues attribute the rise in unintended births specifically to an increase in the proportion of unwanted births among women under 20 years of age and women aged 20-24 (Kissin, Anderson, Kraft, Warner, and Jamieson 2008).

Anyone who has ever had sexual intercourse, is able to conceive, and is not currently trying to become pregnant is technically at risk of having an unintended pregnancy and birth (Klitsch 1993). Data from the 2002 NSFG demonstrate that every year, one in 20 American women experiences an unintended pregnancy (Finer and Henshaw 2006b). Some demographic groups, though, are more at risk than others. For instance, the proportion of pregnancies that are unintended is about 82% among teenagers and about 74% for the never-married who become pregnant (Finer and Henshaw 2006b). The proportion of unintended births are 94% among teens and 83% for the never married (D'Angelo, Gilbert, Rochat, Santelli, and Herold 2004). However, only 27% of all pregnancies and 17% of births occurring in married women are unintended (Finer and Henshaw 2006b; Mosher, Jones, and Abma 2012). Aside from age and marital status,

[1] Many unintended (particularly unwanted) pregnancies are terminated, thus producing a relatively lower proportion of births that are considered unintended.

certain socioeconomic and racial groups also demonstrate a relatively higher proportion of pregnancies that are unintended. Women and couples with low educational attainment and with low incomes are more likely to have mistimed and unwanted pregnancies than others. Plus, black women consistently exhibit higher rates of unintended pregnancy and birth in national surveys than white women (Finer and Henshaw 2006b; Mosher, Jones, and Abma 2012), while Hispanic women have demonstrated one of the highest increases in the mean number of unwanted births between 1995 and 2002 (Kissin et al., 2008).

Why does unintended pregnancy happen? Nearly half of the 3.1 million unintended pregnancies in 2001 occurred to women who reported using contraception at the time of conception (Finer & Henshaw, 2006). This still leaves half of all those experiencing an unintended pregnancy not using any form of contraception at the time of conception. If one does not wish to become pregnant, why would one not use some form of birth control during sex? Contraceptive non-users who do not wish to become pregnant are more likely to be black (Odds ratio = 1.8) and high school educated or less (O.R. 2.4) (Wu, Meldrumb, Dozierc, Stanwoodd, & Fiscellab, 2008). Sable and Libbus outlined a number of potential material and psychological barriers to family planning, including attitudinal barriers such as lack of knowledge about contraception or perceptions that birth control is dangerous/incongruent with their religious doctrine or access concerns that may include inability to pay for effective contraception, and a lack of transportation to get to a family planning clinic (Sable & Libbus, 1998). These concerns seem to be especially prevalent among low income women and couples.

However, while it is essential to examine the effect of contraceptive behavior in rates of unintended pregnancy, it is just as important to recognize that multiple

contraceptive-related behaviors can lead to an unintended pregnancy. Among these are having sex without contraception, having sex with a less effective method (e.g. spermicide, withdrawal), and having sex with highly effective method that fails (e.g. when a woman becomes pregnant while using the birth control pill) (Lifflander, Gaydos, and Hogue 2007). Interestingly, recent research using the National Survey of Family Growth estimated that 80% of unplanned pregnancies and abortions among adult women could be prevented if all women who used highly effective contraceptives (e.g. pill, IUD, implants), or their partners used condoms in addition to their regular contraception (Pazol, Kramer, and Hogue 2010). This speaks to the high failure rate and/or imperfect usage of most highly effective contraceptives on the market. Additionally, certain forms of contraception carry different meanings to individuals and couples. For instance, condoms can signal distrust or lack of fidelity (if they are thought to be mainly used for STD prevention) that many women, men, and partners wish to avoid (Edin and Kefalas 2005). Thus, contraceptive non-use is perhaps more nuanced than is typically recognized.

Gaps in the Literature

Numerous studies from different disciplines (e.g. public health, medicine, sociology, psychology, etc.) have been conducted on the matter of unintended pregnancy. Specific topics range from how women conceptualize an unintended pregnancy, the groups are most affected by it, to the long-term consequences of being a child of an unintended pregnancy. Despite the abundance of research, important gaps remain.

One issue is that women are virtually the sole focus of this research. We know less about which groups of men are more at risk for fathering an unintended pregnancy,

whether they conceptualize the pregnancies in the same ways as social scientists do (e.g. intended vs. unintended, wanted vs. unwanted), and what the long-term consequences are for the fathers in going through with an unintended pregnancy. Relatively few studies incorporate the preferences of the male partners, despite the knowledge that men do have an influence on reproductive decisions (Bankole and Singh 1998; Ezeh 1993; Gipson, Koenig, and Hindin 2008; Lasee and Becker 1997; Mason and Smith 2000). Men's ideas about virility, child-bearing desires, and the responsibility they feel for either initiating or preventing conception could affect intended and unintended pregnancies. Obtaining information from men may answer some key questions in the unintended pregnancy debate. Plus, studying men's role in unintended pregnancy may help explain why certain demographic groups in the US (e.g. lower income, minority groups) have higher rates of unintended pregnancy than other groups, a secondary focus of this project (see Lifflander, Gaydos, and Hogue 2007 for a discussion of the pressure some women feel to have a baby with a new partner).

It is important to understand and ameliorate unintended pregnancy, for the good of both society and individuals. It costs more -- emotionally, socially, and financially -- to have an unintended pregnancy than to prevent one. This is especially true of disadvantaged individuals. The role that men may play in ameliorating unintended pregnancy is currently understudied and underappreciated. Despite this, the vast majority of American men plan to become fathers. According to the 2002 NSFG, 77% of child-less men aged 15-44 intend to have a child at some point in the future, while the overall figure is 55% for all men (including those that are already fathers) (Martinez, Chandra, Abma, Jones, and Mosher 2006). In general, men expect to father 2.2 children in their

lifetimes; the figure is slightly higher for less educated men, those with lower incomes, and Hispanic men (Martinez et al. 2006). Thus, most American men expect to be fathers at some point in their lives and actually intend to have more than one child. Fatherhood is something the majority of men aspire to and therefore deserves more consideration in the field of reproductive research.

Theoretical considerations

Marsiglio's Procreative Consciousness and Procreative Responsibility

William Marsiglio (1991) recognized a change in societal expectations of fatherhood that had occurred as a result of the "sexual revolution." In response to apparent changes in men's procreative experiences, Marsiglio outlined a conceptual framework to better understand men's fertility preferences, desires, and practices. In detailing men's relationship to the procreative realm, Marsiglio coined the terms "procreative consciousness" and "procreative responsibility." Procreative consciousness (PC) "refers to various 'states of being,' distinct from specific expectations or feelings of obligation, that reflect men's cognitive and affective activity within the reproductive realm (e.g. fecundity, contraception, pregnancy, abortion, childbirth, and children)" (pgs. 269-270). This concept relates to men's views of their own virility, sexual prowess, desires for children (now and in the future), and ideas about fatherhood. Procreative responsibility (PR), on the other hand, "emphasizes males' preferred and actual level/type of involvement as well as their personal sense of obligation in the areas of contraception, pregnancy resolution, and child support/child care, respectively" (pg. 272). Thus, this concept relates to men's sense of responsibility and autonomy in terms of contraceptive usage (preventing pregnancy), pro-ceptive behaviors (trying to conceive a child),

handling a pregnancy (contributing to the decision of whether to continue with the pregnancy or abort it), and once a child has been born, taking on the role of father.

Marsiglio argues that men's procreative consciousness and procreative responsibility can be global and enduring in nature but also responsive to external contexts, including specific romantic relationships (Marsiglio 1991). Thus, a particular man may desire to become a father at some point in the future (his global procreative consciousness regarding fatherhood desires), but not want to have children with the specific woman with whom he is currently partnered (procreative consciousness affected by context). This has a parallel conceptual reality among women. For example, one study found that women's attitudes about being pregnant in general or someday differed from their desire to be pregnant by a specific partner (Zabin, Huggins, Emerson, and Cullins 2000). In this study of 250 low-income women, the investigators found that 21% of the women had not wished to conceive at least one of their pregnancies with the partner who impregnated them. The authors conclude that "[a]mong these women, the desire to avoid childbearing relates more to the couple involved in the conception than to abstract notions of completed family size." While this study's focus was on women, it is logical to believe the same pattern might hold for men. Thus, it is important to measure relationship context in addition to typically measured variables of age, marital status, income, race, and parity.

Additionally, different facets of a man's PC and PR most likely influence one another. For example, if a man perceives, prior to conception, that he will have little (or no) responsibility for any pregnancies he causes (PR dealing with fatherhood responsibility) – a view that is likely to vary depending on his age and the nature of the

relationship with his partner – he will probably be less concerned about practicing contraception and preventing pregnancy (PR dealing with contraceptive responsibility) (Marsiglio 1991). In turn, one's attitude towards pregnancy (PC) affects one's behaviors towards either preventing or promoting a pregnancy (PR). For instance, empirical research with women has demonstrated that ambivalence about pregnancy (PC) is sometimes manifested in contraceptive risk-taking (PR) (Lifflander, Gaydos, and Hogue 2007; Sable and Libbus 1998)[2]. Another study found that inconsistent contraceptive use rates were also higher among women who reported that they would be happy being pregnant (Sable and Libbus 2000). Similarly, a man with an active procreative consciousness, one who desires to father many children, may be more likely to actively discourage use of contraception (PR). It is important to recognize in our modern context, though, that a man's use of contraception (i.e., a condom, as different from his support of his partner's use of a "female" method) may not stem from his desire to prevent pregnancy; instead he may be concerned with preventing sexually transmitted infections, including HIV. Fortunately, some recent surveys (e.g. the NSFG) have queried men about the motivation behind their contraception (mainly condom) use. Analysis of the 2002 NSFG indicate that 63% of unmarried men who used a condom at last sexual intercourse used it to prevent both pregnancy and disease, 31% used it to prevent pregnancy only, and 5% percent used it for disease prevention only (Martinez et al. 2006). Similarly, the investigators responsible for a 2010 comprehensive sex survey of Americans posit that the increased rates of condom use in the Black and Hispanic

[2] As described in Lifflander, Gaydos, and Hogue (2007), in their study of low-income women and pregnancy planning, the authors note that women who were ambivalent about their pregnancies (i.e. those who describe their pregnancies as neither planned nor unplanned) tended to report deliberate inconsistent use of a method or complete non-use of contraception as a strategy for "planned spontaneity" (p. 88)

communities is likely due to the penetration of the HIV/AIDS prevention message, not out of increased concern for preventing pregnancy (see Dodge, Reece, Herbenick, Schick, Sanders, and Fortenberry 2010; Fortenberry, Schick, Herbenick, Sanders, Dodge, and Reece 2010; Reece, Herbenick, Schick, Sanders, Dodge, and Fortenberry 2010). Despite the reasoning behind it, increased condom use, in conjunction with effective female methods, has been linked to decreased risk of unintended pregnancy in a national survey (Pazol, Kramer, and Hogue 2010).

Societal Context of Reproduction

Marsiglio also posits that different groups of men in the US may have different senses of PC and PR owing to their different sets of circumstances, values, and desires. For instance, men with more traditional views toward gender roles may have a more active procreative consciousness in terms of fecundity and fertility than less traditional males. Men with limited economic opportunities, regardless of their gender role attitudes, may be reluctant to develop a strong sense of procreative responsibility if they perceive that they will be unable to fulfill expectations associated with their partner, father, and sex role identities (Marsiglio 1991). However, it is important to point out at this juncture that the cultural theories (e.g. black Americans or economically disadvantaged groups' "oppositional culture") do not play a role here. Cultural theories that attempt to explain the behavior of these groups have proven to be less than fruitful and there is no evidence that racial minorities and/or the economically disadvantaged in the US subscribe to a set of values that is different from whites (Marsiglio and Pleck 2005).

The issue of "opportunity costs[3]" of having children must be recognized in any discussion of pregnancy intention and desires to help explain why PC and PR may vary between groups of men. The opportunity cost of going through with an unintended pregnancy will vary according to a man's or couple's experiences and goals. For example, a middle class college student understandably has "more to lose" if he or she continues with an unexpected pregnancy than does a lower income man or woman of a similar age who is not in school and working at a low-paying job (or not working at all) (see Adamczyk 2008). The educational system in the US has not been shown to offer the same chances to poor and working class groups as middle class groups because most schools practice a form of pedagogy that requires familiarity with the dominant culture and hence reproduces economic inequalities seen in wider society (Aschaffenburg and Maas 1997; Bourdieu 1977; Bowles and Gintis 1976; Lareau 1987; Lareau 2010; Sullivan 2001). Plus, studies demonstrate that the returns on investment for education are not as great for minority Americans as they are for white Americans; income differentials between non-white high school graduates and college graduates are much less than they are for whites (see Becker 1993; Charles 2003). Perhaps this is why in 2005 just 13.2% of black Americans aged 35-44 had a college diploma (compared to 22.1% of white Americans) (Conley 2009).

Employers often select job candidates on the basis of education, which can stand in for certain cultural attributes, once again excluding the non-elite classes (Collins 1971). Plus, studies have shown that employers engage in statistical discrimination to

[3] In economic terms, an opportunity cost is the opportunity forgone in the choice of one expenditure over another (Elkind, D 1970. *Children and adolescents: Interpretive essays on Jean Piaget*. New York: Oxford University Press.)

pre-judge job applicants based on physical appearance and background (i.e. race and class attributes) (Kirschenman and Neckerman 1991; Messerschmidt 2005; Morrell and Swart 2005; Piore 1970). Additionally, the earnings gap between black and white workers of all educational levels, after diminishing in the 1960s, has increased since the late 1970s (Christie 2010; Conley 2009; Morris and Western 1999; Western and Pettit 2005). Thus, the opportunities the poor forgo when they have kids early have been empirically shown to be fewer and less significant than for middle-class individuals who bear children early (Graefe and Lichter 2002; Manlove 1998).

At the same time, children seem to have little impact on the future prospects of the low-skilled (Edin and Kefalas 2005). Studies have demonstrated that disadvantaged women who have kids early (i.e. in their teen years, outside of marriage) have about the same earnings trajectory as similarly disadvantaged women who wait to have kids until their mid-20s (Ellwood, Wilde, and Batchelder 2004; Geronimus 1997; Hotz, McElroy, and Sanders 1997; Kalil and Kunz 2002). Further, in their study of low-income women who bear children outside of marriage, Edin and Kefalas (2005) found that respondents believe that child-bearing while young and unmarried would not really damage their future prospects, especially as they believe being a good mother does not require a college education. Last, some individuals and couples consider child-bearing and family life to be the ultimate life-goal, rather than education or career. Hence, they do not necessarily believe that having children "gets in the way" of life goals. Education and career, if they come at all, can happen later in life. Many disadvantaged individuals believe that child-bearing should happen when people are relatively young (see Edin and Kefalas 2005). Some sociologists (e.g. Rank 2005) postulate that making employment

opportunities more readily available to the young and disadvantaged can potentially delay child-bearing and allow them to accumulate more income and savings before starting a family. Expectations of success would change, then, if the opportunity structure of disadvantaged people changed (Gould 1999).

Thus, while contraceptive practices (PR) may be for some a behavioral manifestation of fertility intentions (PC), opportunity costs are also bound to affect a man's or a couple's contraceptive habits. According to both economic and sociological theories on fertility, an individual's decision to use an effective vs. ineffective contraceptive method (or even no method at all) is partly a function of his perception of the costs of pregnancy and the costs of obtaining and using different contraceptive methods (see Luker 1977)[4]. It is possible that for some individuals, both men and women, the opportunity costs of an unintended pregnancy and subsequent birth are simply not enough to motivate use of an effective contraceptive (Montgomery 1996). An unintended birth may threaten educational and career aspirations, but if these aspirations are limited for low-income persons, the threat of a pregnancy may not be enough to change behavior (Montgomery 1996). Thus, some groups of men may not have "good enough" reasons to enact their senses of procreative responsibility.

Another complicating factor related to the opportunity costs of pregnancy is the esteem that some men may get from their sense of PC. More specifically, if men associate procreative prowess with masculinity – a practice that is observed in other cultures (Gilmore, 1990; Hill et al, 1959) – they are likely to have a strong sense of PC

[4] While outside of the scope of this paper, it is important to consider that individuals and couples may use certain forms of contraception (e.g. condoms) not necessarily to prevent pregnancy but to prevent the spread of potentially serious sexually transmitted infections such as HIV. This may be an entirely separate motivation for the use of certain contraceptives.

but may not have a very strong sense of PR. Researchers do suggest that men gain esteem and masculinity from their sexual organs and ability to perform sexually (as is evidenced by the unparalleled market success of Viagra once introduced in the market) (Messerschmidt 2005; Thomson 2006). Plus, as heterosexuality is a key feature (if not *the* key feature) of hegemonic masculinity, having (unprotected) sex can be a method to gain status for young men (Morrell and Swart 2005). However, we know less about how biological children affirm men's masculinity and status, although some theorists postulate that children can be a way for men of color and lower income men to achieve masculine status (e.g. Marsiglio and Pleck 2005). At the same time, these theorists acknowledge that because being a breadwinner is still important for a majority of fathers, having children while being economically disadvantaged may not bring these men the same status if the men are not able to financially support their children.

Therefore, although the strength of this relationship in the US is at present unclear, it is likely that restricted access to the conventional cultural status symbols associated with employment may encourage economically disadvantaged males, including those from racial and ethnic minority groups, to perceive paternity (and sexual prowess) as an alternative means to establish their masculinity and enhance their status within their class or community (Anderson 1989; Benoit 1997; Furstenberg 1987; Majors and Billson 1992; Marsiglio 1991). In fact, the 2007-2009 US economic recession hit young, under-educated, minority males harder than any other demographic group. Over 30% of young black men between the ages of 16 and 24 were unemployed during 2009 and 2010, not including those who were not actively seeking work (Sum, Khatiwada, McLaughlin, and Palma 2011). Thus, if an individual is having a difficult time securing

employment as it is, it stands to reason that having a child in the house would possibly not affect the father's future prospects greatly and may give an alternative source of pride. Plus, as argued by masculinity theorist R.W. Connell, black and Latino men already inhabit a "marginalized masculinity" in society simply due to their minority statuses and thus may be searching for alternative means to achieve masculinity and esteem (Connell 1995). Other researchers, though, suggest that when less-resourced men have children and have a difficult time providing materially for them, it is just a reminder of their inability to be economically successful (Liebow 2003). This could be the reason behind the drop in birth rates often seen among all classes of men and women during many recessions in the developed world (Sobotka, Skirbekk, and Philipov 2011).

When these theories are tested empirically among men, as might be expected, the results are mixed. Some researchers posit that because some disadvantaged men state that while unplanned, their pregnancies were not accidental, this indicates that these men may place a higher value on fathering than previously recognized (see Nelson 2004). Marsiglio found that while black adolescents and those coming from poorer neighborhoods were *more* likely than white adolescents or those coming from more affluent neighborhoods to assert that a pregnancy would affirm their masculinity, only a small minority in any of these groups endorsed this view (Marsiglio 1993). However, in a study of 125 recently incarcerated, disadvantaged adolescent males, a majority reported that they would be pleased to get a girl pregnant (73% either "very pleased" or "a little pleased"), 40% thought their parents would be pleased, and 62.4% thought friends would be pleased (Nesmith, Klerman, Oh, and Feinstein 1997). As noted by the authors, these numbers are much higher than what is found in the general population and point to the

possibility that fatherhood means something different to these adolescents than to advantaged or non-institutionalized young men. Additionally, surveys show that there are noteworthy differences between social classes when it comes to the meaning of child-bearing. For instance, male high school drop-outs were more than four times as likely as their college-educated peers to say that they think childless people lead empty lives (Sayer, Wright, and Edin 2003). As noted by Edin and Kefalas (2005), "For the men in [low-income] communities, a child is one of the few things a man can say he has created and one of the few ways he can make an early mark on the world" (p. 60).

Marsiglio and others have called for more research into the various facets of PC and PR. As noted in his 1991 article, a social science research agenda for this area should address three major concerns. First, researchers need to develop valid and reliable measures to assess the structure and meanings associated with specific aspects of PC and PR. Second, investigators need to develop models that clarify how key independent variables (e.g. socioeconomic status, race, parity) account for the different ways in which different men (or groups of men) experience their procreative consciousness and sense of responsibility. Third, the personal and social consequences related to various expressions of men's PC and PR should be examined (Marsiglio 1991). My dissertation aims to address all of these concerns.

Substantive Issues

Research has demonstrated that attitudes and behaviors of male partners are very likely to influence women's intentions, determination of pregnancy as unintended vs. intended, sexual behavior, contraceptive use, and fertility goals (Santelli, Rochat, Hatfield-Timajchy, Gilbert, Curtis, Cabral, Hirsch, Schieve, and Unintended Pregnancy

Working 2003; Stanford, Hobbs, Jameson, DeWitt, and Fischer 2000). Empirically, in a qualitative study of 27 pregnant women seeking prenatal care or abortion, the investigators discovered that the influence of the partner was a very prominent theme affecting the status of both pre-conception desire for pregnancy and post-conception desire for pregnancy. The women stated that their partners exerted influence in terms of steps taken to realize the pregnancy and adaptation to pregnancy and the baby (if the woman went through with the pregnancy) (Stanford et al. 2000). Thus, it appears that these women's partners' PC affected the couples' fertility goals and the women's response to the pregnancy. In this same vein, men do have a role to play in pregnancy prevention.

Men's Role in Pregnancy Prevention

Since the advent of oral contraception, family planning has been largely perceived to be in the feminine domain (Wallace and Carlin 2001). This stance is logical, being that most methods are woman-focused and also allow women control over their own fertility (Darroch 2000). Studies demonstrate that men often rely on their female partners to use contraception and that women typically take greater responsibility for pregnancy prevention (Berlin and Berman 1994; Ekstrand, Larsson, Von Essen, and et 2005; Kero, Hogberg, and Lalos 2001). By the mid 1990's, female methods accounted for 63% of all contraceptive use reported by women of child-bearing age (Alan Guttmacher Institute 2000). The pill, for instance, allows women to use a highly effective form of contraception without needing her partner's cooperation. However, while the 1960s and 1970s saw more couples foregoing condom use in favor of oral contraceptive use and sterilization (Westoff 1976), recent data suggest that individuals and couples may be

shifting back to reliance on condoms or perhaps adding condoms to their sexual practice in order to protect themselves against HIV in addition to prevent pregnancy (e.g. Martinez et al. 2006; Mosher and Jones 2010; Piccinino and Mosher 1998). While oral contraceptives are still the most frequently used reversible contraceptive method by American women (Mosher and Jones 2010), the question of HIV prevention is important to consider when analyzing contraceptive trends and male responsibility in particular especially as dual method use has been shown to dramatically lower the risk of having an unintended pregnancy (Pazol, Kramer, and Hogue 2010).

There are few published studies that examine men's attitudes toward contraception, and the results from these few studies provide mixed findings. In a study of men attending a genitourinary clinic in England, investigators found that while 90% of those with regular sexual partners were using contraception (either male-controlled or female-controlled methods), only 64% stated that they would ensure that they were using contraception with casual sexual partners (Wallace and Carlin 2001). This may demonstrate a certain level of ambivalence by these men on the importance of contraception. Other studies, particularly with young men, have found that men do play a significant role in contraceptive decision-making and find contraception to be important (Danielson, Marcy, Plunkett, Wiest, and Greenlick 1990). For instance, in focus groups convened with young unmarried men and women living in the Denver area, many of the male participants mentioned fear of consequences of unprotected sex (e.g. sexually transmitted infections) and a desire to avoid pregnancy out of a feeling of being psychologically unready to be a father (Landry and Camelo 1994). These fears often led the men to ensure that contraception (most often condoms) was used at each sexual

encounter. Furthermore, National Survey of Family Growth researchers have seen a steady increase in the proportion of men who use a condom at their first sexual experience: among men whose first intercourse occurred before 1980, only 22% used a condom compared with 68% among those whose first intercourse occurred between 1995 and 2002 (Martinez et al. 2006).

Studies find that the extent of male involvement in contraceptive decisions also depends on relationship type. For instance, research found that men who are unmarried and cohabiting (and trying to avoid pregnancy) are more likely to use contraceptives and have more egalitarian views of their responsibility than men who are single or married (Bachrach 1987; Forste and Morgan 1998; Grady, Tanfer, Billy, and Lincoln-Hanson 1996). Marital/cohabitation status has the potential to be one of the critical variables in predicting men's involvement in contraceptive decision-making. Studies suggest that a man involved in a long-term relationship likely would be more concerned with joint decision-making about reproductive health than a man involved in a casual relationship (Forste and Morgan 1998; Inazu 1987; Landry and Camelo 1994). Plus, the more casual a relationship, the more likely a man is to rely on condoms (a method he can control) than other methods (Forste and Morgan 1998; Landry and Camelo 1994). Age also appears to play a role; the NSFG demonstrates that young men take a greater role in contraception and disease prevention by using condoms than older men. For example, among teens, 73% used a condom at last intercourse compared with 55% among those aged 20–24, and 29% among those aged 35–39 (Martinez et al. 2006). Unfortunately, as can be seen from this review, the bulk of the research conducted on male's contribution to contraceptive

decisions and their sense of responsibility for pregnancy prevention was conducted in the 1990s; very little has been done since then, which speaks to the need for updated studies.

Research indicates that most sexually active men report being comfortable talking about matters of contraception and pregnancy prevention with their new partners. For instance, 64% of sexually active young men surveyed as part of the 2002 NSFG said there was ‘‘no chance’’ they would be embarrassed to talk about condoms with their new partner, 18% said ‘‘a little chance,’’ and 18% gave other answers (Martinez et al. 2006). Further, most men (83%) in the survey thought their partners would appreciate it if they used a condom during intercourse (Martinez et al. 2006). Plus, 16% of young men aged 16-24 visited a family planning clinic in the last months for themselves and 8% visited one with a partner. Currently cohabiting men were the most likely to visit a family planning clinic with a partner within the past year (22%) (Martinez et al. 2006). All in all, data from the 2002 NSFG provide an increasingly positive picture of attitudes toward contraceptive practices.

Many leaders in reproductive health believe that men do not have as much incentive to prevent pregnancy as women and that this will not change until society treats men as an integral part of reproductive health care (Edwards 1994). For instance, one study demonstrated that only 32% of adolescent boys receive information regarding sexuality matters during regular health care visits, which may be conveying the message that contraception and pregnancy prevention is not a man’s responsibility (As-Sanie, Gantt, and Rosenthal 2004). Other investigators posit that men *would* like to be more involved in family planning decisions, but because of the preponderance of the birth control pill, they feel excluded and without many options for action (Darroch 2000). As

one men's health advocate states, "There is a self-fulfilling prophecy that men won't respond, so we don't involve them" (Nick Danforth, as quoted in Edwards 1994).

This review shows that, while attitudes may be changing, men still tend to leave contraceptive decisions in their female partner's hands. Studies are finding that an increasing percentage of men, particularly in younger generations, feel both a desire and responsibility to be involved in contraception. As some researchers suggest, this could partly be due to cultural changes, including stricter child support laws as well as increased awareness of HIV (Edwards 1994; Huang 2001; Martinez et al. 2006; Mosher and Jones 2010; Plotnick, Garfinkel, McLanahan, and Ku 2006).

Ideology and ideas about gender roles have been hypothesized to affect how much men are willing to take responsibility for contraceptive matters. As argued by Marsiglio (1993), young men who have stronger traditional attitudes about the male gender role are thought to be more likely to define their masculinity in terms of their virility and ability to cause a pregnancy, and will be less likely to use condoms and participate in discussions about contraceptives. This latter hypothesis has been backed up with survey research which demonstrates that men who conform to more traditional ideas about the male role as measured on the Male Role Attitude Scale (MRAS) are less likely to use condoms consistently and have negative attitudes towards condoms (Marsiglio and Hutchinson 2004).

Men's Role in Pregnancy Resolution

In addition to studies that explore men's attitudes and behaviors regarding pregnancy prevention, many researchers have also focused on how men contribute to pregnancy resolution decisions. The vast majority of research that examines men's role

in the pregnancy resolution process focuses on their influence over abortion decisions. Less is known regarding the process involved in decisions concerning going through with a pregnancy and putting the baby up for adoption. With that being said, currently men have no legal, institutionalized, enforced right to influence a woman's decision to obtain an abortion. Current abortion law gives women the right to decide about ending a pregnancy without her partner's consent – regardless of her marital status (Kost, Singh, Vaughan, Trussell, and Bankole 2008). In theory, this gives the woman virtually complete control of abortion decisions because she may consult with her partner if desired but is not legally required to do so. But other factors may hamper this supposed autonomy in decision-making, including but certainly not limited to financial constraints. A woman may need to consult her partner about abortion simply to gain his help with the cost of the procedure.

The fact that women have complete legal authority over abortion decisions may send a message to men that pregnancy is not their responsibility (Atkinson, MacDorman, and Parker 1998; Finer and Henshaw 2006b) despite the fact that each person in the dyad was equally responsible for creating a baby (Upson, Reed, Prager, and Schiff 2010; Wildsmith, Guzzo, and Hayford 2010). There is an argument that the current abortion law is sexist in that it allows women who become pregnant to force men to become fathers by refusing to have an abortion (Kost et al. 2008). And alternatively, certain men may be precluded from fulfilling their wish to become fathers by their partner having an abortion without including them (see Coyle 2007). Following this logic, it is hypothesized that men may like more of a say in this potentially life-changing decision but that there are structural impediments to doing so.

In fact, some studies have empirically shown that many men would indeed like to be involved in abortion decision-making process (Cubbin, Braveman, Marchi, Chavez, Santelli, and Colley Gilbert 2002; Finer and Henshaw 2006b; Shostak and McLouth 1984). For example, Nelson and colleagues surveyed a group of unmarried college students and found that the majority of students, both male and female, were supportive of male involvement in abortion decision-making. However, in general the male students indicated a desire to be more involved in the decision than the women thought that they should be (Cubbin et al. 2002). For some couples, especially those that are more established, it is often a joint discussion if not a joint decision to have an abortion (D'Angelo et al. 2004; Sable and Libbus 1998). There is evidence to suggest that many couples discuss how to handle an unintended pregnancy *before* one occurs, including the option to have an abortion (Frost and Darroch 2008). In the end, while men would like to contribute to the decision, most still agree that the final decision belongs to the woman (Culwell and Feinglass 2007). Still, relatively little is known about the interpersonal dynamics that surround this decision (Culwell and Feinglass 2007; Nearns 2009; Shortridge and Miller 2007).

Difference Between Men's and Women's Intentions

Empirical evidence demonstrates that men and women may categorize the same pregnancies differentially. For example, the CDC conducted an analysis of the 2002 NSFG for pregnancy intention. They discovered that while the female subjects categorized 14.1% of their pregnancies as unwanted, the male subjects categorized only 8.6% of the pregnancies they were involved in as unwanted (Chandra, Martinez, Mosher, Abma, and Jones 2005; Martinez et al. 2006). While the figures for intended pregnancies

lined up almost perfectly, the percentages of unwanted pregnancies are much more disparate, perhaps reflecting different feelings that men and women have towards these pregnancies. And of course, this may be related to men's and women's different fertility goals and preferences, different senses of procreative consciousness, as well as their different positions in life (e.g. the women may be younger than their partners and less ready to have children, the men may feel more financially stable and ready to have a child, etc.). More research is needed in order to explicate the reasons behind these discrepancies.

Recent research by Kramer and colleagues (2006) questions the utility of the categories of intended, mistimed, and unwanted pregnancies in the first place. They argue that researchers should instead investigate the "readiness" of the individual or couple to have a pregnancy, which captures both intentions as well as behavior. Using 2002 NSFG data, they combined indicators of marital/cohabiting status, contraceptive use at conception, and concordance between a woman and her partner on intention status (based on the woman's report of her partner's desires) in order to determine how "ready" the woman was to become pregnant. Women who were not ready were nearly 19 times (OR 18.9) as likely to report a pregnancy as unwanted or unhappy-mistimed (Gaydos, Kramer, and Hogue 2010). While readiness often lined up with the traditional measure of intendedness, the correlation was not perfect (e.g. 2.4% of "ready" pregnancies were unwanted) (Kramer, Hogue, and Gaydos 2006). Additionally, feelings of readiness may affect an individual's or a couple's pregnancy intentions as one is more likely to intend to become pregnant if he or she feels "ready" (Lifflander, Gaydos, and Hogue 2007). More research is needed to determine the usefulness of measuring the readiness of

individuals'/couple's pregnancies and to see if readiness varies by gender as much as intendedness does.

Similarly, some researchers have started to use the concept of "happiness" when describing feelings about pregnancy instead of the standard "intendedness" or even "readiness." Sable and Libbus (2000), using data from a study of 510 adult women who presented at local health department clinics for a pregnancy test, found that nearly half of the sample who stated that a potential pregnancy was unintended would still be happy about such a pregnancy. The authors state that that attitude towards pregnancy ("happiness) is not the same as pregnancy intention and thus deserves separate measurement and analysis. Heavey and colleagues also used to concept of happiness to differentiate between men's and women's feelings about the same pregnancy; they found that men were in general much happier about pregnancy than women (Heavey, Moysich, Hyland, Druschel, and Sill 2008).

Men's Influence on Women's Pregnancy Intentions

Popular culture and media often depict the role of the heterosexual man in reproductive decision-making as secondary to his partner (Batchelor, Kitzinger, and Burtney 2004; Lupton and Barclay 1997). Not surprisingly, then, the vast majority of studies that examine pregnancy intentions only focus on the female partners. In some surveys (e.g. the NSFG), women are asked to report their (assumed) male partner's intentions about current or past pregnancies. Recently, a handful of investigators have made direct links between a male partner's intentions and desires (whether reported directly through him or by proxy through her) and a female's intentions (e.g. Cowley and Farley 2001; Thomson 1997). Despite this, we still know relatively little about how

much influence a man's pregnancy intentions has on a woman's pregnancy intentions and, thereby, the proportion of unintended pregnancies in this country.

As noted by Montgomery, an important item on the unintended pregnancy (UIP) research agenda is to understand how and when men's and women's reproductive goals coincide with their partner's, and how agreement or disagreement on goals is reflected in contraceptive behavior (Montgomery, 1996). NSFG analyses demonstrates that of all the births that occurred within five years of the interview, 55% were intended by both the mother and the father (as reported by the mother) (Chandra et al. 2005). An additional 23% were intended by either the father or the mother (but not both). Certain demographic factors appear to influence the degree of agreement between partners. Increasing age, being married at the time of birth, and high education increase agreement: about 70% of births to women aged 30-44 and to married mothers were intended by both parents and almost 79% of births to college graduates were intended by both parents (this compares to less than 50% of births to less educated women) (Chandra et al. 2005). When broken out by racial and ethnic background, the highest percentages of jointly planned births were reported by non-Hispanic white women (74%), followed by Hispanic white women (66%), and black women (45%) (Williams 1994). Black women demonstrate a much higher likelihood of having a birth that only the man wanted than non-Hispanic white women and Hispanic women (Williams 1994). This is also the case for never-married women in comparison to ever-married women (Williams 1994). Similar results were found by Waller and Bitler (2008) in terms of differences by marital status: unmarried women were much less likely to want to resolve an unintended pregnancy in the same way as their partners.

These findings speak to the unique difficulty that certain groups face in having jointly planned and agreed upon fertility goals. It is possible that black men and never married men have a relatively stronger sense of PC and a lower sense of PR than white, Hispanic, and married men, thus contributing to these disparities. Unfortunately, the bulk of this research was conducted in the 1980s and 1990s and less is known about the dynamics of today's couples, whether these findings still hold true or if the situation is markedly different. However, it does appear that younger, unmarried, less educated, and minority couples in the US are less likely to agree on fertility goals and preferences than other couples.

What does it look like when the partners cannot agree on fertility? Births that are not jointly planned or jointly agreed upon may be the desire of just the male or just the female partner of the couple. Women, for example, may decide to bear a child against their apparent interests in order to strengthen their relationship or please their partners (if the partner desires the child, for instance) (e.g. Edin and Kefalas 2005; Lifflander, Gaydos, and Hogue 2007; Williams 1994). As pointed out by Lifflander and colleagues, this may create a situation in which the pregnancy may be planned but results in the birth of an unwanted child if the woman cannot care for it (Lifflander, Gaydos, and Hogue 2007). If a woman wants a child and her partner does not, on the other hand, she may decide to go through with a pregnancy without his support because she does not agree with abortion, is ready to have a child regardless of her partner's opinion, thinks she can support the child on her own, or for other reasons (Williams 1994). Men and women also demonstrate different reasons for desiring children and different reasons for remaining child-free. Landridge and colleagues found that men were more likely to want to pass on

the family name and to strengthen the intimate relationship through child-bearing, whereas women were more likely to state their "biological drive" pushed them to want to have kids. On the other hand, men were more likely to not want to have children for fear of strain on the relationship, whereas women were more likely to say that they did not want to have children because their partner did not (Langdridge, Sheeran, and Connolly 2005).

This last study brings up the question of whether one person has more power in making these decisions than the other in a partnership. Research from the 1980s found that when couples disagreed about fertility goals, either the wife's view prevailed or the two partners were equally influential (Beckman 1984). Similarly, a recent study of Italian couples found that women were more influential in fertility planning when the two individuals did not necessarily initially agree (Testa, Cavalli, and Rosina 2011) and an American analysis of the National Study of Families and Households found that women's intentions were most important in predicting the decision to have a child (Rhea 2002). However, this is not always the case. A German study found that while both partners' intentions and desires matter, when partners have opposing desires (i.e. one partner wants a child, the other does not), bargaining power due to advantageous position in the job market can play an essential role for imposing one's will on the other partner. In other words, whoever in the partnership has more to lose or gain in the job market may be the one having the final say in child-bearing decisions (Bauer and Kneip 2012).

While most of the extant literature regarding pregnancy intention focuses on women, it is clear that their male partners do matter in forming the women's intentions. As mentioned above, male partners' pregnancy intentions are most often gathered

through proxy; the interviewed woman will be asked to report her partner's feelings about the pregnancy. Only recently have some surveys (e.g. the 2002 and 2006-2010 NSFG) directly queried men about their pregnancy intentions. There is most often a correlation between the male's reported intention and her intention, though. For example, using the youth cohort of the National Longitudinal Survey of Labor Market Experiences, Joyce and colleagues (2000) analyzed data from a sub-sample of 240 women who reported being pregnant during the previous survey. The investigators were able to interview these women twice: both during their pregnancy as well as after the baby had been born in order to determine the stability of the pregnancy intention. They found that there was a correlation between a male partner's pregnancy intention (as reported by the mother) and the probability that the woman will switch her pregnancy intention to better line up with her partner's intention. Specifically, among women who consistently report the pregnancy to be intended (both during the pregnancy and after birth), only 3.3% report during pregnancy that their spouse/partner did not intend the pregnancy; 56.3% of women who switch from intended (during pregnancy) to unintended (after birth) report that during pregnancy that their spouse/partner did not intend the pregnancy; and a remarkable 95% of women who switch their report of their own pregnancy from unintended to intended report that their spouse/partner intended the pregnancy ($p \leq 0.05$ Fisher's exact test (two-tailed) of differences in outcome) (Joyce, Kaestner, and Korenman 2000).

These findings lend support to the idea that the father's conceptualization of the pregnancy strongly influences the mother's conceptualization of the pregnancy, *especially* when he intended the pregnancy and she did not. If the male partner has a

well-defined procreative consciousness, finds sexuality to be important, and has a strong desire to father children, it is not difficult to understand how his feelings may influence a woman's feelings, especially if her PC is less well-defined. Even if the female partner is unsure about how she feels about her pregnancy, having an enthusiastic male partner may encourage her to be positive about the baby and consider it to be wanted (see Cowley and Farley 2001; Edin and Kefalas 2005).

There are several studies that document that male's intentions and desires for pregnancy and child-rearing may be particularly influential among adolescent couples. One study conducted with young women living in a rural area and another study conducted with low-income African American adolescents both found that the women were more likely to report a greater degree of desire for pregnancy if their male partners wanted them to get/be pregnant (Cowley and Farley 2001; Crosby, DiClemente, Wingood, Harrington, Davies, Hook, and et al 2002). In fact, the best predictor of an adolescent girl's attitude toward pregnancy is her *perception* of her boyfriends' desire for a baby (Cowley and Farley 2001). A third study conducted with female teenagers presenting to a reproductive health clinic in the northeast found that the male partners of these young women were more likely to want a pregnancy than the women themselves. Additionally, respondents who reported a male partner who felt positively about their pregnancy were more than four times as likely to report wanting to be pregnant at this time or sooner compared to those who report unhappy or ambivalent partners (OR 4.354; P =.02) (Heavey et al. 2008). Thus, among adolescent women, men's thoughts and desires about pregnancy and child-bearing do influence the women's desires and intentions about becoming pregnant and continuing with the pregnancy.

The current focus on whether a woman intends pregnancy implies that her intentions "count" the most in terms of planning the pregnancy, going through with the pregnancy, and consequences of the pregnancy. However, as noted by Santelli and colleagues, for millions of women in the US and around the world, the power to render these intentions into certain behaviors is restricted by limited access to resources (e.g. contraception) or services (e.g. medical care and education) and limited control over their own bodies (Santelli et al. 2003). This is an issue not to be taken lightly. While many may consider women's intentions to be most important because they are the ones carrying the babies, their intentions may not "matter" in practice. It is possible, as evidenced by the findings of male influence above, that men have more power over pregnancy than is typically assumed.

How Intentions Affect Behavior

Much research has been conducted regarding how a woman's or a couple's pregnancy intentions and plans affect contraceptive practices. Intention in this context relates to an individual's procreative consciousness; how he/she views his/her virility, desires for child-bearing and parenting, etc. Analysis of the 2002 NSFG data found that women who did not intend to have a birth were significantly less likely to experience a contraceptive failure (9.2%) than women who did intend to have a birth sometime in the future or were unsure about their intentions and fertility goals (13.9%). Additionally, the investigators found that female respondents using the pill to avoid pregnancy but intending to have a birth at some point in the future are 1.7 times as likely to experience a pill failure as those not intending to have a future birth (Kost et al. 2008). This suggests that, subconsciously or consciously, an individual's pregnancy intentions and fertility

desires influence his/her contraceptive practices. However, the correlation between pregnancy intentions and consistent use of contraception is less clear. While Frost and colleagues found a positive relationship between strength of motivation to prevent an unintended pregnancy and using contraception continuously (Frost, Singh, and Finer 2007), Wu and colleagues, also using the 2002 NSFG, found no significant differences between the proportions of inconsistent contraceptive users and consistent users with respect to future pregnancy intentions (Wu, Meldrumb, Dozierc, Stanwoodd, and Fiscellab 2008). More work is needed in this area.

Men's Role in Raising Children

The most recent National Survey of Family Growth (2006-2010), which samples a group of 4,928 men aged 15-44 across the US and represents the 61.1 million men of the same age in the household population, is a premier survey on men's sexual health, sexual habits, and fatherhood. In 2006 Martinez and colleagues conducted a descriptive analysis of the NSFG and found that nearly 75% of fathers who have children under the age of 19 live with their children (i.e. are co-residential fathers) (Martinez et al. 2006). The more education the father has the more likely he is to live with his young children. Black men are much less likely to live with their children under the age of 19 (47%) than non-Hispanic white men (81%); however, this difference is almost entirely explained by the fact that black men are much less likely to be married to the mothers of their children and unmarried fathers overall are less likely to co-reside with their children (Martinez et al. 2006).

A 1988 survey of young men found that 97% of the respondents agreed that men and women should be equally responsible for the care of their children and 95% agreed

that men should financially support their children (Marsiglio 1993). One measure of fathers' involvement is participation in daily activities of their children's lives. One study found that 53% of men who live with their young children report bathing them every day and another 30% report bathing them several times a week. More educated men are more likely to report regularly bathing their children than men with less education. Co-residential black men are the most likely to report bathing their children daily (61%), followed by non-Hispanic white men (54%), and lastly Hispanic men (32%) (Martinez et al. 2006). The majority of men who live with their very young children report playing with them every day (81%). Fifty-six percent of men who live with their young children report reading to them every day or several times a week (Martinez et al. 2006).

More than half of American men report helping their school-age children with homework several times a week or daily. These figures were highest for Hispanic men (60%), then non-Hispanic white men (58%), and lastly black men (51%) (Martinez et al. 2006). For all of these figures, non-resident fathers were much less likely to participate in the activities than resident fathers. As an illustration, only 8% of all non-resident fathers reported helping their school-age children with homework every day or several times a week. And finally, overall, men consider themselves to be doing a good job at fathering, especially when we look at resident fathers. Data from the NSFG show that a full 90% of men with co-residential minor children compared to 56% of non-resident fathers view themselves as doing a good job or very good job as a father (Martinez et al. 2006).

Fathers' roles may have different meanings for different groups which in turn may affect fertility planning. Middle class men may take a more involved role in child-rearing than lower-income men, the reason behind this difference may lie in the view of fatherhood taken by Willis and Haaga, who suggest that some (lower SES) men may derive utility and pride simply from knowing (or making it known) that they are fathers. As noted by Edin and Kefalas (2005), children can provide motivation and purpose in a life stalled by uncertainty and failure. This pride and satisfaction is available to men even if they are not really involved with care-taking and allow the mother to take on the lion's share of responsibility, both materially and emotionally (Montgomery 1996; Willis and Haaga 1996). Thus, some men may be thought of as having a heightened sense of procreative consciousness – in the sense of wanting to procreate – but a low sense of procreative responsibility – in the sense of not taking an active role in child-rearing once the child is here. In a 1984 study describing a survey with 663 black inner-city males, when asked why becoming a father now would be a problem, 63% said they would have a hard time finishing school, 53% think fatherhood would cost too much, and 23% think they would find it hard to get a job. However, only 34% of respondents said they'd be "very upset" if they got a girl pregnant in the next six months (Clark, Zabin, Hardy, and Clark 1984). This demonstrates either a certain level of ambivalence about pregnancy, an admission that getting a girl pregnant may not affect these boys as much as the girls, or a realization about their lack of control over fertility. Plus, as discussed by Edin and colleagues, children are often considered a natural by-product of being in a serious relationship for lower-income couples (Edin, England, Shafer, and Reed 2007).

Therefore, for this group, pregnancy may not be something worth worrying about; it is simply part of the package of being in a relationship.

Social Determinants of Unintended Pregnancy

A secondary focus of my dissertation is to see if men's senses of procreative consciousness and procreative responsibility contribute to disparities seen in the unintended pregnancy rate across the US. Thus, it is important to examine what we know about these disparities in the first place. As mentioned in the introduction, the vast majority of the statistics reported thus far focus on the risk for women. However, we might conjecture that the statistics for different groups of women would line up with the statistics for the corresponding groups of men. Although interracial marriage is increasing and rates vary by specific race (Pew Research Center 2012), most individuals generally partner with those similar to themselves in status and background (e.g. when looking at race specifically, only about 3% of births to white and black mothers result from inter-racial coupling and the US census shows that only 15% of US marriages are between inter-racial couples) (Atkinson, MacDorman, and Parker 1998; Jones and Smith 2006; Pew Research Center 2012).

In general, women at risk for an unintended pregnancy are those who are sexually active, not sterile, whose partner is not sterile, not currently pregnant, and are not trying to become pregnant. Similarly, men at risk of having an unintended pregnancy are those who are sexually active, not sterile, whose partner is not sterile and are not trying to become pregnant (note: unlike women, current pregnancy status of a man's sexual partner does not determine whether or not he is at risk of having an unintended pregnancy as he could have multiple partners with varying pregnancy statuses. Having one pregnant

partner does not preclude him from having another partner at risk of an unintended pregnancy) (Gaydos, Hogue, and Kramer 2006; Mosher, Martinez, Chandra, Abma, and Willson 2004b). Contraceptive habits are typically factored into surveys' estimates of women and men at risk for an unintended pregnancy; however, slightly more than half (52%) of unintended pregnancies occur among women and men who are not using any form of contraception during the month of conception (Finer and Henshaw 2006b). Contraceptive non-use is responsible for 50% of all pregnancies that end in abortion (Jones, Darroch, and Henshaw 2002).

Several social determinants are closely associated with unintended pregnancy. For instance, age is one of the strongest predictors of experiencing an unintended pregnancy. In general, younger women and men have higher proportions of pregnancies that are unintended than older women and men. Women aged 18-24 experience an unintended pregnancy proportion that is double that of the entire population and the proportion declines with age (although there is a spike for women at the end of their reproductive years). For example, in 2001, while 79% of all pregnancies occurring to women aged 18-19 were unintended, the corresponding figures for women age 20-24 was 60%; for women aged 25-29 it was 43%; for women aged 30-34 was 33%; and for women aged 35-39 was 29% (Finer and Henshaw 2006b). Young women are more likely to label their pregnancies as mistimed versus unwanted, though, indicating that timing of the pregnancy is the issue, not their global desire to have a child in the future (Barber and Emens 2006). While much of the age difference in unintended pregnancy rates may be attributable to fertility goals and timing, younger women and men also are more likely to demonstrate inconsistent contraceptive use (perhaps due to more

inconsistent sex) and experience more contraceptive failure. For example, in both the 1995 and the 2002 NSFG, women aged 30 and older were less likely to experience a contraceptive failure than were younger women (Kost et al. 2008). Women under 20 years of age had a contraceptive failure probability of 15.6%, women aged 20-24 had a failure probability of 17.1%, women aged 25-29 had a failure probability of 14.6%, and women aged 30 years and older had a failure probability of 11.9% (Kost et al. 2008). However, women over the age of 40 who are still at risk of unintended pregnancies are more likely to not use any form of contraception than younger women (OR = 6.3) (Wu et al. 2008).

Unintended pregnancy proportions vary widely by race or ethnicity. Again, it is important to point out that most studies have looked only at women, but the rates can assumed to be similar for their male counterparts as multi-racial coupling that result in child-bearing is still relatively rare (see Atkinson, MacDorman, and Parker 1998). Black and Hispanic women have dramatically higher percentages of UIP than white women; in 2002, 40% of pregnancies experienced by white women, 54% of pregnancies experienced by Hispanic women, and 69% of pregnancies experienced by black women were unintended (Finer and Henshaw 2006b). As reported by Wildsmith, Guzzo, and Hayford (2010), mistimed and unwanted births seem to occur somewhat later in the lifecourse for white women than for Hispanic and black women; perhaps this indicates more trouble controlling fertility at the end of the reproductive career for white women and more trouble for minority women early on. While this study addressed unintended births and not unintended pregnancy per se, one might assume that the pattern for unintended pregnancy would be similar as unintended pregnancies are equally likely to end in birth

(44%) as in abortion (42%) for American women (Finer and Henshaw 2006b). Much of the high unintended pregnancy proportions for young Hispanic and black women can again be attributed to contraceptive non-use and contraceptive failure. Black women, for example, have almost a three-fold increased risk of contraceptive non-use compared to white women (Upson, Reed, Prager, and Schiff 2010) and they are significantly more likely to experience a contraceptive failure than other races (Kost et al. 2008).

However, the racial disparity is highly correlated with socioeconomic differences. Racial minorities are much more likely to be socioeconomically disadvantaged than white Americans: the proportion of black Americans living in poverty is 24% while the figure is just 10% for white Americans (Rank 2005). Adjustment for SES (e.g. poverty status, maternal education, paternal education, respondent education, occupation, etc.) attenuates, but does not fully explain, the racial/ethnic disparities in UIP seen in national surveys (Cubbin et al. 2002; Finer and Henshaw 2006b). Not surprisingly, socioeconomic status has a large, independent effect on unintended pregnancy. Socioeconomic status has long been considered to be a "fundamental cause" of health and disease, impacting everything from infant mortality rate and risk of developing cancer (Link and Phelan 1995). Sixty-two percent of all pregnancies in women living below the poverty line are unintended, while just 38% of all pregnancies in women living at twice the poverty level are unintended (Finer and Henshaw 2006b). This disparity by income also appears to be growing throughout the past 10-20 years and there is a clear gradient in the odds of unintended pregnancy across SES levels, as opposed to a threshold. In other words, the more income and/or education one has, the less likely he/she is to experience an unintended pregnancy (Cubbin et al. 2002). However, it is

important to recognize the recursive effect that SES has on UIP: lower SES groups have higher proportions of UIP and UIP may have a negative effect on future SES as children are very resource-consuming. Thus, one unintended pregnancy can beget subsequent unintended pregnancies (e.g. Wildsmith, Guzzo, and Hayford 2010).

Some of the explanations for this SES gradient include marital status (high SES individuals are more likely to be married and pregnancies within the context of marriage are more likely to be intended), insurance coverage (and hence ability to get contraceptives), and abuse (lower SES women, in particular, are more likely to experience intimate partner violence and have less control over fertility) (Cubbin et al. 2002). And studies have demonstrated that lower SES women do desire to prevent pregnancy; they just are not always able to do so (Sable and Libbus 1998).

As mentioned, insurance status is tied to unintended pregnancy and deserves independent study. As expected, the uninsured and those covered by government insurance programs (e.g. Medicaid) generally have higher rates of unintended pregnancy than those with private or employment-based insurance plans (D'Angelo et al. 2004). It is much easier for an insured person to obtain contraceptives (Culwell and Feinglass 2007; Frost and Darroch 2008; Shortridge and Miller 2007). For example, an analysis of the 2002 BRFSS data demonstrated that uninsured women aged 18–44 who were at risk for unintended pregnancy were 30% less likely than their insured peers to use prescription contraceptives (Culwell and Feinglass 2007). Plus, there is a gradient of contraceptive use by type of insurance; the lowest proportion of contraceptive use is found in the uninsured, a bit higher for those on Medicaid, and highest for those with private insurance (Nearns 2009). The possession of health insurance can be a general

signifier of one's place in society and one's ability to control life experiences, including fertility. Researchers from the Centers for Disease Control and Prevention analyzed PRAMS data in four states for unintended pregnancy prevalences among women obtaining prenatal care. They found that for women whose prenatal care was paid by Medicaid, the state-specific percentages for unintended pregnancies ranged from 58.9% to 65.3% of all pregnancies; for HMO enrollees, from 23.5% to 29.0%; for private commercial insurance enrollees, from 25.2% to 36.0% (Centers for Disease and Prevention 1999). What's more, rates of uninsurance and government insurance are higher among the young, minorities, and lower-income groups, compounding the unintended pregnancy problem.

Relationship status also is a significant predictor of unintended pregnancy risk. Analysis of the 1995 and 2002 NSFG data reveal that unintended pregnancy percentages are higher among unmarried than married women and are particularly high among cohabiting women. Overall, 74% of pregnancies occurring to unmarried women were unintended while the same figure is just 24% for married women (Finer and Henshaw 2006b). According to PRAMS data, unmarried women are at a significant risk particularly of having an unwanted pregnancy (vs. mistimed) (D'Angelo et al. 2004). Again, much of these disparities is attributable to contraceptive habits. In 1995, all unmarried women (cohabiting, formerly married, or never married) had a markedly higher risk of contraceptive failure than married women. By 2002, only cohabiting women had a significantly higher risk of failure than married women. In 2002, for example, cohabiting women had a contraceptive failure rate of 21.7%, while married women had a failure rate of 9.5% (Kost et al. 2008). Finally, it is important to point out

again that marital status is likely to be capturing unmeasured socioeconomic factors (Cubbin et al. 2002). For instance, marriage is more common among higher SES groups than lower SES groups, and we saw above that SES is an independent predictor of unintended pregnancy.

Religion is often considered an individual-level social determinant of unintended pregnancy. Because many religions explicitly or implicitly condemn abortion, the cost of experiencing an unintended (and especially an unwanted) pregnancy would be higher for those women affiliated with those religions. Therefore, it makes sense that such women and men would tend to use more effective forms of contraception and avoid an unintended pregnancy (Grady, Klepinger, and Billy 1993). However, recent empirical work has found that religion does not have a significant impact on contraceptive use for adults; percentages were similar for Catholics, Protestants, and non-believers alike (Kramer, Hogue, and Gaydos 2007). Additionally, a new study found that on average, 11% of women at risk for unintended pregnancy are not using contraception, and levels of non-use do not differ by religion, frequency of attendance, or importance of religion (Jones and Dreweke 2011). Therefore, religion may not have as much of an effect on unintended pregnancy rates in the general population, but we should still allow for individual variation (e.g. Catholic individuals or couples who refuse to use contraception under the Pope's decree). However, religion may have an effect on unintended births via judgments about the acceptability of abortion: women who identify with a mainline Protestant denomination or as Catholic are more than twice as likely as women who identify with a conservative Protestant denomination to obtain an abortion when faced with an out-of-wedlock unintended pregnancy (Adamczyk 2008).

Parity - how many children an individual or couple already has - is positively related to the risk of unintended pregnancy. The more children an individual or couple has, the more likely it is that they have achieved a desired family size and thus are at risk of an unintended or unwanted pregnancy (Grady, Klepinger, and Billy 1993). For example, if a woman or couple wants to have two children over their reproductive career and reaches that goal when the woman was 30, she will be at risk for an unintended/unwanted pregnancy until she reaches menopause or she or her partner gets sterilized. In fact, PRAMS data demonstrate that the proportion of births that are unwanted is higher among women who already have at least three children compared with women who only have one or two children (D'Angelo et al. 2004). Thus, unintended pregnancies can occur to an individual/couple at any point in their life course. Despite this, is important to consider the differential impact that a so-called unwanted pregnancy will have on these different groups. An unwanted first child is likely to have a much greater impact on a young woman's life chances than on a woman who already has two children and is more settled in her life (e.g. Barber, Axinn, and Thornton 1999). This could explain the reason that some investigators are finding that older married women are ambivalent to or even open towards so-called unintended pregnancy (e.g. Lifflander, Gaydos, Hogue, and Calles N.D.) – it may not impact their current lifestyle and standard of living as much as it would for a younger woman.

The preceding discussion has demonstrated that not all women, men, or couples are at equal risk of having an unintended pregnancy. Younger individuals (e.g. especially women and men in their early 20s), those with less economic means, and minorities in particular have a much higher risk of becoming pregnant unintentionally. A portion of

this dissertation will focus more on these groups and in particular determining the contribution of the male partner's sense of procreative consciousness and procreative responsibility to the relatively high rates of UIP among them.

How do Men and Women Deal with Unintended Pregnancy?

The topic of how men and women deal with or handle an unintended pregnancy is one that is not well researched. A small interview study of men (n=20) whose partners had experienced an unintended pregnancy found that in matters of contraception, pregnancy planning, and decision-making about pregnancy outcome, most men had deferred to their partner (Johnson and Williams 2005). This lack of involvement was most apparent in prevention of and response to unintended pregnancy. The men in this study typically relied on their partners to be using an effective form of contraception. When an unintended pregnancy did occur, though, these men characterized their role in the decision-making process about what to do with the pregnancy as simply "supportive." The authors remarked that while this stance may seem commendable, in another way it can be viewed as the men distancing themselves from pregnancy and putting the brunt of the responsibility on their partners. This is another way to conceptualize the lack of procreative responsibility among men.

However, the investigators also noted that while they often voluntarily and knowingly relinquished decision-making power to their partners, men sometimes felt excluded from making these decisions, too. For example, if their partners opted to not include them in important reproductive decisions (e.g. the woman decides to take birth control pills without consulting her partner, she decides to get an abortion on her own, etc.), they may feel "left out." In the end, Johnson and Williams (2005) found that even

if these couples discussed at length the unintended pregnancy and what should be done about it, it was obvious that the women carried most of the decision-making weight.

Consequences of Unintended Pregnancy

While we know relatively little about how women and men handle the experience of having an unintended pregnancy, we know quite a bit about how an unintended pregnancy affects the woman, man, and baby. However, it is important to point out, as did Pulley and colleagues, that the consequences of an unintended pregnancy should be expected to vary according to whether they are mistimed (and to what extent) or explicitly unwanted and what these classifications mean to the individuals and couple involved (Pulley, Klerman, Tang, and Baker 2002). For instance, while a couple having a baby in their early 20s may consider the pregnancy to be wanted but mistimed (because they did want to have children at some point, just not quite so soon), another couple in their 30s who already have three children may consider the current pregnancy to be unwanted because they thought they were done bearing children. However, the consequences to these two couples do not depend solely on the classification of the pregnancy. Although the latter couple is having an unwanted pregnancy, not simply mistimed, the effects to this couple's finances and overall future may not be as great as those to the young couple having the mistimed baby, especially if this baby is interfering with educational or career goals. D'Angelo and colleagues argue that because the individuals making up the mistimed vs. the unwanted pregnancy groups are so different (in terms of marital status, age, parity, SES, etc.), they should be considered two analytically separate groups (D'Angelo et al. 2004).

Data also show that children are affected by intention status as well. Outcomes for babies on a variety of measures (e.g. prenatal care, whether the woman smoked during pregnancy, etc.) are worse for children born of an unwanted pregnancy than those born of a mistimed pregnancy, even after controlling for background factors (D'Angelo et al. 2004; Joyce and Kaestner 2000). In sum, the classification into intended, mistimed, and unwanted births is perhaps not as straightforward as we had first considered, and this needs to be kept in mind when looking at the consequences of these pregnancies (Safman, Arguillas, and Williams 2003).

With respect to the effects on the partnership, we know that women's views of the intention of their pregnancies as well as the level of couple agreement about that pregnancy can affect marital or couple satisfaction during pregnancy (Bouchard, Boudreau, and Hébert 2006; Hohmann-Marriott 2009; Snowden, Schott, Awalt, and Gillis-Knox 1988). Research conducted in the US as well as around the world has demonstrated that unintended child-bearing has negative effects on a mother's mental health: she has a significantly increased risk of depression (Barber, Axinn, and Thornton 1999; Lara, Asuncion, and Navarrete 2006; Lau and Wong Fu Keung 2007; Najman, Morrison, Williams, Andersen, and Keeping 1991; Nakku, Nakasi, and Mirembe 2006) and anxiety (Najman et al. 1991). Plus, similar research has correlated unintended, and particularly unwanted, child-bearing with a decline in psychological well-being or psychosocial conditions (Hardee et al. 2004; Laukaran and van de Berg 1980). If the unintended/unwanted pregnancy occurs in context of unmarried relationship, the single parent (typically the mother) is at a greater risk of poverty (Amato and Maynard 2007). Plus, for the child, living with a single parent is a major correlate of childhood poverty.

In regards to the father, as noted by Gipson and colleagues, there is a relative absence of studies designed to assess the potential consequences to fathers of unintended pregnancies (Gipson, Koenig, and Hindin 2008).

More is known about the consequences of unintended pregnancy and child-bearing on the babies. A baby born from an unintended pregnancy is less likely to be breastfed (or if breastfed, for a shorter amount of time) than a baby who was intentionally conceived (Joyce and Kaestner 2000; Korenman, Kaestner, and Joyce 2002; Kost, Landry, and Darroch 1998; Taylor and Cabral 2002). Studies conducted in developed countries other than the US demonstrate an association between unintended pregnancy and later child abuse (Goto, Yasumura, Yabe, Anazawa, and Hashimoto 2005; Hunter, Kilstrom, Kraybill, and Loda 1978; Sidebotham, Heron, and ALSPAC Study Team 2003; Zuravin 1987; Zuravin 1991). As noted in the beginning of this section, the type of "unintendedness" matters: women who carry an *unwanted* pregnancy to term are more likely to smoke, receive delayed prenatal care, and have low birth weight infants than women carrying *mistimed* pregnancies to term (D'Angelo et al. 2004). Long-term effects on these children include poor schooling, employment, and social adjustment outcomes (Kubicka, Matějček, David, Dytrych, Miller, and Roth 1995; Myhrman, Olsen, Rantakallio, and Laara 1995).

Why would children born of unintended pregnancies, either unwanted or mistimed, suffer? The famed economist Gary Becker posited almost 40 years ago that an unintended birth may increase family size and lower the average "child quality" because more resources are needed to produce a given level of child quality (Becker and Lewis 1973). In other words, a family's resources will be spread thinner and thinner with more

children born; this may contribute to financial stress and mental strain, and increase chances of poor parental behavior (including child abuse). However, some researchers suggest that it is not pregnancy intention that matters when predicting child outcomes, but parental background variables (which themselves are then correlated with pregnancy intention) (Gipson, Koenig, and Hindin 2008). Differences in pregnancy recognition alone could explain differences in delay of prenatal care by pregnancy intention (Joyce and Kastener, 2000). In other words, women having an unintended pregnancy may recognize that they are pregnant later than women intending to get pregnant, thus delaying the first prenatal visits.

In summary, men do matter when it comes to reproduction and specifically unintended pregnancy and birth. William Marsiglio's concept of procreative consciousness and procreative responsibility give us a new avenue with which we can study the impact that men have on unintended pregnancy and reproduction in general. Researchers need to examine whether men's views of their own virility, sexual prowess, desires for children (now and in the future), ideas about fatherhood (PC) and their sense of responsibility and autonomy in terms of contraceptive usage, pro-ceptive behaviors, handling a pregnancy and fathering roles (PR) impact their chances of fathering an unintended birth. Studies imply that men who have a high sense of PC but a low sense of PR are more likely to be involved in an unintended pregnancy and birth than other men. Plus, previous research lends support to the idea that the father's conceptualization of the pregnancy strongly influences the mother's conceptualization of the pregnancy.

This review has demonstrated that in general, men have shown an increasing desire to be involved in decisions regarding reproductive, but that it is still possible that

men will not have as much incentive to prevent pregnancy as women do until society treats men as an integral part of reproductive health care. With nearly half of all pregnancies in the US being unintended, it is time that we include men in the research.

Research Questions

Based on the previously cited gaps in the unintended pregnancy literature as well as a theoretical framework describing men's views of fertility (Marsiglio 1991), I have one overarching research question and several sub-questions to investigate in my dissertation. These are listed below with data sources in parentheses. The overarching research question is: How do men's senses of procreative consciousness and procreative responsibility affect unintended pregnancy rates? Specific research questions include the following:

1. What concepts make up men's procreative consciousness and procreative responsibility?
2. How do men who are at a relatively high risk for fathering an unintended pregnancy/birth talk about procreative consciousness and procreative responsibility in everyday life?
3. How do the concepts of procreative consciousness and procreative responsibility correlate with the likelihood that one has fathered an unintended birth?
4. How much do differences in the concepts of procreative consciousness and procreative responsibility explain differences in the likelihood of fathering an unintended birth?

Chapter 2: Methods

Quantitative Methods

Sampling

For the quantitative portion of my analysis, I used data collected as part of the National Survey of Family Growth (NSFG) conducted by the National Center for Health Statistics (NCHS). Since 1982, NCHS has periodically surveyed a nationally representative sample of women aged 15-44 in their homes and, beginning in 2002, they have surveyed a similar sample of men. For my project I used the 2006-2010 version of the NSFG male file. This research is based on interviews with 10,403 men conducted from June 2006 through June 2010. Interviewing and data preparation for the survey was carried out by the University of Michigan's Institute for Social Research, under a contract with the NCHS. The 2006–2010 NSFG is based on a nationally representative, multistage, area probability sample drawn from 110 primary sampling units (PSUs) across the country. PSUs are counties or groups of adjacent counties. From each PSU, secondary units, called segments, were selected. Segments are, approximately, neighborhoods or groups of adjacent blocks. In each selected segment, procedures were used to obtain a housing unit sample (Lepkowski, Mosher, Davis, and al. 2010). Screening interviews were conducted in each sampled household, to determine if anyone 15–44 years of age lived there and if so, to select one person from the household for the NSFG interview. The sample was designed to produce national estimates.

The interviews with men lasted an average of 60 minutes, and the response rate was about 75% (Lepkowski, Mosher, Davis, and al. 2010). Data collection was conducted only by in-person, face-to-face interviewing, with the respondent's privacy and confidentiality ensured. Interviewers asked questions about fertility, contraceptive

use, sources and types of family planning services, and paternal and child health using structured questions similar to those used in the 2002 (Cycle 6) NSFG (Lepkowski, Mosher, Davis, and al. 2010). More information about how the survey was planned and conducted is available in reports released by the NCHS (Groves, Mosher, Lepkowski, and Kirgis 2009; Lepkowski, Mosher, Davis, and al. 2010). All estimates of percentages and numbers in this report use sampling weights that are designed to produce unbiased estimates for the approximately 62 million men aged 15–44 in the United States. Each table includes standard errors as a measure of the sampling variability of each estimated percentage. The bulk of my analyses will focus on the weighted sample of men (unweighted n=2,241; weighted n=14,973,574) who have fathered a birth within the last five years.

Measures

Outcome Variable

The men in the NSFG were asked about any live births that they have fathered in the last five years. For each birth they had experienced, respondents were asked a series of questions to determine whether the birth was intended (i.e. whether the respondent had wanted to have a baby at the time the birth occurred) or unintended. Unintended births, as defined by the NSFG and many other investigators, include both those that were mistimed (i.e. the respondent wanted to have a child at some point in the future, but not yet) and those that were unwanted (the respondent did not want to become a father now or in the future). Each birth, then, is classified as either intended or unintended in the NSFG. While some investigators have questioned the validity of the concept of pregnancy and birth intention because of the fluidity of feelings towards the experience

of having children and the seemingly conflicting reports given by pregnant women and new parents (e.g. parents who report the birth was unintended yet report being very happy about it) (Bachrach and Newcomer 1999; Joyce, Kaestner, and Korenman 2000; Joyce, Kaestner, and Korenman 2002; Trussell, Vaughan, and Stanford 1999; Zabin 1999), pregnancy and birth intention are still the "gold standard" measures and make it easy to assess trends over time (Finer and Henshaw 2006b).

It is also important to point out here that in the male file of the NSFG men are queried about the intention status of their births; the women in the NSFG sample, on the other hand, are queried about their pregnancies, which is the more common outcome seen in the literature. The logic behind this is that men may not know that a pregnancy has occurred (i.e. if it ends in miscarriage or abortion) while they are much more likely to know that a birth has occurred. Thus, births and not pregnancies will be the focus of this analysis. Thus estimates will not be comparable across the sexes.

The particular measure that I use as an outcome for my regression analysis is whether the respondent experienced an unintended birth within the last five years before the survey. This measure was chosen as the main outcome over other unintended birth measures (e.g. classifications of the intention status of each birth) for both simplicity's sake and completeness of data (the NSFG data management team ensured that all respondents have a value on this variable). Thus, each respondent who experienced at least one birth within the last five years is classified as either "yes" or "no" on the unintended birth question. However, I also conducted secondary analyses that set as the outcome the intention status – intended, mistimed, or unwanted – of the respondent's first

birth that occurred within the last five years to see if the independent variables affected the *degree* of intention.

Social Determinant/Demographic Measures

As many researchers have demonstrated in the past, several social determinants are significantly correlated with one's risk for having an unintended pregnancy or birth (e.g. Finer and Henshaw 2006b). Therefore, it is important to include these variables in any model that is meant to test the effects of other independent variables. For my analyses, I included the respondents' age, educational attainment, race and ethnicity, current marital status, poverty status, and religious affiliation (Table 2.1).

Table 2.1: National Survey of Family Growth demographic measures used in logistic regression analysis, by type of variable and category

Race (categorical)	
Hispanic	Non-Hispanic Black
Non-Hispanic White	Other race
Marital Status (categorical)	
Never married	Formerly married
Currently married	
Age of respondent (continuous)	
Religion (categorical)	
Catholic	Other religion
Protestant	No religion
Poverty Level (categorical)	
<100% poverty level	200-299% poverty level
100-199% poverty level	300% or more poverty level
Educational Attainment (categorical)	
Less than high school diploma	Some college/associate's
High school diploma	College degree/graduate

Procreative Consciousness and Procreative Responsibility Measures

Marsiglio has never fully empirically operationalized the concepts of procreative consciousness and procreative responsibility. However, in his 1993 work surveying adolescent males regarding their attitudes about conception and paternity, he used National Survey of Adolescent Males survey items to represent the concepts. To measure PC, respondents were asked "If you got a girl pregnant now, how would you feel? Would you be…" (1=very upset; 4=very pleased), and "If you got a girl pregnant now, how much would it make you feel like you were a real man? Would you say…" (1=not at all; 4=a lot). To capture the concept of PR, Marsiglio utilized eight items that focused on young men's attitudes about their responsibilities in the area of contraception and fatherhood:

1. Before a young man has sexual intercourse with someone, he should know or ask whether she is using contraception.
2. If a young man does not want to have a child, he should not have intercourse without contraception.
3. If his girlfriend is using the pill, the young man should help pay for it.
4. If a couple has never discussed contraception, the young man should bring it up.
5. If a young man makes someone pregnant, the child is his responsibility as much as the mother's.
6. If I got a girl pregnant, I'd have to give her money for the baby.
7. It is not worth worrying about getting a girl pregnant because she can always get an abortion.
8. It is not a big problem if a guy gets a girl pregnant since they can always get married.

Responses were scaled in the original survey (1=strongly disagree; 4=strongly agree). These items were all recoded so that a higher score represented a more responsible orientation and a scale was created to represent each respondent's level of PR.

I could find only one other researcher that attempted to operationalize or empirically measure Marsiglio's concepts. Nesmith and colleagues, in their survey of

recently incarcerated young men, asked their respondents about procreative and paternal sense of responsibility. More specifically, they were asked to describe their sense of responsibility regarding pregnancy (how responsible is the man for pregnancy), the child (whether they would financially support the baby, whether they would keep the baby at least some of the time), and the mother (whether they would consider marrying a woman whom they've impregnated) (Nesmith, Klerman, Oh, and Feinstein 1997). These questions were just asked in the form of survey (i.e. for description only), though, and not aggregated for any predictive purposes.

Marsiglio himself encourages further elucidation of the PC and PR concepts. In his 1993 article he states, "Future research should also attempt to operationalize more fully the multifaceted nature of the procreative consciousness and responsibility concepts. For example, research should consider how much time and what kind of emotional commitments young men are willing to (or actually do) make to their children. How do they expect to be involved in the day-to-day care of their children? And to what extent do they link their sense of paternal responsibility to their level of interest and commitment to their romantic partner?" (Marsiglio 1993, pg. 29).

In this tradition, I looked for measures of procreative consciousness (PC) and procreative responsibility (PR) using NSFG variables to determine how these two constructs correlate with the likelihood of unintended birth. To ensure that I captured the concepts as best as I could with the measures that were available, I read through the entire codebook of variables, which amounted to well over 2,500 variables. From the codebooks I was looking for measures that closely aligned with the different facets of each of my main concepts of interest. In other words, to capture the concept of PC, I

looked for variables that assessed a respondent's feeling of virility, sexual prowess, intentions to have children in the future, and ideas about fatherhood. To capture the concepts of PR, I looked for variables that assessed a respondent's contraceptive habits and feelings about contraception, pregnancy decision-making, and fatherhood responsibility. Several of these variables lined up with the measures that Marsiglio used in his 1993 study. To begin the factor analysis process with my data and to see if the variables would split automatically along the lines of PC and PR, I entered all of the PC and PR attitudinal variables (see the appendix for initial lists) into factor analysis program in SPSS. I began my analyses for the factor analysis with 17 PC variables. I wanted to gather as many variables as possible that measure all of the different facets of the concept of procreative consciousness: the respondents' thoughts about sexual prowess, fecundity, fatherhood, terminating a pregnancy, desire for children, uses for contraception, etc.

Unfortunately, there were not many PR-related attitudinal variables available in the dataset; I only identified two, both of which related to the respondent's level of comfort with using condoms. Similarly, I collected three PR-related behavioral variables from the NSFG, all of which relate to the respondent's contraceptive use[5]. A prerequisite for including any item in the analysis was that responses were not too skewed (i.e. 90% or more of responses clustered in single cell) and that the level of response to that item was not insufficient (<15-20%) to destabilize analysis. All items were coded so that higher values represent a higher procreative consciousness (for PC variables) or a more

[5] There were no appropriate measures assessing pregnancy decision-making or fatherhood responsibility that applied to a large enough proportion of my sample. Thus, in my analysis contraceptive attitudes and behaviors are the only variables that represent PR.

responsible orientation (for PR variables). The full male sample was used for these analyses.

Analysis

Factor Analysis of the PC and PR Variables

For the factor analysis I used a principal-components analysis with varimax rotation. An eigenvalue greater than 1.00 was the criterion that determined the number of factors to be extracted, and the correlations among these factors were examined. This allowed me to further eliminate variables that loaded closely on more than one factor. Based on Marsiglio's framework, I anticipated that the variables would load along the PC/PR lines. The factor analysis produced three factors; two PC factors (they could be described as (1) intentions for children and (2) beliefs about the fatherhood role) and one PR factor. Overall, the variables did load separately on PC and PR factors (e.g. PC variables loaded on the same factors, PR loaded on the same factor). But after rotating the matrix, eliminating variables that loaded closely on two factors, and running the reliability analysis, the alphas were not high enough to justify having two separate factors[6].

Marsiglio (1993) had similar difficulty when attempting to operationalize the concepts of procreative consciousness and procreative responsibility. As he remarked, "It is disappointing that the poor scaling properties of these eight items limit their value as measures of attitudes, but they are the only available national data dealing with these issues and represent exploratory efforts to assess young men's contraceptive and procreative attitudes" (p. 24). While my reliability analysis results are again

[6] My alpha criterion was the commonly accepted standard of 0.70; the alphas for my indices ranged between 0.25 and 0.60, depending on how many variables I included or eliminated from the indices.

disappointing, as according to Marsiglio's framework they should produce a higher alpha, it is possible that in different samples or with different items the concepts would perform better in a factor analysis. Thus, in my regression analysis I will use theoretically-important variables independently as markers of procreative consciousness and procreative responsibility (see Table 2.2).

It is important to note here that several of the PC and PR variables did contain missing data. This is attributed to two factors: (1) the variable or measure genuinely did not apply to the respondent (e.g. the variable that measures respondents' frequency of sex in the last four weeks was only asked of those respondents who reported that they had engaged in at least one episode of sex within the last year) or (2) the content of the NSFG survey changed over the period from 2006-2010 and thus some questions added to the second or third years were not asked of those respondent surveyed in the first year. In all cases I imputed the median response on these variables. Please see Table 2.3 for a complete description of which variables contained missing data, the percentage of cases that were missing, and the response category that was imputed for each measure.

Table 2.2: Items from NSFG that Measure Procreative Consciousness and Procreative Responsibility

Individual PC items to include in regression analysis	**Individual PR items to include in regression analysis**
Virility/Sexual Prowess ●Number of female sexual partners in respondent's lifetime ● Number of female sex partners in last 12 months ● Respondent's frequency of sex in last four weeks ● Respondent's age at first sexual intercourse *Fathering Desires/Experience with Fathering* ●Total number of pregnancies (that respondent was involved in) collected throughout interview ●Number of biological children respondent has ever fathered ●Whether respondent has children (18 or younger) living in the household ●Respondent's intentions for (more) children ●Number of children respondent intends to have ●How respondent would feel if he impregnated a woman today ● Whether respondent has ever had pregnancy ending in miscarriage/stillbirth ● Whether respondent's wife/partner is currently pregnant with respondent's child ● Whether respondent and his wife/partner are currently trying to get pregnant *Ideas about Fatherhood* ● Respondent's belief that one cannot be happy without children ● Respondent's belief that the rewards of having children are worth the costs ● Respondent's belief that it is more important for a man to spend time with his family than on his career ● Respondent's belief that it is better if a man earns a living and a woman takes care of the children	*Contraceptive Responsibility* ● Contraceptive method used at first sexual intercourse ● Contraceptive method used at last sexual intercourse ever ● Number of times respondent used a condom during sex with a female in last four weeks ● Respondent's belief that he would feel embarrassed about discussing condoms with a new partner (reverse coded) ● Respondent's belief that using condoms make sex less pleasurable (reverse coded)

Table 2.3: National Survey of Family Growth variables containing missing values, percent of values missing, and value that was imputed

Variable	% of data missing in sample of men who had a birth within last five years	Reason for missing data	Recoded value
Respondent's frequency of sex in last four weeks	2.2%	Men did not have sex in the past 12 months	"3-5 times"
Number of times respondent used a condom during sex with a female in last four weeks	23.0%	Men may not have had sex in previous four weeks	"0 times"
Respondent's belief that he would feel embarrassed about discussing condoms with a new partner	15.9%	In year one, only asked of men who were under the age of 25	"Almost no chance"
Respondent's belief that using condoms make sex less pleasurable	15.9%	In year one, only asked of men who were under the age of 25	"50/50 chance"
How respondent would feel if he impregnated a woman today	43.4%	In years one and two, only asked of men who were under the age of 20	"A little pleased"
Respondent's belief that one cannot be happy without children	24.6%	Question was not asked in year one	"Disagree"

Bivariate Analysis

Births were tabulated by intendedness for the entire population of men aged 15-44 and for subgroups of men by age, relationship status, income and poverty level, education, religion, and race and ethnicity. Chi-square tests were used to evaluate the bivariate associations between: (a) demographic characteristics and likelihood of

experiencing an unintended birth (b) procreative consciousness measures and likelihood of experiencing an unintended birth; and (c) procreative responsibility measures and likelihood of experiencing an unintended birth. All covariates were included in the final logistic regression model.

Multivariate Analysis

For the main portion of my analysis, I regressed the variable measuring the outcome of interest (whether the man had an unintended birth in the last five years) onto the PC and PR measures, controlling for other important predictive variables (e.g. age, poverty status, educational attainment, marital status, race/ethnicity, and religion)[7] and accounting for the complex sampling design as well as weighting. Multiple logistic regression was used to estimate adjusted odds ratios (OR) and 95% confidence intervals for the association between PC and PR and likelihood of experiencing an unintended birth within the last five years, controlling for all significant covariates. After determining which PC and PR measures are significant predictors of UIB, I then regressed the correlational/demographic variables (e.g. socioeconomic indicators, race and ethnicity) on these measures to discover how PC and PR vary by demographics. I made a separate model for another related outcome: whether the respondent's first birth in the last five years was intended, mistimed, or unwanted with the same control variables. All analyses were completed with STATA to adjust for the complex survey design and create nationally representative estimates (StataCorp 2011).

[7] I performed an interaction term "chunk test" to determine if any of the demographic variables were interacting with each other and the outcome. None of the interaction terms had a significance level of $p < 0.05$ and thus were not retained.

Qualitative Methods

Sampling

For the qualitative portion of my dissertation, the CDC's Division of Reproductive Health has given me access to a set of interview transcripts that were collected as part of their Philadelphia Hartford Research and Education on Sexual Health and Communication (PHRESH) Project. PHRESH was a 5-year (2003-2008) CDC funded cooperative agreement project. The original impetus to starting PHRESH was to examine the reasons behind the disproportionate number of African Americans and Latinos affected by the HIV/AIDS epidemic. The project was conducted in two cities: Philadelphia, PA and Hartford, CT. The target population was sexually active 18-25 year old men and women who identified as either African American or Puerto Rican (see Table 2.4 for a demographic description of the entire PHRESH sample). Specific neighborhoods for recruitment in both sites were selected based on zip codes with high proportions of the target race/ethnic groups as well as high STD rates, high teen pregnancy rates, and high poverty, according to local and state data. Therefore recruitment and enrollees are from high risk communities.

In both cities, potential participants were identified through street outreach efforts as well as through outreach activities conducted at community agencies that serve large numbers of Puerto Rican and African American 18-25 year olds, adult education sites, and colleges. Prior to beginning recruitment, Project Coordinators sent letters to selected community organizations and educational institutions describing the study and desire to recruit participants. Recruiters participated in passive recruitment in which they distributed and posted project fliers in selected community organizations and educational

institutions. In addition, recruiters gave presentations about the project to classes or other community groups with the permission of the instructor or organizer. Participants were encouraged to refer their peers to the study.

Recruiters also engaged in active recruitment. This involved going out on the streets and to various community sites, describing the study, encouraging participation, and either conducting screenings and determining appointment times, or providing a phone number for screening and appointment setting. Both indoor and outdoor recruitment took place on different days of the week and times of day in order to vary the characteristics of the individuals who were reached. In both passive and active recruitment field staff screened participants for eligibility for the study as well as interest in participation. If the individual was eligible and desired to participate in the PHRESH project, the recruiter obtained contact information from the participant and set up a future meeting time.

As mentioned, PHRESH was a mixed methods project with several different components; the focus group participants did not necessarily participate in all other aspects of the PHRESH project but some volunteered to complete each part. There were eight focus groups conducted overall: two with African American young women (one in Hartford, one in Philadelphia), two with Puerto Rican young women (one in Hartford, one in Philadelphia), two with African American young men (one in Hartford, one in Philadelphia), and two with Puerto Rican young men (one in Hartford, one in Philadelphia). All participants were aged 18-25 and by virtue of the fact that they were recruited from economically disadvantaged neighborhoods in the two cities, all are

assumed to be of lower/working class backgrounds. Each focus group contained between eight to twelve members.

Table 2.4: PHRESH Sample Demographics

Characteristic	n	% of sample	Characteristic	n	% of sample
Sex			Age		
Male	228	50.3%	18-19	142	31.3%
Female	225	49.7%	20-21	116	25.6%
Race			22-23	97	21.4%
Black/African American	225	49.7%	24-25	98	21.6%
Puerto Rican	228	50.3%	Education		
Marital Status			Did not graduate HS	169	37.5%
Single	430	94.9%	HS Diploma/GED	223	49.4%
Other	23	5.1%	Some college or more	59	13.1%

Data Collection Methods

PHRESH researchers conducted a survey, focus groups, and had participants fill out sexual health daily diaries in order to ask questions about their sexual health, condom and other contraceptive use, sexual history, knowledge of HIV/AIDs and other sexually transmitted infections, experiences with pregnancy and parenthood, to name just a few topics under consideration, although not all participants completed each segment of PHRESH. Focus groups were moderated by a demographically-similar individual (e.g. the Puerto Rican male focus groups were moderated by a Puerto Rican male).

While the focus group participants were allowed wide latitude regarding topics of discussion, the moderators did follow a focus group discussion guide that included questions such as the following:

1. What are the good/bad things about having kids?
2. Some people say it is always important to plan when you are going to have a baby, while other people say that whenever the baby comes is the right time to have a baby. What do you think?

3. Many teens get pregnant. Do teens get pregnant/get their partners pregnant because they are not careful or are there other reasons?
4. Tell us about baby mama/daddy relationships. How do these relationships affect people's lives?
5. What are the main features (or expectations) of a serious relationship?

Analysis

For my analysis I am using the male focus group transcripts (n=4 focus groups). Many of the participants had experienced unintended/unwanted pregnancy. Using Marsiglio's framework, I examined how the men speak about intention, procreative consciousness, procreative responsibility, and pregnancy planning in their everyday lives. I looked for mentions of virility, desires for children, and ideas about fatherhood (PC); contraceptive usage, handling a pregnancy, and fatherhood roles and responsibility (PR); pregnancy planning; and unintended pregnancy. The transcripts were coded and analyzed for themes using MaxQDA software (GMBH 2010). The analysis explored emergent themes and attended to the content of the men's talk. This part of the analysis represents a thematic reconstruction of the young men's responses to the interview questions.

Chapter 3: Using the National Survey of Family Growth to Assess the Impact of Procreative Consciousness and Procreative Responsibility on Risk of Unintended Birth

In this first substantive chapter I did a quantitative analysis using National Survey of Family Growth (NSFG). I regressed the measures of procreative consciousness (PC) and procreative responsibility (PR) on an item measuring unintended birth (UIB) while controlling for important covariates of unintended pregnancy such as age, marital status, religion, etc. These results will be used to determine (1) whether PC and PR are significantly related to unintended birth and (2) whether PC and PR mediate the relationship between the demographic factors that have previously been associated with unintended pregnancy/birth (e.g. low education, low income, minority racial identification).

Description of the Sample

The 2006-2010 survey cycle yielded the largest sample in the NSFG's history: 10,403 male respondents representing the 62,127,583 men in the US ages 15-45. In the NSFG, Hispanics, blacks, teens, and women were selected at higher rates than others in the 15-44 age group. Sampling weights adjust for these different sampling rates, as well as post-stratification for response rates and coverage rates, so that accurate national estimates can be made from the sample (National Center for Health Statistics 2011). Using the weighted data, analyses demonstrate that 73.6% of men aged 15-45 in the US are non-Hispanic white, 13.6% are non-Hispanic black, and 12.8% identify as an "other" race. Nineteen point one percent of the population represented by NSFG identifies as Hispanic. Fifty four percent of men in this age group have never been married, 37.6% are married, 5.8% are divorced, 1.7% are currently separated, and 0.1% are widowed.

Approximately 25% of men have household incomes less than $24,999/year, 28.7% earn between $25,000-49,999/year, 20.1% earn between $50,000-74,999/year, and 26.3% earn over $75,000/year. Slightly less than 17% of men have incomes that fall between 0-99% of the federal poverty level, 20.6% have incomes that are between 100-199% of the poverty level, 18.9% have incomes that fall between 200-299% of the poverty level, and almost 44% have incomes that are 300% or more of the federal poverty level. About 29% of US men represented by the survey did not graduate high school, 24.1% have a high school diploma or GED, 20% have some college, and 26.9% have a college degree (e.g. associates, bachelors, masters, doctorate). And finally, in terms of religion, 42% of men are Protestant, 26.1% are Catholic, 8.8% practice other religions, and 23% do not identify a religion (see Table 3.1).

The NSFG also allows us to get a good picture of the self-reported sexual history, contraceptive habits, and fatherhood experience of American men. Approximately 85.3% of American men aged 15-45 report having had sexual intercourse with a woman at least once. In their lifetimes, 13.4% of men have had just one opposite-sex partner, 28.8% have had 2-5 partners, 17.4% have had 6-10 partners, 14.1% have had 11-20 partners, and 26.3% have had 21 or more partners. Contraceptive habits of the men vary widely. When looking specifically at the most recent episode of intercourse, 24.2% men used no form of contraception, 34.8% used a condom, 14.7% relied on male or female sterilization, 11.4% of men's partners used the birth control pill, and 7.6% practiced withdrawal. More than 56% of men used a contraceptive every time with their most recent partner in last 12 months while 21.4% used one "most of the time" and 5.1% never used contraceptives during intercourse in the last 12 months.

Table 3.1: Weighted Demographic Characteristics for 2006-2010 Male National Survey of Family Growth, Men aged 15-44[1]

Characteristic	Number of men in millions	Percent of population		Characteristic	Number of men in millions	Percent of population
Race				**Ethnicity**		
White	45.79	73.7%		Hispanic	11.87	19.1%
Black	8.45	13.6%		Non-Hispanic	50.26	80.9%
Other[2]	7.95	12.8%				
Marital Status				**Household Income**		
Never Married	34.05	54.8%		<$25,000	15.53	25.0%
Married	23.36	37.6%		$25,000-49,999	17.83	28.7%
Divorced	3.60	5.8%		$50,000-74,999	12.49	20.1%
Separated	1.06	1.7%		>$75,000	16.34	26.3%
Widowed	0.06	0.1%				
Religion				**Highest Education**		
Protestant	26.09	42.0%		Less than High School	18.02	29.0%
Catholic	16.22	26.1%		High School diploma	14.97	24.1%
Other	5.47	8.8%		Some college	12.43	20.0%
None	14.29	23.0%		College Degree	16.71	26.9%
Poverty Level						
0-99%	10.35	16.7%				
100-199%	12.79	20.6%				
200-299%	11.72	18.9%				
300% or more	27.27	43.9%				

[1]This sample represents the approximately 62,128,000 men in the US aged 15-44
[2]Includes persons of other or multiple race and origin groups, not shown separately
Data come from the National Survey of Family Growth, Division of Vital Statistics, National Center for Health Statistics

Slightly less than half (44.6%) of American men aged 15-45 have fathered at least one child in their lifetimes. Of the more than 27 million men who have children, 34.6% have just one child, 37.6% have two children, and 27.8% have three or more children. Nearly 8% of men in this age group have a partner who is currently pregnant while 10.1% are currently trying to get pregnant with their partner. Twenty three point six

percent of American men have been involved in a pregnancy that ended in miscarriage, stillbirth, or abortion. Eighty eight percent of men who have co-residential children think they are doing a good or very good job at fathering while just 52.4% of men who do not live with their children think they are doing a good or very good job.

With regard to future desires and plans, a full two-thirds (67.4%) of men aged 15-45 want a(nother) child at some point in future. These numbers vary depending on whether the men are currently married or have never been married. Almost 59% of married/cohabiting men intend to have a(nother) child at some point while 96% of never married men definitely or probably want kids in future**.** The majority of married men (50.2%) intend to have one (more) child and the majority (53.7%) of never married men want two exactly children in the future.

As stated before, an unintended birth is defined as a birth that was either mistimed (i.e. the respondent wanted to have a child at some point in the future, but not yet) or unwanted (the respondent did not want to become a father now or in the future). Not surprisingly, the proportions of men involved in any birth and particularly in an unintended birth (UIB) are not equally distributed across all groups. A man's age, race, ethnicity (i.e. Hispanic vs. non-Hispanic), and income are all significantly correlated with whether or not he has experienced a birth and how many births he has experienced. For instance, while only 7.6% of men aged 15-20 have ever fathered a birth, 81.2% of men aged 39-45 have ever fathered a birth (or births). Black men and men of other races are more likely to have fathered a child than white men, just as Hispanic men are more likely than non-Hispanic men to have fathered at least one birth (see Table 3.2).

Almost 42% of all births fathered by American men in the last five years were unintended. Births that were unintended were much more likely to be classified as mistimed than unwanted. Younger men, minority men, and lower-income men are all more likely to have had an unintended birth than older men, white men, and higher-income men (see Table 3.3). When looking specifically at age as a predictor of birth intention status, we see that the proportion of men having unintended births uniformly decreases as the men get older. The pattern is similar for income: births fathered by men with lower incomes were more likely to have been unintended than births fathered by men with higher incomes. For example, the proportion of men with an income less than $25,000 whose first birth was unintended (unwanted + mistimed) was 49.7%; the proportion is just 19.9% for those making $75,000 or more on an annual basis. White men (36.7%) and men of different ethnicities (36.5%) are much less likely to have unintended births than black men (51.3%). And finally, the difference in birth intention status among different ethnic groups is not as large. Approximately 39% of first births for Hispanic men were unintended while 38.5% of first births for non-Hispanic men were unintended.

Table 3.2: Number of Births in the Last Five Years among US Men Aged 15-45, by Demographic Characteristics[1]

Total Number of Births (in %)						
	0	1	2	3	4+	Total
Age						
15-20	92.4%	5.0%	1.9%	0.5%	0.2%	100.0%
21-26	68.3%	15.8%	8.8%	4.1%	3.0%	100.0%
27-32	39.6%	22.2%	18.6%	11.1%	8.5%	100.0%
33-38	21.8%	15.1%	25.6%	19.5%	18.1%	100.0%
39-45	18.8%	14.8%	27.8%	18.2%	20.4%	100.0%
Income						
$0-24,999	53.6%	15.2%	12.2%	10.0%	9.1%	100.0%
$25,000-49,999	48.1%	14.6%	15.8%	10.8%	10.7%	100.0%
$50,000-74,999	47.5%	14.9%	18.7%	9.5%	9.4%	100.0%
$75,000+	46.2%	13.3%	19.0%	11.3%	10.2%	100.0%
Race[2]						
Black	44.3%	14.6%	15.7%	10.0%	15.4%	100.0%
White	50.5%	14.3%	16.2%	10.3%	8.7%	100.0%
Other	44.3%	15.2%	17.7%	11.7%	11.1%	100.0%
Ethnicity						
Hispanic	40.1%	15.5%	18.5%	14.0%	12.0%	100.0%
Non-Hispanic	50.9%	14.2%	15.8%	9.6%	9.4%	100.0%
Total	48.9%	14.5%	16.3%	10.5%	9.9%	100.0%

[1]This sample represents the approximately 62,128,000 men in the US aged 15-44

[2]Includes persons of other or multiple race and origin groups, not shown separately

Data come from the National Survey of Family Growth, Division of Vital Statistics, National Center for Health Statistics

Table 3.3: US Men's Reported Intention Status of First Birth by Demographic Characteristics[1]

	Reported Intention Status of First Birth (in %)				
Characteristic	Intended	Mistimed	Unwanted	Don't Know/Don't Care/Didn't Respond	Total
Age					
15-20	21.9%	58.6%	13.5%	6.0%	100.0%
21-26	42.2%	45.7%	9.0%	3.1%	100.0%
27-32	61.3%	30.1%	5.9%	2.7%	100.0%
33-38	72.5%	20.9%	5.0%	1.6%	100.0%
39-45	88.7%	6.2%	3.3%	1.8%	100.0%
Income					
$0-24,999	47.1%	38.6%	11.1%	3.2%	100.0%
$25,000-49,999	47.0%	42.1%	7.8%	3.1%	100.0%
$50,000-74,999	64.1%	28.2%	5.8%	1.9%	100.0%
$75,000+	77.9%	17.5%	2.4%	2.2%	100.0%
Race[2]					
Black	46.8%	40.1%	11.2%	1.9%	100.0%
White	60.7%	30.9%	5.8%	2.6%	100.0%
Other	59.8%	29.3%	7.2%	3.7%	100.0%
Ethnicity					
Hispanic	57.6%	30.1%	9.4%	2.9%	100.0%
Non-Hispanic	58.8%	32.5%	6.0%	2.7%	100.0%
Total	58.5%	32.0%	6.8%	2.7%	100.0%

[1]This sample represents the approximately 62,128,000 men in the US aged 15-44
[2]Includes persons of other or multiple race and origin groups, not shown separately
Data come from the National Survey of Family Growth, Division of Vital Statistics, National Center for Health Statistics

With respect to pregnancy and child-rearing desires and intentions, about 86.4% of men who had their first child with their current wife or partner definitely wanted it and 59.4% thought that the baby came at the right time (28.5% thought that it came too soon). When looking at all births, 50.1% of men who had their first child within the last five years thought it came at right time (intended), 32% thought it came too soon (mistimed), and 6.8% said it was unwanted (thus, in total 38.8% had an unintended birth). With

second births within the last five years, 58.7% of men thought it came at right time (intended), 21.6% thought it came too soon (mistimed), and 9.4% said the birth was unwanted (thus, 31% of second births were unintended). With third births within the last five years, 53.7% of men thought it came at right time (intended), 22.2% thought it came too soon (mistimed), and 12.7% said it was unwanted (thus, 34.9% of third births were unintended). As the number of births increase, the proportion of them being mistimed or unwanted increase. For instance, for a fourth birth happening within the last five years, just 43.2% of men thought it came at right time, 24.1% thought it came too soon, and 21.7% said the birth was unwanted (a total of 45.8% of these births were unintended). As stated, overall 41.7% of men in the US who have had a birth within the last five years had at least one unintended birth[8]. Younger men, men with lower incomes, and black men are more likely to have had at least one unintended birth in the five years before the survey than older men, men with higher incomes, and white men (see Table 3.4).

[8] As stated in the methods section, in the male file of the NSFG men are queried about the intention status of their births, not their pregnancies. Thus, births and not pregnancies will be the focus of this analysis. This is dissimilar to the female file of the NSFG that assesses the intention status of pregnancies instead of births. Thus estimates will not be comparable across the sexes.

Table 3.4: Dichotomous Birth Intention Status of US Men who had At Least One Birth in Last Five Years, by Demographic Characteristics[1]

	Intendedness of Births (in %)			
Characteristic	Yes, had at least one UIB in last 5 years	No, did not have any UIB in last 5 years	Did not know about pregnancies	Total
Age				
15-20	76.7%[2]	21.4%	2.0%	100.0%
21-26	59.3%	38.0%	2.7%	100.0%
27-32	46.4%	53.1%	0.5%	100.0%
33-38	32.1%	76.9%	0.1%	100.0%
39-45	22.9%	76.9%	0.2%	100.0%
Income				
$0-24,999	53.4%	45.9%	0.7%	100.0%
$25,000-49,999	50.0%	48.2%	1.8%	100.0%
$50,000-74,999	35.4%	64.6%	0.0%	100.0%
$75,000+	26.6%	73.1%	0.3%	100.0%
Race				
Black[2]	55.2%	44.2%	0.6%	100.0%
White	39.4%	59.6%	1.0%	100.0%
Other	36.8%	63.2%	0.0%	100.0%
Ethnicity				
Hispanic	42.5%[3]	57.2%	0.3%	100.0%
Non-Hispanic	41.0%	58.1%	0.9%	100.0%
Total	41.4%	57.8%	0.8%	100.0%

[1]This sample represents the approximately 62,128,000 men in the US aged 15-44
[2]Includes persons of other or multiple race and origin groups, not shown separately
[3]This figure should be interpreted as: of the Hispanic men who experienced at least one birth in the previous 5 years, 42.5% of them experienced at least one unintended birth
Data come from the National Survey of Family Growth, Division of Vital Statistics, National Center for Health Statistics

Table 3.5 gives both the full population estimates and the sample (men who have had a birth within the last five years) estimates of the variables of interest, both demographic and theoretical. The total unweighted sample size for this series of analyses is 2,241. This represents the estimated 14,973,574 men aged 15-44 in the US who have had a birth in the last five years before the survey was taken. For all analyses I use the

weighted sample size and adjust the standard errors to account for the National Survey of Family Growth's complex sampling design. Overall, the population and sample estimates are very similar in terms of educational attainment, poverty level, race, and current religious affiliation. The sample is a bit older than the overall population: for example, while 20.6% of the overall population of men is between the ages of 15-20, only 3.2% of men who have had a birth in the last five years fall into this age range. Similarly, the sample of men who have had a birth is much more likely to be married than in the overall population (69.2% vs. 39.6%). When examining the theoretical variables of interest, there are a few that demonstrate a sizeable difference between the population and the sample. For example, the majority of men who have had a birth in the last five years do not intend to have any additional births (56.9%) while the majority of men in the population do intend to have at least one additional birth (58.9%). The sample of men who have recently had a birth is much more likely to disagree or strongly disagree with the statement that one cannot be happy without children than the entire population of men (87.3% vs. 66.5%). And finally, the sample of men is less likely to embarrassed by discussing condom use with a new partner than the overall population: while 49.5% of the population said that there would be "no chance" of embarrassment, 71% of the sample said the same thing. Overall, however, the sample is not excessively divergent from the full population of men aged 15-44 on important measures.

Table 3.5: Population and Sample Estimate Frequencies and Proportions

Variable	Estimate of full population (in thousands)	Standard error of estimate of full population (in thousands)	% of total population	Estimate of men who have had a birth in last 5 years (in thousands)	Standard error of the estimate (in thousands)	% of total
Unintended Births in last 5 years						
No	8,728.87	429.861	14.1%	8,728.87	429.86	58.3%
Yes	6,244.70	342.513	10.1%	6,244.70	342.51	41.7%
Missing/not applicable	47,154.83	NA	75.9%	NA	NA	0.0%
Total	62,127.58	2,082.78	100.0%	14,973.57	635.97	100.0%
Respondent Age						
15-20	12,818.98	526.24	20.6%	480.41	74.95	3.2%
21-26	12,867.30	786.20	20.7%	2,661.73	182.35	17.8%
27-32	12,093.73	510.61	19.5%	4,612.44	259.10	30.8%
33-38	11,663.67	540.28	18.8%	4,799.43	325.05	32.1%
39-45	12,683.91	634.69	20.4%	2,419.57	229.66	16.2%
Total	62,127.58	2,082.78	100.0%	14,973.57	635.97	100.0%
Educational Attainment						
Less than HS Diploma	17,996.66	786.90	29.0%	3,863.35	305.58	25.8%
HS Diploma	15,002.44	641.51	24.2%	3,819.77	244.47	25.5%
Some college or associate's	16,343.21	901.39	26.3%	3,591.89	290.68	24.0%
College or Graduate degree	12,785.27	745.63	20.6%	3,698.57	330.11	24.7%
Total	62,127.58	2,082.78	100.0%	14,973.57	635.97	100.0%
Poverty Level						
0-99% of poverty line	10,349.99	610.17	16.7%	2,624.63	191.67	17.5%
100-199% of poverty line	12,790.92	552.29	20.6%	3,457.49	245.75	23.1%
200-299% of poverty line	11,719.84	556.21	18.9%	3,002.81	213.11	20.1%
≥300% of poverty line	27,266.83	1,133.82	43.9%	5,888.65	398.40	39.3%
Total	62,127.58	2,082.78	100.0%	14,973.57	635.97	100.0%
Race/Hispanic Origin						
Hispanic	11,847.26	1,250.88	19.1%	3,764.41	416.54	25.1%
Non-Hispanic White	38,490.42	1,861.51	62.0%	8,215.07	483.25	54.9%
Non-Hispanic Black	7,776.70	609.86	12.5%	2,052.59	229.64	13.7%
Non-Hispanic Other	4,013.20	514.50	6.5%	941.51	186.10	6.3%
Total	62,127.58	2,082.78	100.0%	14,973.57	635.97	100.0%

Variable	Estimate of full population (in thousands)	Standard error of estimate of full population (in thousands)	% of total population	Estimate of men who have had a birth in last 5 years (in thousands)	Standard error of the estimate (in thousands)	% of total
Formal Marital Status						
Married	23,356.74	1,074.24	37.6%	10,367.81	526.40	69.2%
Widowed	55.17	18.82	0.1%	16.16	10.60	.1%
Divorced	3,605.75	275.43	5.8%	621.35	86.98	4.1%
Separated	1,075.98	112.29	1.7%	382.03	56.69	2.6%
Never Married	34,033.94	1,116.31	54.8%	3,586.23	261.56	24.0%
Total	62,127.58	2,082.78	100.0%	14,973.57	635.97	100.00%
Current Religious Affiliation						
No religion	14,314.30	646.94	23.0%	3,041.27	218.22	20.3%
Catholic	16,224.26	887.62	26.1%	4,343.22	332.34	29.0%
Protestant	26,101.38	1,168.24	42.0%	6,263.78	346.46	41.8%
Other religion	5,487.65	1,066.36	8.8%	1,325.29	187.37	8.9%
Total	62,127.58	2,082.78	100.0%	14,973.57	635.97	100.0%
R's Intention for Future Children						
R doesn't intend to have additional births	24,907.55	951.99	40.1%	8,520.24	414.02	56.9%
R doesn't know about additional births	637.60	114.68	1.0%	362.48	81.83	2.4%
R intends to have additional births	36,582.44	1,459.70	58.9%	6,090.85	351.28	40.7%
Total	62,127.58	2,082.78	100.0%	14,973.57	635.97	100.0%
Central # Additional Children Expected						
No additional births	24,011.76	917.11	38.7%	7,921.00	396.29	52.9%
Half to 1 additional birth	10,658.92	485.17	17.2%	4,705.10	291.56	31.4%
1.5 to 2 additional births	18,252.24	752.10	29.4%	1,628.98	147.66	10.9%
2.5 to 4 additional births	8,272.75	703.90	13.3%	607.16	86.42	4.1%
4.5 to 10 additional births	865.12	261.55	1.4%	111.34	35.50	.7%
Missing	68.34	NA	0.1%	0.00	0.00	.0%
Total	62,127.58	2,082.78	100.0%	14,973.57	635.97	100.0%

Variable	Estimate of full population (in thousands)	Standard error of estimate of full population (in thousands)	% of total population	Estimate of men who have had a birth in last 5 years (in thousands)	Standard error of the estimate (in thousands)	% of total
How R Would Feel about Impregnating a Woman						
Unsure/don't know	307.91	93.73	0.5%	57.71	26.22	.4%
Very upset	8,286.22	464.25	13.3%	753.76	101.26	5.0%
A little upset	9,162.52	656.49	14.8%	1,313.28	164.34	8.8%
Doesn't matter	377.15	80.68	0.6%	73.04	26.80	.5%
A little pleased	7,014.39	656.52	11.3%	10,628.46	656.67	71.0%
Very pleased	6,081.17	570.23	9.8%	2,147.33	241,143.71	14.3%
Missing	30,896.05	NA	49.7%	0.00	0.00	0.0%
Total	62,127.58	2,082.78	100.0%	14,973.57	635.97	100.0%
Belief that it's better if man earns main living & woman cares for family						
Don't know	60.70	22.49	0.1%	6.96	4.96	.0%
Strongly Disagree	9,093.68	531.30	14.6%	1,805.45	176.14	12.1%
Disagree	30,144.33	1,047.27	48.5%	6,785.95	367.75	45.3%
Neither agree nor disagree	1,085.34	153.89	1.7%	327.73	84.73	2.2%
Agree	17,440.52	898.27	28.1%	4,737.40	282.97	31.6%
Strongly agree	4,303.01	398.13	6.9%	1,310.08	156.88	8.7%
Total	62,127.58	2,082.78	100.0%	14,973.57	635.97	100.0%
Number of biological children R has						
0 children	34,418.68	NA	55.4%	0.00	0.00	0.0%
1 child	9,585.56	470.21	15.4%	5,300.05	325.22	35.4%
2 children	10,414.83	581.79	16.8%	5,365.14	328.81	35.8%
3 children	4,984.27	364.15	8.0%	2,731.28	216.08	18.2%
4 or more children	2,700.75	360.87	4.3%	1,577.11	149.85	10.5%
Total	62,127.58	2,082.78	100.0%	14,973.57	635.97	100.0%

Variable	Estimate of full population (in thousands)	Standard error of estimate of full population (in thousands)	% of total population	Estimate of men who have had a birth in last 5 years (in thousands)	Standard error of the estimate (in thousands)	% of total
R's belief that one can't be happy without children						
Don't know/refuse	22.53	12.87	0.0%	3.93	3.93	.0%
Strongly disagree	13,703.63	939.05	22.1%	2,945.65	286.56	19.7%
Disagree	27,574.51	1,742.81	44.4%	10,119.32	515.28	67.6%
Neither agree nor disagree	432.86	123.54	0.7%	139.07	69.67	.9%
Agree	3,861.88	392.72	6.2%	1,318.73	148.40	8.8%
Strongly agree	1,270.23	185.74	2.0%	446.88	111.06	3.0%
Missing	15,283.39	NA	24.6%	0.00	0.00	0.0%
Total	62,127.58	2,082.78	100.0%	14,973.57	635.97	100.0%
R's belief that rewards of children outweigh costs						
Don't know/refuse	291.47	71.69	0.5%	90.76	39.95	.6%
Strongly disagree	468.06	69.13	0.8%	70.39	29.64	.5%
Disagree	2,288.43	178.10	3.7%	266.36	41.60	1.8%
Neither agree nor disagree	574.33	89.34	0.9%	8.99	8.18	.1%
Agree	25,987.59	884.15	41.8%	3,812.72	218.55	25.5%
Strongly agree	32,517.70	1,427.93	52.3%	10,724.36	544.04	71.6%
Total	62,127.58	2,082.78	100.0%	14,973.57	635.97	100.0%
R's belief that having a family is more important than having a career						
Refused/don't know	53.84	29.71	0.5%	7.54	4.85	.1%
Strongly disagree	899.96	105.96	0.8%	135.68	38.28	.9%
Disagree	12,384.32	594.53	3.7%	2,675.88	211.91	17.9%
Neither agree nor disagree	2,007.49	227.50	0.9%	370.72	71.33	2.5%
Agree	35,516.67	1,204.02	41.8%	8,461.82	390.59	56.5%
Strongly agree	11,265.30	679.82	52.3%	3,321.93	273.56	22.2%
Total	62,127.58	2,082.78	100.0%	14,973.57	635.97	100.0%

Variable	Estimate of full population (in thousands)	Standard error of estimate of full population (in thousands)	% of total population	Estimate of men who have had a birth in last 5 years (in thousands)	Standard error of the estimate (in thousands)	% of total
# of female sexual partners R has had in lifetime						
0 partners	9,117.33	594.49	14.7%	0.00	0.00	0.0%
1-2 partners	12,665.94	633.13	20.4%	3,424.81	223.97	22.9%
3-5 partners	13,555.27	626.47	21.8%	3,910.85	299.45	26.1%
6-10 partners	10,774.65	450.55	17.3%	3,151.73	222.75	21.0%
More than 10 partners	16,014.39	731.16	25.8%	4,486.18	307.63	30.0%
Total	62,127.58	2,082.78	100.0%	14,973.57	635.97	100.0%
# female partners R has had in last 12 months						
No partners	13,170.10	679.12	21.2%	287.43	62.97	1.9%
1 partner	39,102.12	1,480.02	62.9%	13,266.79	588.44	88.6%
2 partners	4,851.83	280.87	7.8%	717.12	95.89	4.8%
3 partners	1,990.31	181.58	3.2%	250.28	61.14	1.7%
4 or more partners	2,968.48	187.35	4.8%	451.96	74.69	3.0%
Missing	62.13	NA	0.1%	0.00	0.00	0.0%
Total	62,127.58	2,082.78	100.0%	14,973.57	635.97	100.0%
R's age at 1st sex						
Refused/Unsure	1,561.82	199.80	2.5%	519.52	118.37	3.5%
Up to and including age 14	10,443.01	468.82	16.8%	3,272.76	221.82	21.9%
15 to 16 years old	14,791.15	569.04	23.8%	6,719.20	319.56	44.9%
17 to 18 years old	11,165.73	631.03	18.0%	2,729.51	258.85	18.2%
19 to 21 years old	4,309.89	292.94	6.9%	1,200.22	137.61	8.0%
22 and up	1,504.39	153.37	2.4%	532.35	93.96	3.6%
Missing	18,327.64	NA	29.5%	0.00	0.00	0.0%
Total	62,127.58	2,082.78	100.0%	14,973.57	635.97	100.0%
R's frequency of sexual intercourse in last 4 weeks						
Don't know/refused	870.08	136.77	1.4%	266.78	57.46	1.8%
No times	8,554.97	448.32	13.8%	1,525.89	165.82	10.2%
1 or 2 times	10,048.26	442.23	16.2%	3,095.61	218.07	20.7%
3-5 times	11,669.37	536.89	18.8%	4,550.12	288.98	30.4%
6-8 times	8,051.16	404.66	13.0%	2,667.15	194.65	17.8%
9 or more times	9,348.56	481.51	15.1%	2,868.02	197.97	19.2%
Missing	13,605.94	NA	21.9%	0.00	0.00	0.0%
Total	62,127.58	2,082.78	100.0%	14,973.57	635.97	100.0%

Variable	Estimate of full population (in thousands)	Standard error of estimate of full population (in thousands)	% of total population	Estimate of men who have had a birth in last 5 years (in thousands)	Standard error of the estimate (in thousands)	% of total
Has R ever been involved in a pregnancy that ended in stillbirth, miscarriage, or abortion						
Refused/Don't know	136.79	36.16	0.2%	35.49	15.71	.2%
No	40,330.16	1,409.89	64.9%	9,943.85	489.56	66.4%
Yes	12,486.66	572.17	20.1%	4,994.23	283.91	33.4%
Missing	9,194.88	NA	14.8%	0.00	0.00	0.0%
Total	62,127.58	2,082.78	100.0%	14,973.57	635.97	100.0%
Whether R has children under age of 18 in household						
No kids in house	39,439.70	1,435.24	63.5%	2,416.59	205.11	16.1%
Kids in house	22,687.88	961.08	36.5%	12,556.98	556.47	83.9%
Total	62,127.58	2,082.78	100.0%	14,973.57	635.97	100.0%
Whether R and current partner are currently trying to get pregnant						
Refused/Don't know	13.73	12.60	0.0%	1.19	1.19	0.0%
Yes	2,216.47	209.69	3.6%	626.55	96.59	4.2%
No	19,615.22	859.24	31.6%	14,345.83	620.37	95.8%
Missing	40,282.16	NA	64.8%	0.00	NA	0.0%
Total	62,127.58	2,082.78	100.0%	14,973.57	635.97	100.0%
Whether R and current partner are currently pregnant						
Refused/Don't know	52.08	19.03	0.0%	29.07	15.78	.2%
Yes	1,879.20	193.00	3.0%	891.11	116.10	6.0%
No	21,793.34	953.84	35.1%	14,053.40	600.88	93.9%
Missing	38,402.96	NA	61.8%	0.00	0.00	0.0%
Total	62,127.58	2,082.78	100.0%	14,973.57	635.97	100.0%

Variable	Estimate of full population (in thousands)	Standard error of estimate of full population (in thousands)	% of total population	Estimate of men who have had a birth in last 5 years (in thousands)	Standard error of the estimate (in thousands)	% of total
Whether R would feel embarrassed discussing condoms with new partner						
Don't know/refuse	552.10	112.08	0.9%	64.46	27.18	.4%
Almost certain	1,705.90	196.32	2.8%	440.35	73.02	2.9%
Good chance	3,328.89	274.58	5.4%	618.77	95.32	4.1%
50/50 chance	4,735.27	284.87	7.6%	883.57	120.61	5.9%
A little chance	11,215.86	776.78	18.1%	2,339.19	253.45	15.6%
Almost no chance	30,731.22	1,344.89	49.5%	10,627.23	509.35	71.0%
Missing	9,878.29	NA	15.9%	0.00	0.00	0.0%
Total	62,127.58	2,082.78	100.0%	14,973.57	635.97	100.0%
Whether R believes condoms would cause sex to be less pleasurable						
Don't know/refuse	1,138.30	126.75	1.8%	124.66	33.56	.8%
Almost certain	6,495.27	438.72	10.5%	1,900.37	183.53	12.7%
Good chance	11,051.12	643.58	17.8%	2,681.54	246.04	17.9%
50/50 chance	13,575.61	707.95	21.9%	6,314.16	497.97	42.2%
A little chance	13,591.04	718.36	21.9%	2,638.66	252.18	17.6%
Almost no chance	6,417.90	375.68	10.3%	1,314.18	151.52	8.8%
Missing	9,878.29	NA	15.9%	0.00	0.00	0.0%
Total	62,127.58	2,082.78	100.0%	14,973.57	635.97	100.0%
Forms of contraception used at first sex with woman						
No method	16,076.99	742.81	25.9%	5,118.95	359.53	34.2%
Males methods only	27,209.17	1,071.52	43.8%	7,478.86	397.70	50.0%
Female methods only	3,967.24	365.48	6.4%	1,115.52	148.39	7.5%
Dual methods (male and female)	5,736.05	362.81	9.2%	1,239.44	121.66	8.3%
Missing	9,132.75	NA	14.7%	0.00	0.00	0.0%
Total	62,127.58	2,082.78	100.0%	14,952.77	635.42	100.0%

Variable	Estimate of full population (in thousands)	Standard error of estimate of full population (in thousands)	% of total population	Estimate of men who have had a birth in last 5 years (in thousands)	Standard error of the estimate (in thousands)	% of total
Forms of contraception used at last sex with woman						
No method	12,977.32	608.36	20.9%	4,804.89	267.72	32.1%
Males methods only	16,145.49	704.62	26.0%	4,227.65	279.12	28.3%
Female methods only	14,505.61	675.82	23.4%	4,728.12	302.09	31.6%
Dual methods (male and female)	9,321.65	461.03	15.0%	1,200.16	117.63	8.0%
Missing	9,194.88	NA	14.8%	0.00	0.00	0.0%
Total	62,127.58	2,082.78	100.0%	14,960.82	636.40	100.0%
R's frequency of condom use in last four weeks						
Refused/don't know	46.28	27.23	0.1%	35.45	26.34	.2%
0 times	26,717.49	1,072.44	43.0%	12,597.94	562.33	84.1%
1 time	2,813.05	198.65	4.5%	617.23	106.33	4.1%
2 times	2,501.45	201.48	4.0%	672.43	97.48	4.5%
3 times	1,425.26	159.81	2.3%	388.86	72.18	2.6%
4+ times	2,127.30	170.77	9.0%	661.65	102.65	4.4%
Missing	22,987.21	NA	37.0%	0.00	0.00	0.0%
Total	62,127.58	2,082.78	100.0%	14,973.57	635.97	100.0%

Bivariate Relationships

Table 3.6 displays the bivariate relationships between the main outcome of interest – whether the respondent experienced an unintended birth in the last five years – and the independent variables in the sample. In terms of social determinants/demographics, statistically significant relationships were found between the outcome and respondent age, educational attainment, poverty level, race/Hispanic origin, and formal marital status (see figures 3.1 – 3.5). Younger respondents, those who have attained less than a college degree, those at or close to the poverty level, non-Hispanic

black respondents, and widowed and never married respondents had a higher proportion of births in the last five years that were unintended compared to the other groups.

Turning towards the theoretically important variables, on the procreative consciousness side, significant relationships are seen between the outcome and how respondent would feel about impregnating a woman today, the number of children the respondent has, the respondent's belief that the rewards of having children outweigh the costs, the number of sexual partners the respondent has had in his lifetime, the number of female sexual partners he has had in the last 12 months, respondent's age at first sex, respondent's frequency of sexual intercourse in the last four weeks, whether the respondent has children under the age of 18 living in his household, and whether the respondent and his partner are currently trying to get pregnant. On the procreative responsibility side, the only statistically significant relationship is between the outcome and what forms of contraception the respondent used at last sex (see Table 3.3).

Table 3.6: Bivariate relationships between independent variables and unintended births

Variable	Total # of men who had a birth in last 5 years (in thousands)	# of men w/unintended births in last 5 years (in thousands)	# of men w/intended births in last 5 years (in thousands)	% of unintended births w/in category	chi-square	p-value
Respondent Age						
15-20	480.41	375.58	104.82	78.2%		
21-26	2,661.73	1,622.36	1,039.36	61.0%		
27-32	4,612.44	2,151.81	2,460.63	46.7%		
33-38	4,799.43	1,539.64	3,259.80	32.1%		
39-45	2,419.57	555.31	1,864.26	23.0%		
Total	14,973.57	6,243.98	8,729.59	41.7%		
					186.75	0.0000

Variable	Total # of men who had a birth in last 5 years (in thousands)	# of men w/unintended births in last 5 years (in thousands)	# of men w/intended births in last 5 years (in thousands)	% of unintended births w/in category	chi-square	p-value
Educational Attainment						
Less than HS Diploma	3,863.35	1,760.48	2,102.86	45.6%		
HS Diploma	3,819.77	1,880.75	1,939.02	49.2%		
Some college or associate's	3,591.89	1,663.10	1,928.80	46.3%		
College or Graduate degree	3,698.57	940.37	2,758.19	25.4%		
Total	14,973.57	6,243.98	8,729.59	41.7%		
					81.91	0.0000
Poverty Level						
0-99% of poverty line	2,624.63	1,408.07	1,216.56	53.6%		
100-199% of poverty line	3,457.49	1,758.57	1,698.91	50.9%		
200-299% of poverty line	3,002.81	1,316.98	1,685.83	43.9%		
≥300% of poverty line	5,888.65	1,761.09	4,127.56	29.9%		
Total	14,973.57	6,243.98	8,729.59	41.7%		
					92.21	0.000
Race/Hispanic Origin						
Hispanic	3,764.41	1,605.37	2,159.04	42.6%		
Non-Hispanic White	8,215.07	3,193.80	5,021.28	38.9%		
Non-Hispanic Black	2,052.59	1,131.42	921.17	55.1%		
Non-Hispanic Other	941.51	314.12	627.39	33.4%		
Total	14,973.57	6,244.70	8,728.87	41.7%		
					31.03	0.0005
Formal Marital Status						
Married	10,367.81	3,354.65	7,013.16	32.4%		
Widowed	16.16	15.00	1.16	92.8%		
Divorced	621.35	369.82	251.53	59.5%		
Separated	382.03	162.97	219.06	42.7%		
Never Married	3,586.23	2,342.26	1,243.96	65.3%		
Total	14,973.57	6,243.98	8,729.59	41.7%		
					193.58	0.000
Current Religious Affiliation						
No religion	3,041.27	1,480.22	1,561.05	48.7%		
Catholic	4,343.22	1,633.99	2,709.23	37.6%		
Protestant	6,263.78	2,625.64	3,638.15	41.9%		
Other religion	1,325.29	504.85	820.44	38.1%		
Total	14,973.57	6,243.98	8,729.59	41.7%		
					14.63	0.055

Variable	Total # of men who had a birth in last 5 years (in thousands)	# of men w/unintended births in last 5 years (in thousands)	# of men w/intended births in last 5 years (in thousands)	% of unintended births w/in category	chi-square	p-value
R's Intention for Future Children						
R doesn't intend to have additional births	8,520.24	3,686.43	4,833.81	43.3%		
R doesn't know about additional births	362.48	146.87	215.61	40.5%		
R intends to have additional births	6,090.85	2,411.40	3,679.45	39.6%		
Total	14,973.57	6,243.98	8,729.59	41.7%		
					2.99	0.440
Central # Additional Children Expected						
No additional births	7,921.00	3,420.71	4,500.28	43.2%		
Half to 1 additional birth	4,705.10	1,828.04	2,877.05	38.9%		
1.5 to 2 additional births	1,628.98	703.16	925.82	43.2%		
2.5 to 4 additional births	607.16	222.37	384.79	36.6%		
4.5 to 10 additional births	111.34	70.42	40.93	63.2%		
Total	14,973.57	6,243.98	8,729.59	41.7%		
					7.78	0.362
How R Would Feel about Impregnating a Woman Today						
Unsure/don't know	57.71	38.36	19.35	66.5%		
Very upset	753.76	559.07	194.70	74.2%		
A little upset	1,313.28	712.92	600.36	54.3%		
Doesn't matter	73.04	28.47	44.57	39.0%		
A little pleased	10,628.46	4,397.75	6,230.71	41.4%		
Very pleased	2,147.33	508.15	1,639.18	23.7%		
Total	14,973.57	6,243.98	8,729.59	41.7%		
					107.01	0.000
Belief that it is better if man earns main living and woman cares for family						
Don't know	6.96	6.96	0.00	100.0%		
Strongly Disagree	1,805.45	875.11	930.34	48.5%		
Disagree	6,785.95	2,881.93	3,904.02	42.5%		
Neither agree nor disagree	327.73	86.60	241.13	26.4%		
Agree	4,737.40	1,928.49	2,808.91	40.7%		
Strongly agree	1,310.08	465.60	844.48	35.5%		
Total	14,973.57	8,728.87	6,244.70	41.7%		
					14.85	0.1230

Variable	Total # of men who had a birth in last 5 years (in thousands)	# of men w/unintended births in last 5 years (in thousands)	# of men w/intended births in last 5 years (in thousands)	% of unintended births w/in category	chi-square	p-value
Number of biological kids R has						
1 child	5,300.05	2,269.67	3,030.37	42.8%		
2 children	5,365.14	1,997.22	3,367.92	37.2%		
3 children	2,731.28	1,071.57	1,659.72	39.2%		
4 or more children	1,577.11	906.25	670.86	57.5%		
Total	14,973.57	6,243.98	8,729.59	41.7%		
					32.17	0.002
R's belief that one can't be happy without children						
Don't know/refuse	3.93	3.93	0.00	100.0%		
Strongly disagree	2,945.65	1,282.59	1,663.06	43.5%		
Disagree	10,119.32	4,287.46	5,831.86	42.4%		
Neither agree nor disagree	139.07	51.47	87.60	37.0%		
Agree	1,318.73	450.46	868.27	34.2%		
Strongly agree	446.88	168.79	278.08	37.8%		
Total	14,973.57	6,243.98	8,729.59	41.7%		
					6.95	0.479
R's belief that rewards of children outweigh costs						
Don't know/refuse	90.76	68.79	21.97	75.8%		
Strongly disagree	70.39	47.11	23.28	66.9%		
Disagree	266.36	147.97	118.39	55.6%		
Neither agree nor disagree	8.99	8.99	0.00	100.0%		
Agree	3,812.72	1,756.18	2,056.54	46.1%		
Strongly agree	10,724.36	4,215.68	6,508.68	39.3%		
Total	14,973.57	6,243.98	8,729.59	41.7%		
					22.51	0.046
R's belief that having a family is more important than having a successful career						
Refused/don't know	7.54	4.85	2.69	64.4%		
Strongly disagree	135.68	46.23	89.45	34.1%		
Disagree	2,675.88	1,316.45	1,359.43	49.2%		
Neither agree nor disagree	370.72	173.40	197.32	46.8%		
Agree	8,461.82	3,451.08	5,010.74	40.8%		
Strongly agree	3,321.93	1,252.70	2,069.23	37.7%		
Total	14,973.57	6,243.98	8,729.59	41.7%		
					14.26	0.129

Variable	Total # of men who had a birth in last 5 years (in thousands)	# of men w/unintended births in last 5 years (in thousands)	# of men w/intended births in last 5 years (in thousands)	% of unintended births w/in category	chi-square	p-value
# of female sexual partners R has had in lifetime						
1-2 partners	3,424.81	870.94	2,553.87	25.4%		
3-5 partners	3,910.85	1,636.01	2,274.84	41.8%		
6-10 partners	3,151.73	1,488.23	1,663.51	47.2%		
More than 10 partners	4,486.18	2,249.53	2,236.65	50.1%		
Total	14,973.57	6,243.98	8,729.59	41.7%		
					81.41	0.000
# female partners R has had in last 12 months						
No partners	287.43	89.99	197.44	31.3%		
1 partner	13,266.79	5,164.62	8,102.17	38.9%		
2 partners	717.12	479.23	237.88	66.8%		
3 partners	250.28	172.72	77.56	69.0%		
4 or more partners	451.96	338.14	113.82	74.8%		
Total	14,973.57	6,243.98	8,729.59	41.7%		
					78.06	0.000
R's age at first sex						
Refused/Unsure	519.52	247.05	272.48	47.6%		
Up to and including age 14	3,272.76	1,831.59	1,441.17	56.0%		
15 to 16 years old	6,719.20	2,563.53	4,155.67	38.2%		
17 to 18 years old	2,729.51	953.65	1,775.87	34.9%		
19 to 21 years old	1,200.22	445.35	754.86	37.1%		
22 and up	532.35	203.54	328.81	38.2%		
Total	14,973.57	6,243.98	8,729.59	41.7%		
					56.93	0.000
Frequency of sexual intercourse in last 4 weeks						
Don't know/refused	266.78	53.66	213.12	20.1%		
No times	1,525.89	602.13	923.76	39.5%		
1 or 2 times	3,095.61	1,129.39	1,966.22	36.5%		
3-5 times	4,550.12	1,831.00	2,719.12	40.2%		
6-8 times	2,667.15	1,136.17	1,530.98	42.6%		
9 or more times	2,868.02	1,492.35	1,375.67	52.0%		
Total	14,973.57	6,243.98	8,729.59	41.7%		
					32.89	0.006

Variable	Total # of men who had a birth in last 5 years (in thousands)	# of men w/unintended births in last 5 years (in thousands)	# of men w/intended births in last 5 years (in thousands)	% of unintended births w/in category	chi-square	p-value
Has R ever been involved in a pregnancy that ended in stillbirth, miscarriage, or abortion						
Refused/Don't know	35.49	25.42	10.07	71.6%		
No	9,943.85	4,124.68	5,819.17	41.5%		
Yes	4,994.23	2,094.60	2,899.63	41.9%		
Total	14,973.57	6,243.98	8,729.59	41.7%		
					2.00	0.513
Whether R has children under age of 18 in household						
No kids in house	2,416.59	1,603.55	813.04	66.4%		
Kids in house	12,556.98	4,641.15	7,915.83	37.0%		
Total	14,973.57	6,243.98	8,729.59	41.7%		
					107.80	0.000
Whether R and current partner are currently trying to get pregnant						
Refused/Don't know	1.19	0.00	1.19	0.0%		
Yes	626.55	97.85	528.70	15.6%		
No	14,345.83	6,146.85	8,198.98	42.8%		
Total	14,973.57	6,243.98	8,728.87	41.7%		
					27.53	0.0000
Whether R and current partner are currently pregnant						
Refused/Don't know	29.07	9.30	19.77	32.0%		
Yes	891.11	372.95	518.16	41.9%		
No	14,053.40	5,862.45	8,190.95	41.7%		
Total	14,973.57	6,243.98	8,728.87	41.7%		
					0.17	0.9470
Whether R would feel embarrassed discussing condoms with new partner						
Don't know/refuse	64.46	11.08	53.38	17.2%		
Almost certain	440.35	160.40	279.96	36.4%		
Good chance	618.77	289.31	329.47	46.8%		
50/50 chance	883.57	348.24	535.33	39.4%		
A little chance	2,339.19	849.91	1,489.28	36.3%		
Almost no chance	10,627.23	4,585.77	6,041.45	43.2%		
Total	14,973.57	6,243.98	8,729.59	41.7%		
					9.92	0.377

Variable	Total # of men who had a birth in last 5 years (in thousands)	# of men w/unintended births in last 5 years (in thousands)	# of men w/intended births in last 5 years (in thousands)	% of unintended births w/in category	chi-square	p-value
Whether R believes condoms would cause sex to be less pleasurable						
Don't know/refuse	124.66	35.44	89.22	28.4%		
Almost certain	1,900.37	945.48	954.89	49.8%		
Good chance	2,681.54	1,012.87	1,668.68	37.8%		
50/50 chance	6,314.16	2,780.56	3,533.59	44.0%		
A little chance	2,638.66	956.64	1,682.02	36.3%		
Almost no chance	1,314.18	513.71	800.47	39.1%		
Total	14,973.57	6,243.98	8,729.59	41.7%		
					18.97	0.065
What forms of contraception used at first sex with woman						
No method	5,118.95	2,131.93	2,987.02	41.6%		
Males methods only	7,478.86	2,048.11	5,430.76	27.4%		
Female methods only	1,115.52	490.11	625.40	43.9%		
Dual methods (male and female)	1,239.44	512.23	727.21	41.3%		
Total	14,973.57	6,243.98	8,729.59	41.7%		
					16.39	0.079
What forms of contraception used at last sex						
No method	4,804.89	1,680.84	3,124.05	35.0%		
Males methods only	4,227.65	2,015.85	2,211.80	47.7%		
Female methods only	4,728.12	1,953.03	2,775.09	41.3%		
Dual methods (male and female)	1,200.16	557.00	643.16	46.4%		
Total	14,973.57	6,243.98	8,729.59	41.7%		
					25.48	0.012
R's frequency of condom use in last four weeks						
Refused/don't know	35.45	23.45	12.01	66.1%		
0 times	12,597.94	5,177.54	7,420.40	41.1%		
1 time	617.23	265.98	351.25	43.1%		
2 times	672.43	300.50	371.93	44.7%		
3 times	388.86	167.24	221.62	43.0%		
4+ times	661.65	310.00	351.66	46.9%		
Total	14,973.57	6,243.98	8,729.59	41.7%		
					3.15	0.910

Figure 3.1: Percent of births fathered by American men aged 15-45 occurring within the last five years that were unintended, by respondent's age group

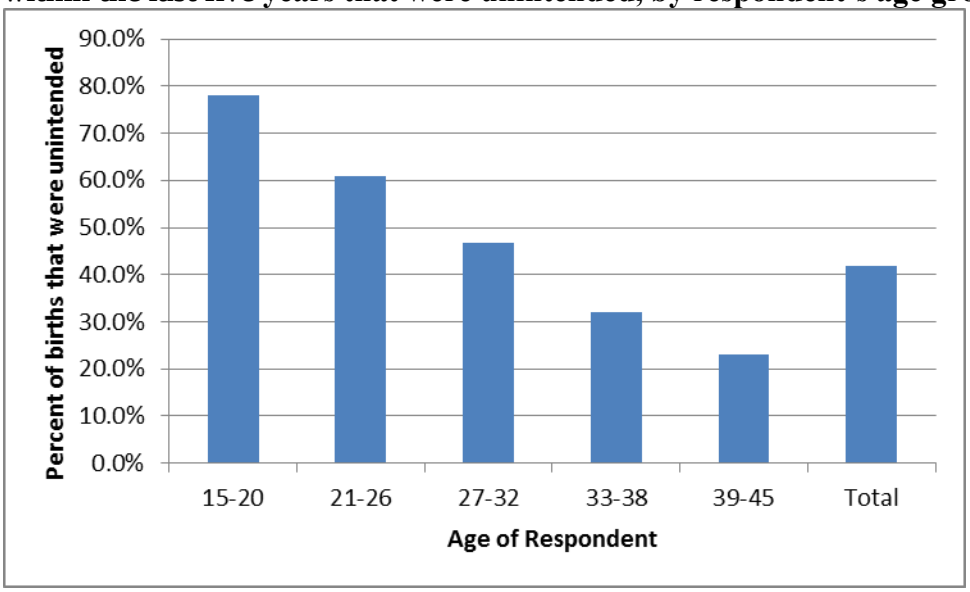


Figure 3.2: Percent of births fathered by American men aged 15-45 occurring within the last five years that were unintended, by respondent's educational attainment

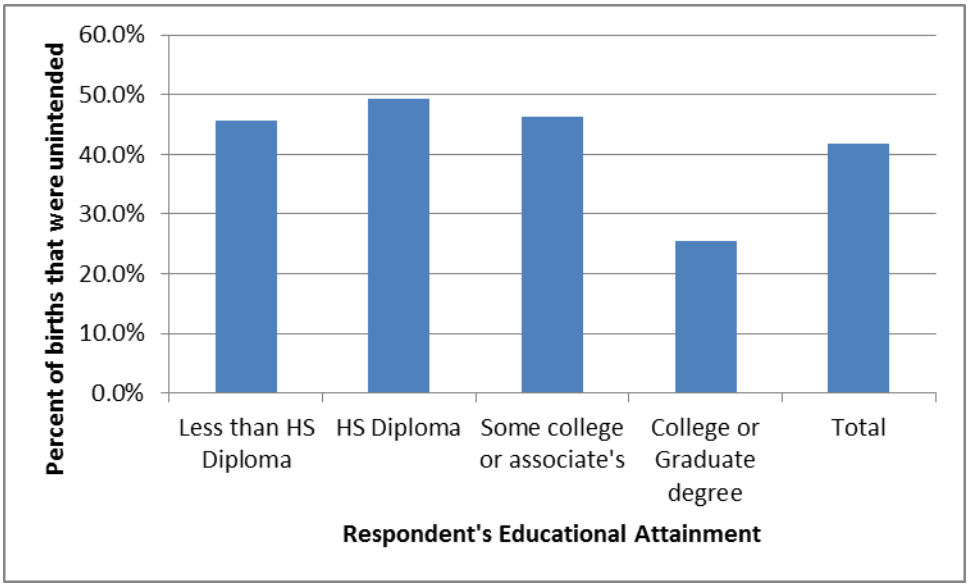


Figure 3.3: Percent of births fathered by American men aged 15-45 occurring within the last five years that were unintended, by respondent's poverty

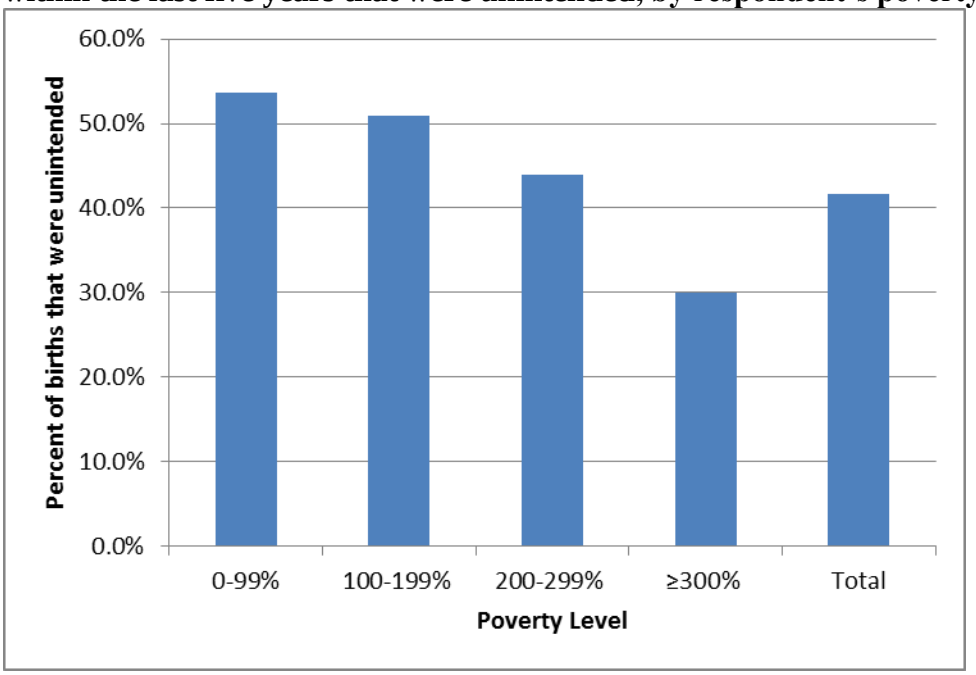


Figure 3.4: Percent of births fathered by American men aged 15-45 occurring within the last five years that were unintended, by respondent's race

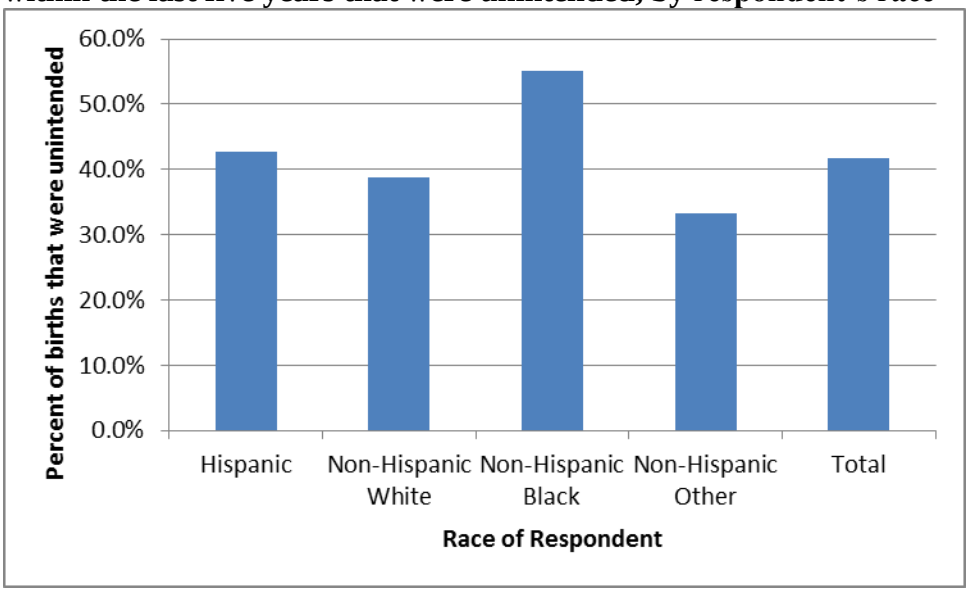
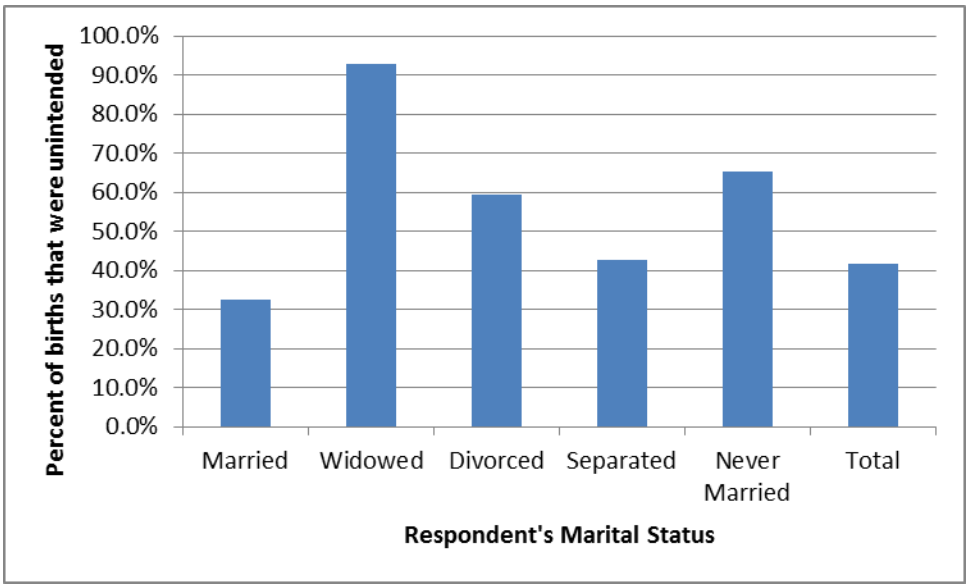


Figure 3.5: Percent of births fathered by American men aged 15-45 occurring within the last five years that were unintended, by respondent's formal marital status



It is also important to determine whether the demographic/social determinant measures have significant associations with the theoretical measures, as I hypothesize that the relationship between demographics and unintended birth can be partially explained through the procreative consciousness and procreative responsibility of the men. Thus, the demographic variables must be related not only to the outcome of interest (UIB) but also to the mediating variables. Table 3.7 displays a sampling of the associations between certain social determinants (race, age, educational attainment, and poverty) and important measures of PC and PR. Most of the selected measures of PC and PR show a statistically significant relationship with the demographic factors. In other words, race, age, educational attainment, and poverty influence how one expresses his PC and PR (or vice versa). For example, while 53% of men with a college degree intend to have children in the future, over 60% of men who have not earned a college degree intend the same. However, not all of the relationships are easily discernible nor do they flow in the expected direction. When we examine the method of contraception used at

last sex, for instance, there is no clear pattern as to economic class is more likely to use vs. not use a method. It is clear, though, that these two sets of variables are significantly related.

Logistic Regression Analysis

Tables 3.8-3.11 present the odds ratios for a series of logistic regression models: The first model (Table 3.8) shows the unadjusted relationship between social determinants and unintended births in the last five years, Model 2 (Table 3.9) adds in procreative consciousness variables, Model 3 (Table 3.10) adds in procreative respondent variables to the social determinants (without the PC variables), and Model 4 includes all measures (Table 3.11). When just demographic/social determinants are in the model (Model 1), the only significant correlates of a man having had an unintended birth in the last 5 years were marital status (OR=0.378, p=0.000 compared to never married men), age (OR=0.934, p=0.000), education (men with a high school diploma or with some college/associate's degree were more likely to have experienced an UIB than men with less than a high school diploma, OR=1.49, p=0.015 and OR=1.531, p=0.017, respectively) and religious denomination (Catholic men were less likely to have experienced an UIB than those men who did not identify a religion, OR=0.716, p=0.050). Notice in this model that neither race nor poverty level are significant explanatory variables after accounting for the other social determinants (although the patterns – that non-Hispanic black men and men at or near the poverty level have an increased odds of having experienced an UIB compared to non-Hispanic whites and those at above the poverty line, respectively – are in the direction that is expected).

Table 3.7: Bivariate relationships between demographic indicators and select PC and PR measures

	Intention for Future Children			How R Would React to a Pregnancy	
	No intention for kids	Intention for kids		Very upset/a little upset	A little pleased/very pleased
Race					
Black	38.5%	60.9%		23.6%	75.4%
White	40.7%	58.2%		11.8%	87.4%
Other	38.0%	60.5%		13.5%	85.3%
		χ^2=10.44, p=0.281			χ^2=70.36, p=0.000
Age					
15-20	8.0%	91.8%		48.5%	51.6%
21-26	15.6%	83.7%		18.9%	80.2%
27-32	34.6%	62.9%		13.0%	86.0%
33-38	62.9%	35.8%		9.9%	89.7%
39-45	81.5%	17.9%		10.6%	87.5%
		χ^2=3,525.40, p=0.000			χ^2=139.11, p=0.000
Education					
Less than college degree	38.6%	60.4%		15.7%	83.5%
College degree or higher	45.8%	53.2%		8.0%	90.8%
		χ^2=37.36, p=0.001			χ^2=25.56, p=0.017
Poverty					
0-99% poverty line	36.6%	62.4%		16.2%	82.8%
100-199% poverty line	40.3%	58.8%		14.9%	83.6%
200-299% poverty line	42.3%	56.5%		15.4%	84.6%
300-399% poverty line	46.5%	52.2%		14.9%	84.4%
400%+ poverty line	35.3%	63.9%		6.8%	92.1%
		χ^2=79.07, p=0.001			χ^2=49.08, p=0.147

	Number of lifetime sexual partners						Contraception used at last sex			
	None	1-2	3-5	6-10	10+		No method	Female method	Male method	Dual methods
Race										
Black	12.2%	13.4%	19.3%	20.4%	34.8%		35.4%	26.6%	24.1%	14.0%
White	14.8%	20.4%	22.1%	17.5%	25.2%		30.5%	33.1%	29.3%	7.0%
Other	16.6%	27.5%	22.9%	13.3%	19.6%		36.5%	29.7%	27.3%	6.6%
					χ^2=167.68, p=0.000					χ^2=28.94, p=0.009
Age										
15-20	52.2%	20.2%	14.9%	6.4%	6.3%		27.2%	15.4%	39.8%	17.6%
21-26	12.5%	21.8%	23.7%	19.6%	22.5%		37.9%	27.0%	26.2%	9.0%
27-32	2.8%	20.7%	26.1%	19.2%	31.3%		32.4%	33.4%	25.3%	8.8%
33-38	2.6%	20.5%	20.6%	19.5%	36.8%		30.2%	32.0%	28.9%	8.9%
39-45	1.4%	18.8%	24.0%	22.4%	33.4%		29.8%	35.9%	32.5%	1.8%
					χ^2=3.462.48, p=0.000					χ^2=53.65, p=0.009
Education										
Less than college degree	16.8%	18.5%	21.5%	17.3%	25.9%		31.6%	32.4%	27.1%	8.9%
College degree or higher	6.5%	27.6%	23.0%	17.5%	25.3%		33.7%	29.3%	31.7%	5.3%
					χ^2=193.06, p=0.000					χ^2=11.84, p=0.167
Poverty										
0-99% poverty line	21.6%	22.7%	20.6%	15.0%	20.0%		31.5%	37.1%	22.4%	9.0%
100-199% poverty line	18.4%	19.5%	19.7%	16.9%	25.4%		32.5%	32.4%	27.0%	8.1%
200-299% poverty line	12.8%	20.3%	24.5%	19.8%	22.6%		30.6%	31.7%	28.6%	9.1%
300-399% poverty line	13.6%	19.8%	22.5%	15.6%	28.5%		29.4%	28.3%	34.5%	7.8%
400%+ poverty line	9.1%	20.0%	21.8%	18.8%	30.3%		37.1%	29.4%	27.4%	6.1%
					χ^2=231.05, p=0.000					χ^2=25.40, p=0.404

Table 3.8: Multivariate Logistic Regression of Unintended Birth on Social Determinants (Model 1)

Characteristic	Odds Ratio	Standard Error	P-value	95% Conf. Interval
Hispanic	0.952	0.183	0.798	0.650-1.393
Black	1.281	0.198	0.112	0.943-1.740
Other race	0.791	0.212	0.386	0.464-1.348
White	1.000			
Currently married	**0.378**	**0.061**	**0.000**	**0.275-0.520**
Formerly married	0.821	0.201	0.423	0.504-1.336
Never married	1.000			
Age of respondent	**0.934**	**0.011**	**0.000**	**0.912-0.957**
100-199% poverty line	1.321	0.234	0.119	0.930-1.876
200-299% poverty line	1.118	0.203	0.541	0.779-1.605
300% or more poverty line	0.910	0.177	0.629	0.619-1.339
<100% poverty line	1.000			
High school diploma	**1.490**	**0.239**	**0.015**	**1.084-2.049**
Some college/associate's	**1.531**	**0.267**	**0.017**	**1.082-2.165**
College degree/graduate	1.069	0.221	0.748	0.709-1.612
Less than high school diploma	1.000			
Catholic	**0.716**	**0.120**	**0.050**	**0.513-1.000**
Protestant	0.806	0.123	0.162	0.595-1.092
Other religion	0.966	0.269	0.901	0.556-1.678
No religion	1.000			
Constant	10.856	4.595	0.000	4.686-25.150

F(15, 82) = 8.79 Prob > F = 0.0000

Model 2 adds the procreative consciousness variables to the social determinant measures (Table 3.9). Marital status, age, and educational attainment remain statistically significant predictors of unintended birth; being Catholic, though, has lost its statistical significance with the addition of the PC variables[9]. Seven procreative consciousness measures were statistically significantly (at the α=0.05 level) related to the odds of the men having had an unintended birth in the last five years, after controlling for the

[9] Intention to have future children, central number of additional children respondent expects to have, how respondent would react if he impregnated a woman today, belief that it is better if the man earns a living for his family, belief that children are worth the cost, and number of sexual partners respondent has had in his lifetime all individually reduced the statistical significance of being Catholic.

demographic variables. How the man would react to impregnating a woman today (the happier he would be, the less likely he has experienced an UIB, OR=0.774, p=0.000), the belief that it is better if a man earns the main living for his family (agreement with the statement is correlated with decreased odds, OR=0.861, p=0.006), the number of children the man has fathered (increased number of children, increased odds, OR=1.300, p=0.005), number of sexual partners the man has had in his lifetime (increased number of partners, increased odds, OR=1.240, p=0.003), frequency of sexual intercourse in the last four weeks before the interview (increased frequency, increased odds, OR=1.126, p=0.029), whether the man has children under the age of 18 living in his household (decreased odds for those who answered "yes", OR=0.875, p=0.010), and whether the man was currently trying to get pregnant with his current sexual partner (decreased odds for those who answered "yes", OR=0.417, p=0.034).

Table 3.9: Multivariate Logistic Regression of Unintended Birth on Social Determinants + PC Variables (Model 2)

Characteristic	Odds Ratio	Standard Error	P-value	95% Conf. Interval
Hispanic	1.030	0.229	0.895	0.662-1.602
Black	0.945	0.164	0.746	0.670-1.334
Other race	0.824	0.231	0.491	0.472-1.438
White	1.000			
Currently married	**0.457**	**0.087**	**0.000**	**0.313-0.667**
Formerly married	0.627	0.182	0.111	0.352-1.116
Never married	1.000			
Age of respondent	**0.890**	**0.017**	**0.000**	**0.858-0.924**
100-199% poverty line	1.119	0.216	0.563	0.762-1.642
200-299% poverty line	0.857	0.159	0.409	0.593-1.240
300% or more poverty line	0.732	0.140	0.105	0.501-1.069
<100% poverty line	1.000			
High school diploma	**1.697**	**0.291**	**0.003**	**1.208-2.384**
Some college/associate's	**1.875**	**0.333**	**0.001**	**1.318-2.668**
College degree/graduate	1.457	0.335	0.105	0.923-2.301
Less than high school diploma	1.000			
Catholic	0.781	0.136	0.158	0.553-1.102
Protestant	0.827	0.146	0.284	0.583-1.173
Other religion	1.144	0.325	0.637	0.651-2.011
No religion	1.000			
Intention for future children	0.875	0.061	0.056	0.763-1.003
Central # of additional kids expected	1.072	0.168	0.657	0.786-1.463
How R would respond if he impregnated his partner	**0.774**	**0.052**	**0.000**	**0.677-0.884**
Belief it's better if man earns living	**0.861**	**0.046**	**0.006**	**0.774-0.958**
Total # of pregnancies reported	1.158	0.136	0.214	0.918-1.462
Number of children R has ever fathered	**1.300**	**0.118**	**0.005**	**1.084-1.557**
Belief one cannot be happy without kids	0.953	0.081	0.576	0.805-1.129
Belief that rewards of kids outweigh costs	0.880	0.100	0.262	0.702-1.102
Belief that family is more important than successful career	1.004	0.062	0.944	0.888-1.136
Number of opposite sex partners R has had in lifetime	**1.240**	**0.087**	**0.003**	**1.078-1.426**
Number of opposite sex partners R has had in last 12 months	1.040	0.104	0.695	0.853-1.269
Age of respondent at first sex	1.045	0.076	0.545	0.904-1.208
Frequency of sex in last 4 weeks	**1.126**	**0.060**	**0.029**	**1.012-1.252**
Whether R has ever had a pregnancy end in miscarriage or abortion	0.969	0.038	0.432	0.896-1.049
Whether R has children living at home	**0.875**	**0.044**	**0.010**	**0.791-0.968**
Whether R and partner currently trying to get pregnant	**0.417**	**0.169**	**0.034**	**0.186-0.933**
Whether R and partner are currently pregnant	0.861	0.314	0.682	0.417-1.777
Constant	22.286	26.370	0.010	2.128-233.391

F(32, 65) = 8.43 Prob > F = 0.0000

Model 3 adds the procreative responsibility variables to the social determinant measures, taking out the PC variables from the previous model (Table 3.10). Marital status, age, and educational attainment remain statistically significant predictors of unintended birth. Once again, the addition of PR variables took being Catholic below significance[10]. Only one procreative responsibility measure was statistically significantly (at the α=0.05 level) related to the odds of the man having had an unintended birth. Men who used a female method of contraception at last sex had significantly higher odds of having experienced an UIB in the last five years than men who used no contraceptive method at all (OR =1.970, p=0.000).

Finally, model 4 included all variables – social determinants, PC, and PR – in the logistic regression equation. Marital status, age, and educational attainment still remain statistically significantly related to the outcome, even after adding in measures of procreative consciousness and procreative responsibility. Interestingly, while the OR for being currently married was tempered by the addition of PC and PR variables, the ORs for age and educational attainment actually became stronger in the full model. Men's frequency of sexual intercourse in the last four weeks and whether the respondent and his partner are currently trying to get pregnant have lost significance in this model. All of the other PC measures from model 2 have kept their significance or non-significance. In terms of PR measures, only the man having used a female method of contraception at last sex (compared to no method) remained statistically significantly related to the outcome (the OR of 1.74 has dropped slightly in the full model).

[10] Respondent's level of embarrassment in talking about condoms with a new partner and respondent's belief that condoms make sex less pleasurable both individually reduced the statistical significance of being Catholic.

Table 3.10: Multivariate Logistic Regression of Unintended Birth on Social Determinants + PR Variables (Model 3)

Characteristic	Odds Ratio	Standard Error	p-value	95% Conf. Interval
Hispanic	0.939	0.185	0.748	0.635-1.388
Black	1.328	0.224	0.095	0.951-1.855
Other race	0.809	0.225	0.449	0.466-1.405
White	1.000			
Currently married	**0.374**	**0.057**	**0.000**	**0.276-0.507**
Formerly married	0.822	0.207	0.438	0.498-1.356
Never married	1.000			
Age of respondent	**0.930**	**0.011**	**0.000**	**0.908-0.953**
100-199% poverty	1.347	0.244	0.102	0.941-1.929
200-299% poverty	1.174	0.219	0.393	0.810-1.699
300% or more poverty	0.897	0.176	0.579	0.607-1.324
<100% poverty line	1.000			
High school diploma	**1.434**	**0.227**	**0.025**	**1.047-1.963**
Some college/associate's	**1.463**	**0.254**	**0.031**	**1.037-2.065**
College degree/graduate	1.082	0.229	0.712	0.710-1.648
Less than high school diploma	1.000			
Catholic	0.724	0.123	0.061	0.516-1.015
Protestant	0.796	0.125	0.149	0.584-1.086
Other religion	0.976	0.266	0.928	0.568-1.675
No religion	1.000			
Whether R would be embarrassed to talk about condoms w/new partner	1.121	0.078	0.103	0.977-1.287
R's belief condoms make sex less pleasurable	0.893	0.056	0.072	0.789-1.010
R used female method of contraception at first sex	0.712	0.229	0.294	0.375-1.350
R used male method of contraception at first sex	1.001	0.143	0.994	0.753-1.330
R used dual methods of contraception at first sex	0.926	0.208	0.734	0.593-1.447
R used no method at first sex	1.000			
R used female method of contraception at last sex	**1.970**	**0.309**	**0.000**	**1.443-2.690**
R used male method of contraception at last sex	1.432	0.291	0.080	0.957-2.144
R used dual methods of contraception at last sex	1.118	0.277	0.655	0.683-1.828
R used no method at last sex	1.000			
Frequency of R's condom use during sex w/woman in last 4 weeks	1.000	0.076	0.995	0.861-1.162
Constant	7.834	4.902	0.001	2.262-27.129

F(24, 73) = 6.46, Prob > F = 0.0000

Table 3.11: Multivariate Logistic Regression of Unintended Birth on Social Determinants, PC variables, and PR Variables (Model 4)

Characteristic	Odds Ratio	Standard Error	P>t	95% Conf. Interval
Hispanic	1.042	0.231	0.853	0.671-1.617
Black	0.982	0.183	0.922	0.678-1.422
Other race	0.841	0.243	0.551	0.474-1.494
White	1.000			
Currently married	**0.437**	**0.080**	**0.000**	**0.305-0.627**
Formerly married	0.650	0.191	0.145	0.363-1.164
Never married	1.000			
Age of respondent	**0.888**	**0.017**	**0.000**	**0.855-0.922**
100-199% poverty line	1.131	0.224	0.536	0.763-1.676
200-299% poverty line	0.895	0.172	0.564	0.612-1.309
300% or more poverty line	0.730	0.143	0.111	0.495-1.077
<100% poverty line	1.000			
High school diploma	**1.665**	**0.278**	**0.003**	**1.195-2.320**
Some college/associate's	**1.870**	**0.327**	**0.001**	**1.321-2.646**
College degree/graduate	1.487	0.335	0.082	0.950-2.325
Less than high school diploma	1.000			
Catholic	0.775	0.139	0.158	0.543-1.106
Protestant	0.822	0.145	0.268	0.579-1.166
Other religion	1.102	0.308	0.728	0.633-1.919
No religion	1.000			
Intention for future children	0.871	0.062	0.053	0.757-1.002
Central # of additional kids expected	1.092	0.166	0.563	0.807-1.478
How R would respond if he impregnated his partner	**0.762**	**0.053**	**0.000**	**0.664-0.874**
R's belief it's better if man earns living	**0.873**	**0.048**	**0.016**	**0.782-0.975**
Total # of pregnancies reported	1.151	0.136	0.234	0.911-1.454
Number of children R has ever fathered	**1.315**	**0.117**	**0.003**	**1.101-1.570**
R's belief one cannot be happy without children	0.946	0.081	0.518	0.798-1.121
R's belief that rewards of children outweigh costs	0.838	0.098	0.133	0.665-1.056
R's belief that family is more important than successful career	1.006	0.064	0.925	0.886-1.142

Characteristic	Odds Ratio	Standard Error	p-value	95% Conf. Interval
Number of opposite sex partners R has had in lifetime	**1.199**	**0.083**	**0.011**	**1.044-1.377**
Number of opposite sex partners R has had in last 12 months	1.034	0.099	0.724	0.855-1.251
Age of respondent at first sex	1.048	0.078	0.527	0.904-1.215
Frequency of sex for R in last 4 weeks	1.100	0.060	0.084	0.987-1.225
Whether R has ever had a pregnancy end in miscarriage or abortion	0.970	0.039	0.444	0.895-1.050
Whether R has children living at home	**0.856**	**0.042**	**0.002**	**0.776-0.943**
Whether R and partner currently trying to get pregnant	0.526	0.228	0.141	0.222-1.243
Whether R and partner are currently pregnant	1.099	0.418	0.804	0.517-2.340
Whether R would be embarrassed to talk about condoms w/new partner	1.131	0.078	0.076	0.987-1.296
R's belief condoms make sex less pleasurable	0.915	0.059	0.169	0.806-1.039
R used female method of contraception at first sex	0.768	0.254	0.427	0.399-1.480
R used male method of contraception at first sex	1.085	0.161	0.581	0.809-1.456
R used dual methods of contraception at first sex	1.089	0.253	0.714	0.687-1.726
R used no method at first sex	1.000			
R used female method of contraception at last sex	**1.741**	**0.330**	**0.004**	**1.195-2.537**
R used male method of contraception at last sex	1.350	0.290	0.166	0.881-2.066
R used dual methods of contraception at last sex	0.849	0.223	0.534	0.503-1.431
R used no method at last sex	1.000			
Frequency of R's condom use during sex w/woman in last 4 weeks	0.971	0.075	0.703	0.833-1.132
Constant	43.299	56.948	0.005	3.182-589.225

F(41, 56) = 6.15, Prob > F = 0.0000

Table 3.12 presents a model that includes all explanatory variables that were statistically significant when added to Model 4. All of the variables maintain their significance and most of the odds ratios stay close to where they were in Model 4.

Table 3.12: Multivariate Logistic Regression of Unintended Birth on Significant Social Determinant, PC, and PR Variables (Model 5)

Characteristic	Odds Ratio	Standard Error	p-value	95% Conf. Interval	
Currently married	0.530	0.085	0.000	0.385	0.730
Age of respondent	0.898	0.013	0.000	0.873	0.924
High school diploma	1.404	0.213	0.027	1.039	1.897
Some college/associate's	1.571	0.253	0.006	1.141	2.162
How R would respond if he impregnated his partner	0.745	0.050	0.000	0.651	0.851
R's belief it's better if man earns living	0.858	0.041	0.002	0.781	0.943
Number of children R has ever fathered	1.452	0.093	0.000	1.279	1.648
Number of opposite sex partners R has had in lifetime	1.237	0.077	0.001	1.092	1.400
Whether R has children living at home	0.873	0.042	0.005	0.794	0.959
R used female method of contraception at last sex	1.611	0.232	0.001	1.211	2.143
Constant	42.343	21.548	0.000	15.420	116.274

$F(10,87) = 20.31$, Prob >F = 0.000

It is clear from the multivariate logistic regression models that current marital status has a particularly powerful effect on the odds ratio for unintended birth. I felt it was important to determine whether marital status was mediating the effects of the other social determinant or PC and PR measures. The models as described above do not allow us to make that determination. To determine the impact of marital status on the other variables in the models, I compared a set of three equations: the full model (model 4 described above), a model that left out marital status from the equation, and a model that

only included the never-married sub-sample of men. Table 3.13 below displays the three-way comparison.

In terms of demographic measures, in both new models race and poverty are NOT significant while educational attainment and age ARE significant. The same PC and PR variables reach statistical significance in both models. In fact, if you scan down the ORs and p-values in the first two models, the numbers are strikingly similar. These results indicate that marital status has a large independent effect but does not mediate the effects of the other social determinants (i.e. the results did not change much when marital status was accounted for).

However, the third model in the table (which includes only the never-married portion of the sample) does produce different results. When we look at just the never-married men, race does become a statistically significant correlate of unintended birth, at least in one way: Hispanic men have a statistically significantly lower odds ratio (OR) of having fathered an unintended birth in the last five years when compared to white men. In this model, age is once again significantly related to UIB as is religion (men who identify as being a member of an "other" religion have a statistically significantly lower OR than men who identify no religion).

Table 3.13: Three-Way Comparison of Multivariate Logistic Regression Models of Unintended Birth on Social Determinants, PC, and PR Variables to Determine the Effect of Marital Status

	Full Model			Model that doesn't include marital status			Never-Married Sub-sample		
Characteristic	**Odds Ratio**	**Std. Error**	**p-value**	**Odds Ratio**	**Std. Error**	**p-value**	**Odds Ratio**	**Std. Error**	**p-value**
Hispanic	1.042	0.231	0.853	1.073	0.235	0.747	**0.458**	**0.177**	**0.046**
Black	0.982	0.183	0.922	1.075	0.201	0.698	0.548	0.203	0.109
Other race	0.841	0.243	0.551	0.885	0.244	0.659	1.110	0.479	0.810
White	1.000			1.000			1.000		
Currently married	**0.437**	**0.080**	**0.000**	NA	NA	NA	NA	NA	NA
Formerly married	0.650	0.191	0.145	NA	NA	NA	NA	NA	NA
Never married	1.000			NA	NA	NA	NA	NA	NA
Age of respondent	**0.888**	**0.017**	**0.000**	**0.879**	**0.016**	**0.000**	**0.883**	**0.026**	**0.000**
100-199% poverty	1.131	0.224	0.536	1.138	0.227	0.517	1.076	0.346	0.821
200-299% poverty	0.895	0.172	0.564	0.893	0.169	0.552	1.251	0.392	0.477
300% or more poverty	0.730	0.143	0.111	0.709	0.136	0.076	0.546	0.228	0.151
Less than 100% poverty	1.000			1.000			1.000		
High school diploma	**1.665**	**0.278**	**0.003**	**1.510**	**0.248**	**0.014**	1.548	0.433	0.122
Some college/associate's	**1.870**	**0.327**	**0.001**	**1.660**	**0.285**	**0.004**	1.518	0.578	0.275
College degree/graduate	1.487	0.335	0.082	1.260	0.277	0.297	1.016	0.676	0.981
Less than high school diploma	1.000			1.000			1.000		
Catholic	0.775	0.139	0.158	0.794	0.145	0.207	1.342	0.491	0.423
Protestant	0.822	0.145	0.268	0.779	0.140	0.167	0.642	0.225	0.210
Other religion	1.102	0.308	0.728	1.024	0.288	0.934	**0.173**	**0.115**	**0.010**
No religion	1.000			1.000			1.000		
Intention for future children	0.871	0.062	0.053	0.878	0.062	0.069	0.827	0.089	0.083

	Full Model			Model that doesn't include marital status			Never-Married Sub-sample		
Central # of additional kids expected	1.092	0.166	0.563	1.078	0.168	0.631	1.228	0.273	0.358
How R would respond if impregnated	**0.762**	**0.053**	**0.000**	**0.744**	**0.050**	**0.000**	0.921	0.107	0.481
R's belief it's better if man earns living	**0.873**	**0.048**	**0.016**	**0.890**	**0.049**	**0.035**	**0.706**	**0.067**	**0.000**
Total # of pregnancies reported	1.151	0.136	0.234	1.115	0.131	0.358	1.163	0.249	0.482
Number of children R has ever fathered	**1.315**	**0.117**	**0.003**	**1.296**	**0.111**	**0.003**	1.212	0.182	0.204
R's belief one cannot be happy without children	0.946	0.081	0.518	0.928	0.077	0.370	**0.718**	**0.096**	**0.015**
R's belief that rewards of children outweigh costs	0.838	0.098	0.133	0.831	0.102	0.135	0.887	0.151	0.483
R's belief that family is more important than successful career	1.006	0.064	0.925	0.979	0.065	0.752	1.049	0.128	0.695
Number of opposite sex partners R has had in lifetime	**1.199**	**0.083**	**0.011**	**1.247**	**0.087**	**0.002**	1.256	0.182	0.119
Number of opposite sex partners R has had in last 12 months	1.034	0.099	0.724	1.073	0.103	0.468	1.048	0.141	0.729
Age of respondent at first sex	1.048	0.078	0.527	1.033	0.078	0.664	1.074	0.145	0.596
Frequency of sex for R in last 4 weeks	1.100	0.060	0.084	1.108	0.061	0.066	1.064	0.094	0.487
Whether R has ever had a pregnancy end in miscarriage or abortion	0.970	0.039	0.444	0.971	0.040	0.476	0.910	0.088	0.336
Whether R has children living at home	**0.856**	**0.042**	**0.002**	**0.818**	**0.037**	**0.000**	**0.783**	**0.061**	**0.002**
Whether R and partner currently trying to get pregnant	0.526	0.228	0.141	0.492	0.237	0.145	1.723	1.706	0.584

	Full Model			Model That Doesn't Include Marital Status			Never-Married Sub-Sample		
Whether R and partner are currently pregnant	1.099	0.418	0.804	1.069	0.401	0.859	0.483	0.308	0.257
Whether R would be embarrased to talk about condoms w/new partner	1.131	0.078	0.076	1.119	0.075	0.096	1.065	0.108	0.539
R's belief condoms make sex less pleasurable	0.915	0.059	0.169	0.915	0.058	0.163	1.021	0.117	0.859
R used female method of contraception at first sex	0.768	0.254	0.427	0.750	0.252	0.394	**0.230**	**0.145**	**0.022**
R used male method of contraception at first sex	1.085	0.161	0.581	1.100	0.160	0.511	0.814	0.231	0.471
R used dual methods of contraception at first sex	1.089	0.253	0.714	1.087	0.252	0.721	1.879	1.077	0.274
R used no method of contraception at first sex	1.000			1.000			1.000		
R used female method of contraception at last sex	**1.741**	**0.330**	**0.004**	**1.737**	**0.328**	**0.004**	1.144	0.429	0.720
R used male method of contraception at last sex	1.350	0.290	0.166	1.350	0.289	0.165	0.834	0.330	0.647
R used dual methods of contraception at last sex	0.849	0.223	0.534	0.939	0.255	0.818	1.438	0.651	0.425
R used no method of contraception at last sex	1.000			1.000			1.000		
Frequency of R's condom use during sex w/woman in last 4 weeks	0.971	0.075	0.703	0.978	0.072	0.760	0.862	0.107	0.234
Constant	43.299	56.948	0.005	105.693	103.921	0.000	409.037	529.025	0.000

However, educational attainment and poverty are not statistically significant here either. The PC and PR variables that are statistically significant are also a bit different in this model than in the first two models. In the first two models there are 6 PC/PR measures that are significant; in the third model only four PC/PR measures are significant and only two of those four overlap. However, if we look at the ORs for the other variables we can see that there is not much difference between two models; the significance level has simply changed because the sample is smaller. It is more difficult to demonstrate a significant difference between groups.

To supplement my main analysis, I also conducted logistic regression equations with another related outcome: whether the respondents' first births in the last five years were intended, mistimed, or unwanted (weighted n=8,221,557, unweighted n=1,256). This allows us to see whether the risk factors for experiencing an unintended birth vary depending on whether the birth was mistimed vs. unwanted. Approximately 4,815,134 men fathered an intended first birth in the last five years (unweighted n=724), 2,629,423 men fathered a mistimed first birth (unweighted n=414), 557,154 men fathered an unwanted first birth (unweighted n=92), and 213,045 were indifferent or did not know about their first birth (these men were not included in the analysis; unweighted n=26).

Tables 3.14 and 3.15 display the results of Models 6 and 7, which focus on the relative risk ratios of a man's first birth being mistimed or unwanted birth (in comparison to an intended birth), respectively, with just the demographic variables added in as predictors. The results for Model 6 are very similar to what we saw in Model 1, when the odds of having an experienced an UIB in the last five years was the outcome. The only variables that significantly increase the relative risk of having a mistimed birth are

marital status, age, and education. Currently married men have a much lower risk of their first birth being mistimed when compared to never married men (RR=0.257, p=0.000). The same is true when comparing older men to younger men (RR=0.906, p=0.000). And once again we see that men who have a high school diploma (RR=1.908, 0.012) or some college/associate's degree (RR=2.089, 0.022) have a significantly higher risk of their first birth being mistimed when compared to men who did not finish high school. When looking at the risk of having a first birth that was unwanted, though, marital status is the only significant measure (for currently married men, RR=0.165, 0.000).

Table 3.14: Multivariate Logistic Regression of Relative Risk of Having a Mistimed Birth, compared to an Intended Birth on Social Determinants (Model 6)

Characteristic	Relative Risk of Mistimed Birth (compared to intended birth)	Standard Error	p-value	95% Conf. Interval	
Hispanic	0.731	0.215	0.290	0.408	1.312
Black	0.827	0.235	0.506	0.471	1.454
Other race	1.118	0.417	0.765	0.534	2.343
White	1.000				
Currently married	**0.257**	**0.059**	**0.000**	**0.163**	**0.405**
Formerly married	0.662	0.243	0.263	0.319	1.370
Never married	1.000				
Age of respondent	**0.906**	**0.017**	**0.000**	**0.874**	**0.940**
100-199% poverty level	1.341	0.309	0.206	0.849	2.117
200-299% poverty level	1.283	0.367	0.385	0.728	2.262
300% or more poverty level	0.881	0.258	0.665	0.492	1.575
Less than 100% poverty level	1.000				
High school diploma	**1.908**	**0.482**	**0.012**	**1.155**	**3.152**
Some college/associate's	**2.089**	**0.662**	**0.022**	**1.113**	**3.919**
College degree/graduate	1.485	0.648	0.367	0.625	3.532
Less than high school diploma	1.000				
Catholic	0.703	0.175	0.159	0.429	1.151
Protestant	1.090	0.272	0.730	0.664	1.791
Other religion	1.561	0.617	0.262	0.713	3.420
No religion	1.000				
Constant	14.301	8.623	0.000	4.320	47.340

* Note: strata with single sampling unit centered at overall mean

Table 3.15: Multivariate Logistic Regression of Relative Risk of Having an Unwanted Birth, Compared to an Intended Birth on Social Determinants (Model 7)

Characteristic	Relative Risk of Unwanted Birth (compared to intended birth)	Standard Error	p-value	95% Conf. Interval	
Hispanic	0.836	0.426	0.726	0.304	2.298
Black	1.253	0.515	0.585	0.554	2.831
Other race	0.670	0.543	0.622	0.134	3.350
White	1.000				
Currently married	**0.165**	**0.069**	**0.000**	**0.071**	**0.380**
Formerly married	0.794	0.533	0.732	0.209	3.013
Never married	1.000				
Age of respondent	0.941	0.038	0.138	0.867	1.020
100-199% poverty level	0.884	0.361	0.764	0.393	1.987
200-299% poverty level	1.059	0.458	0.894	0.449	2.501
300% or more poverty level	0.569	0.331	0.334	0.179	1.803
Less than 100% poverty level	1.000				
High school diploma	0.872	0.373	0.750	0.373	2.038
Some college/associate's	1.545	0.702	0.342	0.626	3.809
College degree/graduate	0.965	0.750	0.963	0.206	4.511
Less than high school diploma	1.000				
Catholic	1.127	0.631	0.831	0.371	3.424
Protestant	0.782	0.329	0.561	0.339	1.805
Other religion	1.674	1.256	0.494	0.377	7.424
No religion	1.000				
Constant	2.013	2.119	0.508	0.249	16.281

* Note: strata with single sampling unit centered at overall mean

Models 8 and 9 add in procreative consciousness variables to the social determinant measures in the logistic regression analyses (see Tables 3.16 and 3.17). When compared to models 2 and 3, we see that fewer variables have a statistically significant impact on a man's relative risk of their first birth being mistimed or unwanted. While married men (compared to never married men) and older men have a lower risk of having such births and men with a high school diploma have a higher risk of having a mistimed birth (RR=1.771, p=0.028) (compared to men with less than a high school diploma) and men with some college have a higher risk of having an unwanted birth

(RR=2.503, p=0.044), there are only a handful of PC variables that impact a man's risk. Men who indicate they would be happy if they impregnated their partner have a lower relative risk of their first birth being mistimed (RR=0.762, p=0.001) or unwanted (RR=0.631, p=0.001) compared to men who would be unhappy if they impregnated their partners. And puzzlingly, men who indicated that they were trying to get pregnant with their partners had a significantly lower risk of having a first birth that is mistimed (RR=0.284, p=0.018), but a greatly increased risk of having had a first birth that was unwanted (RR=4.990, p=0.033), compared to men who are not trying to get pregnant. Men who have children living at home have a lower relative risk of having a first birth that is mistimed (RR=0.801, p=0.003) while men who intend to have children in the future (RR=0.744, p=0.025) and men who believe it is better for men to earn the main living (RR=0.621, p=0.001) have a lower relative risk of having a first birth that is unwanted.

Table 3.16: Multivariate Logistic Regression of Relative Risk of Having a Mistimed Birth, compared to an Intended Birth on Social Determinants + PC Variables (Model 8)

Characteristic	Relative Risk of Mistimed Birth (compared to intended birth)	Standard Error	p-value	95% Confidence Interval	
Hispanic	0.827	0.263	0.552	0.439	1.556
Black	0.675	0.207	0.203	0.368	1.241
Other race	1.286	0.474	0.496	0.619	2.674
White	1.000				
Currently married	**0.358**	**0.093**	**0.000**	**0.213**	**0.600**
Formerly married	0.528	0.234	0.152	0.219	1.271
Never married	1.000				
Age of respondent	**0.900**	**0.021**	**0.000**	**0.860**	**0.942**
100-199% poverty level	1.296	0.310	0.281	0.806	2.083
200-299% poverty level	1.040	0.279	0.883	0.611	1.771
300% or more poverty level	0.727	0.215	0.283	0.404	1.307

Characteristic	Relative Risk of Mistimed Birth (compared to intended birth)	Standard Error	p-value	95% Confidence Interval	
High school diploma	**1.771**	**0.454**	**0.028**	**1.064**	**2.947**
Some college/associate's	1.773	0.542	0.064	0.966	3.255
College degree/graduate	1.273	0.545	0.574	0.544	2.979
Less than high school diploma					
Catholic	0.825	0.213	0.458	0.495	1.376
Protestant	1.273	0.325	0.347	0.767	2.113
Other religion	2.310	0.992	0.054	0.984	5.420
No religion	1.000				
Intention for future children	0.929	0.084	0.418	0.777	1.112
Central # of additional kids expected	1.013	0.177	0.939	0.717	1.432
How R would respond if he impregnated his partner	**0.762**	**0.062**	**0.001**	**0.649**	**0.896**
R's belief it's better if man earns living	0.849	0.074	0.066	0.714	1.011
Total # of pregnancies reported	1.220	0.283	0.394	0.770	1.933
Number of children R has ever fathered	0.707	0.155	0.118	0.457	1.093
R's belief one cannot be happy without children	0.954	0.135	0.738	0.720	1.263
R's belief that rewards of children outweigh costs	1.132	0.211	0.507	0.782	1.638
R's belief that family is more important than successful career	0.951	0.100	0.631	0.772	1.171
Number of opposite sex partners R has had in lifetime	1.236	0.132	0.051	0.999	1.529
Number of opposite sex partners R has had in last 12 months	0.875	0.128	0.363	0.654	1.170
Age of respondent at first sex	1.214	0.120	0.052	0.998	1.476
Frequency of sex for R in last 4 weeks	1.144	0.092	0.098	0.975	1.342
Whether R has ever had a pregnancy end in miscarriage or abortion	0.901	0.078	0.229	0.759	1.069
Whether R has children living at home	**0.801**	**0.057**	**0.003**	**0.695**	**0.924**
Whether R and partner currently trying to get pregnant	**0.284**	**0.148**	**0.018**	**0.101**	**0.800**
Whether R and partner are currently pregnant	1.076	0.488	0.872	0.438	2.646
Constant	50.869	71.834	0.007	3.083	839.417

* Note: strata with single sampling unit centered at overall mean

Table 3.17: Multivariate Logistic Regression of Relative Risk of Having an Unwanted Birth, Compared to an Intended Birth Social Determinants + PC Variables (Model 9)

Characteristic	Relative Risk of Unwanted Birth (compared to intended birth)	Standard Error	p-value	95% Conf. Interval	
Hispanic	1.507	0.753	0.414	0.558	4.065
Black	0.811	0.366	0.643	0.331	1.986
Other race	0.843	0.759	0.850	0.141	5.034
White	1.000				
Currently married	**0.195**	**0.082**	**0.000**	**0.085**	**0.451**
Formerly married	0.742	0.567	0.697	0.162	3.387
Never married	1.000				
Age of respondent	**0.913**	**0.036**	**0.023**	**0.845**	**0.987**
100-199% poverty level	0.635	0.272	0.291	0.272	1.485
200-299% poverty level	0.630	0.272	0.287	0.268	1.484
300% or more poverty level	0.430	0.234	0.124	0.146	1.267
Less than 100% poverty level	1.000				
High school diploma	1.320	0.541	0.500	0.585	2.977
Some college/associate's	**2.503**	**1.125**	**0.044**	**1.025**	**6.110**
College degree/graduate	1.146	0.949	0.869	0.222	5.926
Less than high school diploma	1.000				
Catholic	1.769	1.009	0.320	0.570	5.488
Protestant	1.046	0.455	0.918	0.441	2.479
Other religion	3.196	2.622	0.160	0.627	16.289
No religion	1.000				
Intention for future children	**0.744**	**0.097**	**0.025**	**0.574**	**0.963**
Central # of additional kids expected	1.048	0.340	0.885	0.551	1.996
How R would respond if he impregnated his partner	**0.631**	**0.086**	**0.001**	**0.482**	**0.828**
R's belief it's better if man earns living	**0.621**	**0.088**	**0.001**	**0.469**	**0.824**
Total # of pregnancies reported	1.239	0.478	0.580	0.576	2.663
Number of children R has ever fathered	0.978	0.296	0.941	0.536	1.782

Characteristic	Relative Risk of Unwanted Birth (compared to intended birth)	Standard Error	p-value	95% Conf. Interval	
R's belief that rewards of children outweigh costs	0.785	0.138	0.170	0.554	1.117
R's belief that family is more important than successful career	0.979	0.170	0.904	0.693	1.112
Number of opposite sex partners R has had in lifetime	1.319	0.197	0.066	0.981	1.383
Number of opposite sex partners R has had in last 12 months	1.463	0.304	0.070	0.968	1.774
Age of respondent at first sex	0.910	0.130	0.511	0.685	2.210
Frequency of sex for R in last 4 weeks	1.008	0.117	0.943	0.802	1.209
Whether R has ever had a pregnancy end in miscarriage or abortion	0.752	0.120	0.079	0.547	1.269
Whether R has children living at home	1.044	0.093	0.628	0.875	1.034
Whether R and partner currently trying to get pregnant	**4.990**	**3.707**	**0.033**	**1.142**	1.246
Whether R and partner are currently pregnant	0.516	0.496	0.493	0.077	**21.811**
Constant	84.520	136.497	0.007	3.424	3.475
					2086.184

* Note: strata with single sampling unit centered at overall mean

Tables 3.18 and 3.19 show the results of the multivariate logistic regression models of the demographic variables and procreative responsibility variables on the men's relative risk of their first birth being mistimed or unwanted. When looking only at the risk of having the first birth be mistimed, being married (RR=0.253, p=0.000), being older (RR=0.897, p=0.000), and having less than a high school diploma lower a man's relative risk. Only being married (versus being never married) lowers a man's relative risk of having a first birth that is unwanted (RR=0.153, p=0.000). When we look

specifically at the PR measures, men who reported using a female method of contraception at their first sex had a significantly lower relative risk (RR=0.333, p=0.047) while men who reported using a female method of contraception at their last sex had a statistically significantly higher risk (RR=2.122, p=0.007) of having a first birth that was mistimed (in both instances when compared to men who did not use any method of contraception) (Model 10). None of the PR variables had a statistically significant impact on the men's relative risk of having an unwanted first birth (Model 11).

Table 3.18: Multivariate Logistic Regression of Relative Risk of Having a Mistimed Birth, Compared to an Intended Birth on Social Determinants + PR Variables (Model 10)

Characteristic	Relative Risk of Mistimed Birth (compared to intended birth)	Standard Error	p-value	95% Conf. Interval	
Hispanic	0.792	0.230	0.424	0.445	1.409
Black	0.873	0.243	0.628	0.503	1.518
Other race	1.162	0.438	0.691	0.550	2.456
White	1.000				
Currently married	**0.254**	**0.058**	**0.000**	**0.162**	**0.399**
Formerly married	0.694	0.251	0.314	0.338	1.422
Never married	1.000				
Age of respondent	**0.897**	**0.018**	**0.000**	**0.863**	**0.933**
100-199% poverty level	1.367	0.307	0.167	0.875	2.135
200-299% poverty level	1.370	0.421	0.308	0.745	2.521
300% or more poverty level	0.911	0.269	0.754	0.507	1.637
Less than 100% poverty level	1.000				
High school diploma	**1.787**	**0.435**	**0.019**	**1.102**	**2.898**
Some college/associate's	**2.087**	**0.666**	**0.023**	**1.107**	**3.934**
College degree/graduate	1.573	0.691	0.304	0.658	3.761
Less than high school diploma	1.000				
Catholic	0.664	0.164	0.102	0.406	1.086
Protestant	0.997	0.245	0.991	0.612	1.624
Other religion	1.568	0.627	0.264	0.708	3.469

Characteristic	Relative Risk of Mistimed Birth (compared to intended birth)	Standard Error	p-value	95% Conf. Interval	
Whether R would be embarrassed to talk about condoms w/new partner	1.114	0.101	0.236	0.931	1.334
R's belief condoms make sex less pleasurable	0.963	0.096	0.709	0.791	1.174
R used female method of contraception at first sex	**0.333**	**0.182**	**0.047**	**0.112**	**0.988**
R used male method of contraception at first sex	0.817	0.196	0.402	0.507	1.316
R used dual methods of contraception at first sex	1.235	0.473	0.583	0.577	2.643
R used no method at first sex	1.000				
R used female method of contraception at last sex	**2.122**	**0.576**	**0.007**	**1.238**	**3.636**
R used male method of contraception at last sex	1.029	0.273	0.913	0.608	1.742
R used dual method of contraception at last sex	0.953	0.340	0.892	0.469	1.933
R used no method at last sex	1.000				
Frequency of R's condom use during sex w/woman in last 4 weeks	0.976	0.105	0.819	0.789	1.207
Constant	12.660	10.891	0.004	2.295	69.847

* Note: strata with single sampling unit centered at overall mean

Table 3.19: Multivariate Logistic Regression of Relative Risk of Having an Unwanted Birth, Compared to an Intended Birth on Social Determinants + PR Variables (Model 11)

Characteristic	Relative Risk of Unwanted Birth (compared to intended birth)	Standard Error	p-value	95% Conf. Interval	
Hispanic	0.851	0.453	0.762	0.296	2.448
Black	1.364	0.578	0.466	0.588	3.164
Other race	0.609	0.485	0.534	0.125	2.959
White	1.000				
Currently married	**0.153**	**0.062**	**0.000**	**0.068**	**0.344**
Formerly married	0.819	0.575	0.777	0.203	3.301
Never married	1.000				
Age of respondent	0.937	0.039	0.121	0.864	1.018
100-199% poverty level	0.926	0.379	0.851	0.411	2.085
200-299% poverty level	1.205	0.519	0.666	0.513	2.832
300% or more poverty level	0.574	0.321	0.324	0.189	1.744
Less than 100% poverty level	1.000				
High school diploma	0.912	0.378	0.825	0.401	2.076
Some college/associate's	1.755	0.773	0.205	0.731	4.210
College degree/graduate	1.151	0.860	0.851	0.261	5.072
Less than high school diploma	1.000				
Catholic	1.092	0.620	0.877	0.354	3.373
Protestant	0.714	0.314	0.445	0.299	1.708
Other religion	1.678	1.300	0.506	0.360	7.814
No religion	1.000				
Whether R would be embarrassed to talk about condoms w/new partner	1.008	0.151	0.956	0.749	1.357
R's belief condoms make sex less pleasurable	0.914	0.119	0.488	0.706	1.182
R used female method of contraception at first sex	0.355	0.328	0.265	0.057	2.221
R used male method of contraception at first sex	1.021	0.355	0.953	0.512	2.038
R used dual methods of contraception at first sex	0.457	0.284	0.211	0.134	1.568
R used no method at first sex	1.000				

Characteristic	Relative Risk of Unwanted Birth (compared to intended birth)	Standard Error	p-value	95% Conf. Interval	
R used female method of contraception at last sex	1.609	0.642	1.190	0.236	0.729
R used male method of contraception at last sex	0.789	0.354	-0.530	0.599	0.324
R used dual method of contraception at last sex	0.439	0.229	-1.580	0.119	0.156
R used no method at last sex	1.000				
Frequency of R's condom use during sex w/woman in last 4 weeks	1.104	0.169	0.650	0.520	0.815
Constant	2.447	2.540	0.860	0.391	0.312

* Note: strata with single sampling unit centered at overall mean

Finally, when I added all of the variables (social determinants, PC variables, and PR variables) into the model, the results were similar. When we look at model 12 – which displays the effect that all of the measures have on the men's relative risk of having a first birth that is mistimed – we see that married men have a lower relative risk of having a first birth that is mistimed (RR=0.35, p=0.000) compared to never married men, older men also have a lower relative risk (RR=0.892, 0.000) than younger men, men with a high school diploma have a higher relative risk (RR=1.683, 0.038) than men who did not finish high school, men who would be happy if they impregnated their partners had a lower relative risk (RR=0.753, 0.001) than men who would be unhappy, men who have children living in the home have a lower relative risk (RR=0.783, p=0.001) then men whose children do not live in the home, and men who report using a female method of contraception at last sex have a higher relative risk (RR=2.021, 0.006) than men who did not use a method of contraception at last sex.

Turning to unwanted first births (Table 3.21), the statistically significantly influential factors are a bit different. Currently married men and older men have a lower relative risk of having a first birth that is unwanted (RR=0.187, p=0.000 and RR=0.913, p=0.020, respectively) while men who have some college or an associate's degree have a higher relative risk of having an unwanted first birth than men with no high school diploma (RR=2.515, p=0.047). In terms of PC measures, men who intend to have more children in the future, men who would be happy if they impregnated their partners, and men who believe that it is better for a man to earn the main living all have lower relative risks of having an unwanted first birth compared to their reference groups (RR=0.754, p=0.029; RR=0.618, p=0.001; and RR=0.624, p=0.002, respectively). Interestingly, men who report that they and their partners are currently trying to get pregnant have a statistically significantly higher relative risk of having had a first birth that is unwanted compared to men who are not trying to get pregnant (RR=5.308, p=0.018). None of the PR measures had a statistically significant effect on a men's risk for having an unwanted first birth.

Table 3.20: Multivariate Logistic Regression of the Relative Risk of Having a Mistimed Birth, Compared to an Intended Birth on Social Determinants, PC Variables, and PR Variables (Model 12)

Characteristics	Relative Risk of Mistimed Birth (compared to intended birth)	Standard Error	p-value	95% Conf. Interval	
Hispanic	0.867	0.264	0.640	0.473	1.587
Black	0.707	0.218	0.263	0.383	1.304
Other race	1.346	0.496	0.423	0.647	2.797
White	1.000				
Currently married	**0.350**	**0.090**	**0.000**	**0.211**	**0.583**
Formerly married	0.556	0.239	0.176	0.237	1.307
Never married	1.000				
Age of respondent	**0.892**	**0.021**	**0.000**	**0.852**	**0.934**
100-199% poverty level	1.354	0.316	0.198	0.851	2.152
200-299% poverty level	1.118	0.326	0.704	0.626	1.994
300% or more poverty level	0.761	0.224	0.357	0.424	1.367
Less than 100% poverty level	1.000				
High school diploma	**1.683**	**0.416**	**0.038**	**1.030**	**2.749**
Some college/associate's	1.784	0.537	0.057	0.982	3.241
College degree/graduate	1.338	0.567	0.493	0.577	3.102
Less than high school diploma	1.000				
Catholic	0.792	0.207	0.375	0.472	1.331
Protestant	1.174	0.292	0.520	0.717	1.923
Other religion	2.159	0.930	0.077	0.917	5.080
No religion	1.000				
Intention for future children	0.914	0.085	0.336	0.761	1.099
Central # of additional kids expected	1.052	0.184	0.774	0.743	1.488
How R would respond if he impregnated his partner	**0.753**	**0.061**	**0.001**	**0.640**	**0.885**
R's belief it's better if man earns living	0.874	0.078	0.135	0.731	1.044
Total # of pregnancies reported	1.187	0.285	0.476	0.737	1.912
Number of children R has ever fathered	0.739	0.163	0.174	0.477	1.146
R's belief one cannot be happy without children	0.951	0.131	0.714	0.723	1.250
R's belief that rewards of children outweigh costs	1.081	0.211	0.689	0.735	1.592

Characteristics	Relative Risk of Mistimed Birth (compared to intended birth)	Standard Error	p-value	95% Conf. Interval	
R's belief that family is more important than successful career	0.958	0.101	0.685	0.778	1.180
Number of opposite sex partners R has had in lifetime	1.185	0.124	0.109	0.962	1.459
Number of opposite sex partners R has had in last 12 months	0.858	0.124	0.292	0.644	1.143
Age of respondent at first sex	1.227	0.127	0.051	0.999	1.507
Frequency of sex for R in last 4 weeks	1.124	0.091	0.151	0.957	1.320
Whether R has ever had a pregnancy end in miscarriage or abortion	0.924	0.081	0.372	0.777	1.100
Whether R has children living at home	**0.783**	**0.058**	**0.001**	**0.676**	**0.907**
Whether R and partner currently trying to get pregnant	0.363	0.196	0.063	0.125	1.058
Whether R and partner are currently pregnant	1.251	0.571	0.624	0.506	3.095
Whether R would be embarrassed to talk about condoms w/new partner	1.087	0.090	0.318	0.922	1.282
R's belief condoms make sex less pleasurable	0.964	0.100	0.722	0.784	1.184
R used female method of contraception at first sex	0.352	0.198	0.066	0.116	1.072
R used male method of contraception at first sex	0.852	0.200	0.495	0.535	1.357
R used dual methods of contraception at first sex	1.302	0.526	0.516	0.583	2.906
R used no method at first sex	1.000				
R used female method of contraception at last sex	**2.021**	**0.510**	**0.006**	**1.224**	**3.337**
R used dual method of contraception at last sex	0.855	0.317	0.673	0.409	1.786
R used no method at last sex	1.000				
Frequency of R's condom use during sex w/woman in last 4 weeks	0.974	0.099	0.793	0.795	1.192
Constant	71.410	105.753	0.005	3.775	1350.783

*Note 1: strata with single sampling unit centered at overall mean

*Note 2: the variable "R used male method of contraception at last sex" caused the logistic regression variance matrix to be nonsymmetric or highly singular and thus was removed from this model.

Table 3.21: Multivariate Logistic Regression of Relative Risk of Having an Unwanted Birth, Compared to an Intended Birth on Social Determinants, PC Variables, and PR Variables (Model 13)

Characteristic	Relative Risk of Unwanted Birth (compared to intended birth)	Standard Error	p-value	95% Conf. Interval	
Hispanic	1.575	0.792	0.369	0.580	4.276
Black	0.889	0.419	0.803	0.348	2.268
Other race	0.923	0.790	0.926	0.169	5.049
White	1.000				
Currently married	**0.187**	**0.073**	**0.000**	**0.086**	**0.405**
Formerly married	0.789	0.568	0.742	0.189	3.296
Never married	1.000				
Age of respondent	**0.913**	**0.035**	**0.020**	**0.846**	**0.985**
100-199% poverty level	0.664	0.282	0.338	0.286	1.543
200-299% poverty level	0.719	0.298	0.429	0.315	1.639
300% or more poverty level	0.412	0.211	0.087	0.149	1.141
Less than 100% poverty level	1.000				
High school diploma	1.360	0.576	0.469	0.587	3.154
Some college/associate's	**2.515**	**1.151**	**0.047**	**1.013**	**6.240**
College degree/graduate	1.185	0.963	0.835	0.236	5.945
Less than high school diploma	1.000				
Catholic	1.790	1.035	0.317	0.568	5.641
Protestant	1.041	0.453	0.927	0.438	2.471
Other religion	3.262	2.814	0.174	0.588	18.085
No religion	1.000				
Intention for future children	**0.754**	**0.096**	**0.029**	**0.585**	**0.971**
Central # of additional kids expected	1.020	0.337	0.953	0.529	1.966
How R would respond if he impregnated his partner	**0.618**	**0.087**	**0.001**	**0.467**	**0.819**
R's belief it's better if man earns living	**0.624**	**0.093**	**0.002**	**0.465**	**0.839**
Total # of pregnancies reported	1.067	0.426	0.871	0.483	2.359
Number of children R has ever fathered	1.161	0.361	0.632	0.626	2.153
R's belief one cannot be happy without children	0.761	0.144	0.153	0.522	1.109
R's belief that rewards of children outweigh costs	0.749	0.130	0.100	0.530	1.058

Characteristic	Relative Risk of Unwanted Birth (compared to intended birth)	Standard Error	p-value	95% Conf. Interval	
R's belief that family is more important than successful career	0.935	0.160	0.696	0.666	1.313
Number of opposite sex partners R has had in lifetime	1.265	0.196	0.133	0.930	1.720
Number of opposite sex partners R has had in last 12 months	1.454	0.296	0.069	0.970	2.179
Age of respondent at first sex	0.928	0.140	0.621	0.687	1.252
Frequency of sex for R in last 4 weeks	0.984	0.116	0.890	0.778	1.243
Whether R has ever had a pregnancy end in miscarriage or abortion	0.792	0.121	0.131	0.585	1.073
Whether R has children living at home	1.011	0.090	0.902	0.847	1.207
Whether R and partner currently trying to get pregnant	**5.308**	**3.676**	**0.018**	**1.342**	**20.989**
Whether R and partner are currently pregnant	0.617	0.586	0.613	0.094	4.062
Whether R would be embarrassed to talk about condoms w/new partner	1.043	0.137	0.749	0.804	1.354
R's belief condoms make sex less pleasurable	0.877	0.122	0.345	0.666	1.155
R used female method of contraception at first sex	0.663	0.683	0.691	0.086	5.119
R used male method of contraception at first sex	1.298	0.466	0.469	0.636	2.647
R used dual methods of contraception at first sex	0.690	0.400	0.524	0.218	2.184
R used no method at first sex	1.000				
R used female method of contraception at last sex	1.521	0.634	0.317	0.665	3.479
R used dual method of contraception at last sex	0.389	0.231	0.116	0.119	1.266
R used no method at last sex	1.000				
Frequency of R's condom use during sex w/woman in last 4 weeks	0.934	0.140	0.653	0.693	1.259
Constant	217.949	371.988	0.002	7.359	6455.078

*Note 1: strata with single sampling unit centered at overall mean

*Note 2: the variable "R used male method of contraception at last sex" caused the logistic regression variance matrix to be nonsymmetric or highly singular and thus was removed from this model.

Discussion

This analysis was conducted to determine (1) if men's procreative consciousness and procreative responsibility affect their odds of unintended birth and (2) how much these differences mediate the demographic disparities in UIB. The bulk of previous research has neglected to include men in studies regarding pregnancy and birth intention, despite the knowledge that men do have an influence on reproductive decisions (Bankole and Singh 1998; Ezeh 1993; Gipson, Koenig, and Hindin 2008; Lasee and Becker 1997; Mason and Smith 2000). Men's ideas about virility, their desires for child-bearing and child-rearing, and the responsibility they feel for either initiating or preventing conception could potentially affect pregnancy rates, both intended and unintended. Thus, it is critical to examine how men's procreative identities influence their odds of experiencing an unintended birth.

Additionally, this line of inquiry may give public health researchers insight into why some groups of men are more likely to experience UIBs than other groups. While overall 41.7% of men who have had a birth in the last five years have experienced an unintended birth, these proportions are not equal across demographic groups. Research has demonstrated that men and women with lower incomes, those with lower educational attainment, ethnic minorities, and unmarried individuals have a higher proportion of pregnancies (women) and births (men) that are unintended than individuals with higher incomes, higher educational attainment, of non-Hispanic white descent, and those who are married (Finer and Henshaw 2006b; Martinez et al. 2006). There are theoretical reasons to hypothesize that PC and PR are responsible for the documented differences in rates. Marsiglio conjectured, for instance, that men with limited economic opportunities

may be reluctant to develop a strong sense of procreative responsibility if they perceive that they will be unable to fulfill expectations associated with their partner, father, and sex role identities (Marsiglio 1991). Thus, men that are living at or below the poverty level and/or those who have lower educational attainment may evidence a lower sense of PR (in this study measured through their contraceptive habits) and through that, a higher odds of having experienced an unintended birth in the last five years. This could possibly be explained by the opportunity costs of going through with an unintended pregnancy; men with low-paying jobs or those that are unemployed have "less to lose" by going through with an unexpected pregnancy than men who are in college or with high-pressure careers, for example (see Adamczyk 2008). The opportunities the poor forgo when they have kids early have been empirically shown to be fewer and less significant than for middle-class individuals who bear children early (Graefe and Lichter 2002; Manlove 1998). Plus, some individuals consider child-bearing and family life to be the ultimate life-goal, not education nor career. Many disadvantaged individuals believe that child-bearing should happen when people are relatively young (Edin and Kefalas 2005). Therefore, these groups also may evidence a higher procreative consciousness. Mixed with a lower PR, this could be a recipe for a higher rate of UIB.

The bivariate analyses between unintended births and demographic factors show that there are indeed significant differences between the groups. For instance, 15-26 year old men have a much greater probability of having experienced an unintended birth in the last five years than older men, those living at or below the poverty level compared to those living above the poverty level, and non-Hispanic black men over other racial/ethnic groups. However, when all of the social determinant measures are added into a logistic

regression model predicting unintended births in the last five years, race and poverty level are no longer significant correlates of UIB, and only certain categories of marital status and educational attainment are significantly related to UIB. Thus, at least some of the relationship between race, poverty, and unintended birth can be explained by other social determinants (with marital status and age being particularly important predictors of UIB).

Additional logistic regression models do demonstrate that certain aspects of a man's procreative consciousness and procreative responsibility have a statistically significant and meaningful relationship with the odds that he has experienced an unintended birth in the last five years. How a man would respond if he found out that he had impregnated a woman today, his belief that it is better if a man earns the main living in a household, the number of children he has ever fathered, the number of female sexual partners he has had in his lifetime, and whether he has children under the age of 18 living in his home are all measures of procreative consciousness that demonstrated a significant association with a man's odds of having experienced an unintended birth in the last five years in all of the models (the number of times he has had sexual intercourse in the previous four weeks and whether he and his partner are currently trying to get pregnant were only significant in the second model). On the other hand, the only statistically significant association between measures of procreative responsibility and odds of UIB was what type of contraception he used during his last instance of sexual intercourse with a woman. A man's attitudes towards condoms and recent frequency of condom use did not have an appreciable effect on his risk for UIB in the last five years.

While recognizing that certain measures of men's procreative consciousness and procreative responsibility do affect the likelihood that he has fathered an unintended birth, it is also important to examine each factor individually and each factor's time-ordered relationship to UIB to really decipher its meaning. First, the respondent's level of happiness (or how he would react) if he found out that he had impregnated his partner was inversely associated with the likelihood that he had fathered an unintended birth in the last five years: the happier he would be with impregnating his partner, the lower his probability of fathering an UIB. This association may reflect a man's heightened procreative consciousness: these respondents may desire to father many children and thus would not label any pregnancy or birth as unintended. He would be happy to father any (perhaps many) births. An alternative explanation is that these respondents were successful in delaying pregnancies and births in the last five years and are now – at the time that the survey was conducted – are ready to impregnate their partners. One explanation denotes men who have a high level of PC and the other men who have a high level of PR. Is it possible, though, that having experienced a birth in the last five years impacted how happy a man reported he would be if he impregnated his current partner? It is distinctly possible that men who fathered an intended birth in the last five years and had a positive experience with fatherhood would look forward to – be happy – impregnating his current partner. Therefore, a third possible explanation is that the respondent's experience with a recent birth affected how he responded to this PC item.

Second, a respondent's belief that it is better for the man to earn the main living in his household was also inversely associated with likelihood of fathering an UIB. Men who agreed with that statement had a lower odds ratio than men who did not. This

association could once again be explained by men who have more traditional ideas about gender roles, a consequently high level of procreative consciousness, and a desire to father many children. These men may then hesitate to call any births "unintended." It is theoretically possible that a man's experience with fathering a birth in the last five years affected his response to this item; however, the causal pathway is much less clear.

Third, the number of children the respondent had fathered in his lifetime was positively associated with his odds of fathering an unintended birth; the more children he fathered, the more likely he fathered an UIB. This relationship is likely a straightforward issue of "exposure:" the more kids an individual has, the more likely one has already reached their desired family size and that any subsequent pregnancies/births would be unintended (D'Angelo et al. 2004; Grady, Klepinger, and Billy 1993). The time-ordering of this relationship is virtually indistinguishable; men who fathered a birth within the last five years will have more children and the number of children a man has impacts the likelihood that he has fathered an unintended birth.

The fourth PC variable that had a statistically significant relationship with UIB was the number of opposite sex partners the respondent has had in his lifetime: the more partners he has had, the higher the probability that he fathered an UIB in the last five years. Once again, this is likely just an issue of exposure. Having more partners means having more chances of impregnating partners that one did not intend on impregnating. This relationship is not surprising and most likely flows in the direction from PC to likelihood of fathering an unintended birth (not vice versa).

Fifth, men who had children living in their homes were less likely to have fathered an unintended birth within the last five years than men who did not have

children living in their homes. This relationship could be explained in a number of ways. Men who are responsible for the day-to-day caretaking of children (a form of PR) may be more aware and careful regarding matters of contraception. On other words, they might have the ability to explicitly see the link between preventing or planning pregnancy and child-rearing. Related, men who have children in their households may be having less sex than men who do not live with children, thus putting them at a lower risk of fathering another birth (especially unintended) (see Call, Sprecher, and Schwartz 1995). It may also be that men who have already fathered children and share a house with them have an increased procreative consciousness and desire to have more children. Similarly, it could be that men who are currently helping to raise children in their household would hesitate to call any additional births that they do father as unintended, especially if they find fatherhood to be a fulfilling role. Once again, they may be fathering births that are unplanned in the strictest sense, but they may simply not label them as unintended. The time-ordering of the relationship between this measure of PC and UIB – which comes first – is indistinguishable. They likely have reciprocal influence.

The only measure of procreative responsibility that had a significant association with UIB was the variable that assessed the type of contraception that the respondent used at his last episode of sexual intercourse. While it is important to note that "last sex" does not necessarily mean "sex from which last birth occurred" (and in most cases is not), this variable was included as a measure of PR because it could indicate a pattern of contraceptive use for men (for instance, men who used condoms at last sex are perhaps more likely to use condoms on a regular basis). Based on theory, it would seem that men who relied on dual methods would have the lowest odds of UIB followed by men who

relied on female methods alone (as they are more effective than male methods), men who relied on male methods alone, and finally men who did not use any method of contraception. However, my analyses did not bear out these predictions.

The bivariate analyses show that men who did not use any method of contraception had the lowest proportion of UIB in the last five years followed by men who relied on female methods, men who used dual methods (a female method as well as condoms), and finally men who relied on male methods alone, who had the highest proportion of UIB. This relationship mostly held up in the regression models as well; however in the full model men who used dual methods at last sex had lower odds of UIB compared with men who used no method. A possible explanation as to why men who did not use any methods at last sex would have lower odds of UIB is that they were trying to get pregnant at the time and thus would not consider a birth to be unintended. However, in the full model I accounted for this factor and the most of the relationships were not mediated (again, except for men who used dual methods). It is also possible that men with a lower sense of procreative responsibility would put the entire burden of pregnancy prevention on their partners' shoulder. Thus, men who recently fathered an unintended birth and who indicated that at their last sex they relied on a female method could in some ways be "blaming" his partner for consequences of sex (including any unintended pregnancies). Either way, it is difficult to determine either the direction of the relationship or the reasons tying these two measures together. This is a phenomenon that deserves future study.

Taken together, what is the story that these relationships tell regarding the overall association between procreative consciousness, procreative responsibility, and the

probability that a man has fathered an unintended birth? It certainly seems that those men who have a heightened PC – particularly in regards to desires to father children – have a lower risk of fathering an UIB. This is the relationship that I predicted. Men who want to have children would not label children that they do father as unintended. However, the second part of my hypothesis – that men who have a lower sense of PR would demonstrate a higher risk of fathering an UIB – is not borne out by the data. Most of the PR measures, including the respondent's attitudes towards condoms and his condom usage, did not have any significant association with a man's likelihood of fathering an UIB. And the one PR measure that did demonstrate a statistically significant association with UIB did not have a straightforward interpretation. Therefore, at this point, I cannot clearly say at this point that men with a lower sense procreative responsibility are more at risk for fathering an UIB than men with a higher sense of PR. In fact, I do not have enough data to make a determination in either direction. I can conclude, though, that in most cases it appears that a man's PC impacts the likelihood of fathering an UIB (versus fathering an UIB affecting his PC). The time-ordering of PR and UIB is less clear.

Despite these significant associations with UIB, the procreative consciousness and procreative responsibility measures did not seem to substantially mediate the relationship between certain social determinants and UIB. As mentioned previously, while individually a man's age, educational attainment, poverty level, race, and marital status are significantly related to odds of UIB on a bivariate level, when added into a regression model together poverty and race lose their significance. Thus, the relationship that has long been seen between an individual's or group's poverty level and race and unintended

birth can at least be partially explained through other demographic factors. The social determinants that remain (i.e. a man's age, his marital status, and educational attainment) significantly associated with UIB cannot be explained by a man's procreative consciousness and procreative responsibility; these social determinants preserve their statistically strong relationship with UIB even with the addition of the PC and PR variables. Thus, while a man's procreative consciousness and sense of procreative responsibility do affect his odds of having an unintended birth, there is not a straight pathway between social determinants through PC and PR to UIB. Age, marital status, and educational attainment have an independent and strong relationship with UIB that cannot be explained by other factors.

However, it is also important to note that several PC and PR measures have an independent association with unintended birth as well. In general, any PC measure that displays an odds ratio over 1.00 demonstrates that men with a more active sense of procreative consciousness have a higher risk of UIB than men with a less active PC. On the other hand, any PR measure that displays an odds ratio that is less than 1.00 demonstrates that men with a more responsible orientation towards procreation have a lower risk of UIB than men with a less responsible orientation. Table 3.12 clearly showed us the PC and PR measures that were important risk and protective factors for having experienced an unintended birth. Plus, Table 3.7 demonstrated that some indicators of PC and PR do vary according to a man's sociodemographic profile, and often to a statistically significant effect. For example, men who have less than a college degree are much more likely to say that they intend to have children in the future compared to men with a college degree or more (60.4% vs. 53.2%, p=0.001). And black

men were significantly much more likely to report having 10 or more sexual partners than men of other racial groups. Therefore, while PC and PR are not responsible for mediating the entire relationship between social determinants and risk of UIB, there is clearly a relationship there.

When unintended births were broken down into their component categories – mistimed and unwanted births – we see similar, but not replicate, results. And it does seem to matter whether the birth was mistimed or unwanted. For example, when we look at the full model, containing all demographic, PC, and PR variables, we see that marital status, age, and education have a statistically significant impact on both a man's relative risk of having had a mistimed or unwanted birth, the predictors diverge when looking at the PC and PR measures. Men who would be happy to impregnate their current partners (PC) and men who have children living at home (PC) have significantly lower relative risks of having had a mistimed first birth while men who report using a female method of contraception at last sex (PR) have a significantly higher risk of having a first birth that was mistimed. On the other hand, men who intend to have more children (PC), men who would be happy if they impregnated their current partners (PC), and men who believe it is better for men to earn the main living in a household (PC) have a lower risk of having a first birth that was unwanted while men who are currently trying to get pregnant with their partner (PC) have a significantly higher relative risk of having a first birth that was unwanted.

A few variables had an interesting and perhaps unexpected relationship with unintended birth in my models. For example, educational attainment did not perform exactly as would be expected, with more education decreasing one's odds of UIB

monotonically, which is what has been seen with samples of women[11] (D'Angelo et al. 2004). We see in the full logistic model that those with a high school diploma and those with some college have a statistically significantly higher odds of having experienced an UIB in the last five years while those men with a college or graduate degree have a higher odds, but it is not statistically significant, when compared to men who have not earned a high school diploma. This pattern does not follow what we saw in the bivariate table: men in the first two educational groups have a higher OR of UIB and men in the last educational group have a lower OR of UIB compared to men who did not earn a high school diploma. When educational attainment is added in to a logistic model alone with unintended birth, the pattern follows what we see in the bivariate table: The odds of having experienced an unintended birth in the last five years are higher for those with a high school diploma (OR=1.159, α=0.311), just slightly higher for those with some college (OR=1.030, α=0.856), and much lower for those with a college or graduate degree (OR=0.407, α=0.000) when compared with those who did not finish high school. However, the relationship between educational attainment and unintended births shifts when the other social determinants measures are added in.

To explore further, I added in different combinations of the social determinants to see when the relationship changed. It seems that poverty interacts with the other social determinants to mediate the effect that having a college education has on the odds of experiencing an unintended birth in the last 5 years. In other words, once poverty level (and the other social determinants) are accounted for, having a college or graduate degree

[11] D'angelo and colleagues used 1998 PRAMS data from 15 states to demonstrate that among women with less than a high school degree, 85.9% of their births were unintended; for women with a high school diploma, 69.1%; and for women with at least some college, just 45% of their births were unintended.

is no longer protective against experiencing an UIB. There is an alternative theoretical explanation to this finding, however. Some investigators posit that because the opportunity costs are lower, men with fewer educational and economic resources would not consider a birth to be unintended or unwanted, even if it was not exactly planned (Adamczyk 2008; Edin, England, Shafer, and Reed 2007; Edin and Kefalas 2005; Lifflander, Gaydos, and Hogue 2007). Research conducted with women suggests that more educated individuals may possess different attitudes or expectations regarding control over childbearing than less educated individuals (Cubbin et al. 2002). Plus, this is not the only study to have this finding: In some Zabin and colleagues (2000) found in certain of their analyses that women who had finished high school had a higher probability of having an unintended conception compared to women who had not finished high school. These investigators suggest that the common way that we measure intention may be flawed and judgmental, in that we assume that women in certain circumstances should not choose to become pregnant. Thus, my unexpected finding may result from a conceptual or labeling issue. A final explanation may be that the commonly accepted order of causality – that educational attainment precedes birth intention – is reversed. Relatively few men of high school age father births (regardless of intention status), and it is possible that young men who have finished high school and are pursuing more education are forced to leave school *because* of their unintended births. In this case, births may affect educational attainment and contribute to the unexpected relationship between education and risk of fathering an UIB.

In the full model that takes unwanted birth as the outcome, those men who were currently trying to get pregnant were 5.308 times more likely to have a first birth that was

unwanted. This statistically significant association is unexpected and difficult to explain. While it could be that this relationship is an artifact of the variable measurement or the fact that there are few men that fall into this category, it still merits further investigation.

It is also worth pondering the findings displayed in Table 3.13. While current marital status does indeed appear to be the single most important factor in explaining a man's risk for fathering an unintended birth, it does not seem to moderate the effects of the other social determinant measures. The findings in the third model on the table do demonstrate a set of ORs that are different than in the full model, though. Further analyses with NSFG data reveal that Hispanic men and men who identify as "other" religions (e.g. Muslims, Buddhists, Hindus) are more likely to have traditional views toward gender roles and sex and the latter group is also more likely to be married then men representing different religions (or no religion), therefore helping to explain why these two groups have a lower odds of having an unintended birth in the never married sample. All of the new PC effects in the third model lower the odds of UIB and indicate more traditional attitudes to gender roles (e.g. belief that one cannot be happy without children, belief that it is better if a man earns the main living, etc.). So once a large group of men have been pulled out of the population by getting married, we can see the effects of more traditional attitudes at work among the never married on the likelihood of fathering an unintended birth. Another facet is that the never married men are a much younger sample than the men who have been married/divorced/widowed: 24.3 years of age on average vs. 35.3 years of age, respectively. It is possible, then, that the never married men could be more accurately described as "not yet married" men. Their attitudes are unlikely to radically change once they become married.

Marriage rates are down overall and when unmarried couples experience an unintended pregnancy in contemporary times, it no longer automatically means that a marriage is forthcoming. In fact, childbearing by unmarried women has resumed a steep climb since 2002 (Ventura 2009). According to 2010 data, the CDC estimates that overall nearly 41% of children are born to unmarried women and these proportions are even higher for certain demographic groups (Centers for Disease Control and Prevention 2010). Including marital status in the full model did not appreciably mediate the effects that the other social determinants have on the likelihood of a man fathering an unintended birth. Therefore, marriage *is* important, but the other demographic measures do not act through marriage.

Limitations

There are several limitations to this study. First, this study is cross-sectional and thus causal inferences cannot be established. In particular with this study, the design does not allow us to know men's actual fertility intentions prior to having children, and as with any work on fertility intentions, there are always concerns about retrospective accuracy (i.e. men may be more reluctant to label a birth as being unintended after the child has arrived). Therefore, unintended births may be under-reported. Second, the NSFG data are based on self-report and therefore the findings could be biased based on over- or under-reporting (especially with sensitive topics such as sex and pregnancy). Third, the measures for procreative consciousness and procreative responsibility are imperfect. These are two concepts that are inherently difficult to measure and finding corresponding items from an existing survey complicates that task. As stated previously, PC refers to various 'states of being,' distinct from specific

expectations or feelings of obligation, that reflect men's cognitive and affective activity within the reproductive realm (e.g. fecundity, contraception, pregnancy, abortion, childbirth, and children)" (pgs. 269-270). This concept relates to men's views of their own virility, sexual prowess, desires for children (now and in the future), and ideas about fatherhood. This concept was relatively well-represented by items found in the National Survey of Family Growth (NSFG). I was able to add items into the regression models that embodied all of the different facets of PC.

Procreative responsibility (PR), on the other hand, was a bit more difficult to capture. PR "emphasizes males' preferred and actual level/type of involvement as well as their personal sense of obligation in the areas of contraception, pregnancy resolution, and child support/child care, respectively" (pg. 272). Thus, this concept relates to men's sense of responsibility and autonomy in terms of contraceptive usage (preventing pregnancy), pro-ceptive behaviors (trying to conceive a child), handling a pregnancy (contributing to the decision of whether to continue with the pregnancy or abort it), and once a child has been born, taking on the role of father. Unfortunately, the NSFG focused mostly on contraceptive practices and to a lesser extent pro-ceptive desires. Even here, though, certain measures could be included that would help us get a better picture of men's role in contraception. For instance, the NSFG does not include measures that capture the extent to which men rely on and actively support their partner's contraceptive use, which could be an important part of PR. Thus, in several ways I was unable to fully capture the concept of PR in my analyses. The results may be different if I had been able to add items that measure how men support their partners' contraceptive use, contribute to pregnancy decisions, and their fathering responsibility.

Finally, while the bulk of literature focusing on fertility intentions has focused on *pregnancy*, the NSFG only looks at the intention status of *births* for men. As discussed previously, the study architects as well as many investigators argue that men may not be aware of every pregnancy that occurs (i.e. if his partner miscarries, is she decides to terminate the pregnancy without him knowing) and thus feel that the best measure for men are births. This makes some of my findings incomparable to the data that have been published for women as many women may choose to end their unintended (and particularly unwanted) pregnancies, thus affecting the proportions.

Implications

There are several implications that result from this study. First, empirical work is needed to better measure and test the various aspects of men's procreative consciousness and procreative responsibility. This study provides preliminary evidence that men's PC and PR, and more generally men's attitudes and behaviors, do matter when discussing risk of unintended birth. However, the variables contained in the National Survey of Family Growth were imperfect measures of the concept of PC and PR. We need more information regarding the centrality of these concepts to men's identity, what responsibility for pregnancy prevention looks like to them, just as examples. Additionally, a measure assessing men's sense of control over reproduction, pregnancy, and perhaps their life path in general could add depth to the analysis. A higher sense of control has found to be protective against unintended pregnancy in women (Cubbin et al. 2002). More accurate survey measurements would provide us with a better idea of how one's PC and PR affect one's UIB risk and also if they are a pathway linking social determinants and UIB.

Second, more information is needed regarding the consequences that unintended births have for men. Much has been written about the consequences for women (in terms of career and earnings trajectories, happiness and depression, bonding with children, etc.) but much less is known about the impact in men. Related to this, we need to do a better job distinguishing between the effects of a mistimed and an unwanted pregnancy. As first pointed out by D'Angelo and colleagues (2004), the use of a single category to represent unintended birth masks apparent differences between individuals with mistimed births and those with unwanted births. My analysis shows that the risk factors – demographically, attitudinally, and behaviorally – are different for these two categories of birth intention. There is reason to suspect that the effects on men will be different as well. This type of research may help explain why men appear to be less involved in and perhaps less concerned about ensuring that all pregnancies and births are planned.

Third, survey research is needed from couples to determine how their fertility intentions affect one another, how they make decisions regarding unintended pregnancies (e.g. whether to keep the baby, terminate the pregnancy, or put the baby up for adoption), and the consequences of having an unintended pregnancy on the mother, father, relationship, and baby. At this point the NSFG and similar datasets gather information separately from men and from women. This leaves a gap in our understanding of how the context of the relationship influences attitudes, behaviors, and outcomes.

Fourth, the results of this study demonstrate, once again, that social determinants are some of the most important and significant risk factors for fathering an unintended birth. This is true even after controlling for some of the attitudes, values, and behaviors that have been tied to these factors. Thus, there is something about being young, being

unmarried, and being socioeconomically disadvantaged that puts men at risk for UIB. More work is needed to determine just what it is – if it cannot be solely explained by attitudes and behaviors regarding sex and contraception – about men's sociodemographic position that influences their likelihood of fathering an unplanned birth.

And finally, we need to determine whether the categories of unintended and intended births are as salient to the men having these experiences as they are to the researchers and practitioners utilizing them. The finding that less educated men have a lower odds of having fathered an unintended birth in the past five years after controlling for other demographic, PC, and PR variables calls into question the meaning of this term. Perhaps these men are having *unplanned* births but because they do not have negative consequences on these men's live (i.e. the opportunity costs are not great), they hesitate to call these births "unintended." More qualitative work is needed to determine if these terms are applicable to all men and understood in the same way by them.

Conclusion

Men's procreative consciousness and sense of procreative responsibility have an important impact on their probability of fathering an unintended birth. The more children a man has fathered, the more sexual partners he has had in his lifetime, the more frequently he has had sex in recent weeks, and if he used a female method of contraception at last sex all increase a man's odds for having experienced an unintended birth. Conversely, men who believe that it is important for men to earn the main living in one's household and men who have children under the age of 18 living in their household are at a decreased odds for having experienced an UIB. The results of this analysis demonstrate, though, that certain social determinants of health, including age and marital

status, have as great or greater impact on an individual's chance of experiencing an UIB as his PC and PR.

This study also demonstrates that while a man's procreative consciousness and sense of procreative responsibility are important predictors of unintended birth, they are not the answer to the question of why some groups of men (e.g. low income, minority, unmarried men) have a higher rate of unintended birth than other men. It is important to continue to study the reasons that being from a low socioeconomic background, being unmarried, being young, and being of non-Hispanic black racial descent put men at risk of experiencing an unintended birth.

Chapter 4: How Young Men at High Risk of Fathering an Unintended Birth Talk about Their Procreative Identities

In this chapter I explore two research questions: (1) how individuals belonging to groups with high rates of unintended pregnancy and birth talk about and make sense of their procreative consciousness (PC) and procreative responsibility (PR)?; and (2) how the concepts of PC and PR correlate with unintended pregnancy in this group? I will first look at how young men who may be wrestling with their procreative identities actually talk about these topics with and among their peers. I use focus group transcripts from the PHRESH project to examine whether and how young, minority, and low socioeconomic status men conceptualize PC and PR and how these concepts relate to their risk (as assessed by their knowledge, attitudes, and reported behaviors) of unintended pregnancy and birth.

Introduction

It is important to keep in mind when analyzing the discussion among the PHRESH participants that the focus group format tends to produce different results than one-on-one interviews, particularly when sensitive topics are discussed. In this case, when talking about sex, for instance, the young men may be anxious to display their masculinity and ability to woo women in front of their peers. As discussed by Hyde and colleagues (Hyde, Howlett, Brady, and Drennan 2005) in their article examining the advantages and disadvantages of using a group interview format to discuss issues of sexuality with adolescents, while participants may "act out" in order to present a particular image in the presence of others, group members can also have the opportunity to challenge one another on how aspects of their culture are represented within the focus

group, often in a way that is typically not possible during individual interviews. However, Hollander (1997) found that teenagers are likely to misreport their sexual histories (in terms of STDs and pregnancies) during interviews, possibly dependent upon their perceptions about and rapport with the interviewer and their desire to give socially acceptable responses (which is clearly dependent upon the social context on hand; in this case, in front of one's peers). It is important to keep these possibilities in mind, then, while examining how men discuss their sexuality, sexual prowess, and other topics in the focus group setting.

Results

Procreative Consciousness

As stated in the introduction, procreative consciousness "refers to various 'states of being,' distinct from specific expectations or feelings of obligation, that reflect men's cognitive and affective activity within the reproductive realm (e.g. fecundity, contraception, pregnancy, abortion, childbirth, and children)" (Marsiglio 1991, pgs. 269-270). This concept relates to men's views of their own virility, sexual prowess, desires for children (now and in the future), and ideas about fatherhood. In the PHRESH focus groups, many of the participants discussed these issues, although not necessarily using the same terms as Marsiglio. Some discussed their own personal experiences with PC and PR as well as how peers in their social networks contend with these issues. Thus, this paper is an analysis of how these young men talk about their procreative identities, not just their experience with them.

General Thoughts about Procreative Consciousness

Although the PRHESH participants were not asked directly how they develop a heightened sense of their procreative ability and the real possibility of pregnancy, it was clear from their speech that some of the men became aware of their ability early on (i.e. before puberty) while others did not come to this realization until after their sexual awakening. For example, many of the men relayed stories of when they first learned that they could make a woman pregnant or when they first saw friends or family members go through a pregnancy, thus arousing awareness in them that they too could impregnate someone. Some also described learning through vicarious experience. For instance, a Puerto Rican young man said that because he was the result of an early pregnancy (his mother was 15 when he was born) and both his niece and nephew were born to teenage parents, this made him both aware of his ability to procreate early on and scared to do so because he had witnessed the difficult path that his family members had to follow as a result of these early pregnancies. Two other young men spoke about how observing their peers have children at a young age acted as a deterrent to taking the same path. One said, "you all [will be] stuck at home while we be over here having our fun." Thus, witnessing same-aged friends going through potentially unplanned (or at least early) births dissuaded some men from going down this road and to actively avoid pregnancy. These vicarious experiences were instructive in showing the men the consequences of impregnating a woman.

However, other participants felt they were unaware of their procreative potential when they started to have intercourse in their teenage years. As one young man said, "Damn, why didn't someone tell me this [that I could get someone pregnant]?" Others

agreed and believed that some young people, especially teenagers (and sometimes themselves), were just looking for comfort and fun from an intimate partner and did not realize - or did not accurately assess the risk - that a pregnancy can result from sexual activity. Even when they or their peers did acknowledge that pregnancy can result from sex, they did not always believe that they were at risk. These men stated that young people generally think they are "invincible" and that while they may know abstractly that sex causes pregnancy, they do not think it will happen to them[12]. Thus, there was a clear divide among these men; some learned very early on of their procreative potential and the power (and responsibility) that came with it while others realized only after having their first sexual experiences the reproductive consequences (i.e. having a child) that can flow from having unprotected sex.

Some discussed the ties that having children create for the parents. In addition to conversing about the initial realization of their procreative ability, the young men also addressed why young people have children, another aspect of procreative consciousness. Most spoke about the powerful bond that having children creates between the individuals in an intimate relationship. Several participants put forth the idea that both women and men may "purposely get pregnant" (in the women's case) or attempt to impregnate their partner (in the men's case) in order to maintain the relationship or "keep the partner around," speaking to the belief that once a child is introduced into the relationship, a

[12] This sense of invincibility is of course common among teenagers from all backgrounds (Elkind, D 1970. *Children and adolescents: Interpretive essays on Jean Piaget*. New York: Oxford University Press, Elkind, D. 1967. "Egocentrism in adolescence." *Child Dev* 38:1025-34, Gray, BB. 1998. "Not me: The human tendency to feel invincible complicates prevention efforts." Nurseweek, Rodham, K., H. Brewer, W. Mistral, and P. Stallard. 2006. "Adolescents' perception of risk and challenge: A qualitative study." *Journal of Adolescence* 29:261-272, Wickman, Mary E., Nancy Lois Ruth Anderson, and Cindy Smith Greenberg. 2008. "The Adolescent Perception of Invincibility and Its Influence on Teen Acceptance of Health Promotion Strategies." *Journal of pediatric nursing* 23:460-468.)

more potent connection is present. One participant in a black male focus group explained:

> I think the main reason people get pregnant nowadays is the setup. Like, a dude will see a girl and be like, 'yo, she bad, I want to get her pregnant so I can keep her.' And a girl see a dude and be like, 'yo, he getting money and he living good so I want to get pregnant by him so I can have him.' So a lot of people I know get pregnant because of that. A lot of girls and a lot of dudes.

Some men didn't consider becoming pregnant or having a child enough justification to continue a relationship. For some, having a child with a woman did not equal an automatic relationship and certainly not marriage. This latter viewpoint is the one that is more fully supported by empirical data as well as anecdotes provided by men in this study (see Edin 2000; Edin and Reed 2005; Sawhill 2002). Many PHRESH participants spoke of having children but not living with the mother nor remaining in a relationship with her. The ideal according to these men – perhaps before children enter the picture – is that the new mother and father will forge a committed relationship, as the men still seem to espouse the idea that a two-parent household is best, but the reality does not necessarily match that ideal. Thus, procreative consciousness and procreative identity does not necessarily coincide with a long-term relationship or marriage with the mother.

Sexual Prowess

Another prominent aspect of their PC was the (often acute) sense of their sexuality and sexual prowess. Among these men, a man's feeling of virility and his knowledge of his ability to impregnate a woman typically was preceded by sexual experience(s); they learned through their own experiences. In most cases, thoughts of reproduction and pregnancy were absent in early sexual conquests. The focus groups

participants often spoke of their sexual awakenings and "needing" to satisfy their urges through intercourse. Previous research suggests that for many men, desire for women and sexual activity is thought to be a "biological" imperative; something that is intrinsic to being a man and uncontrollable (Amuchástegui and Aggleton 2007). Many men in the focus groups admitted that the ability to procreate/cause pregnancy is not necessarily top-of-mind when they are engaging in sexual activity. They are often more concerned about pleasure (their own; not necessarily their partners'). A young African American man remarked, "A lot of times you're not planning for the future while you're doing the thing at the moment because you're not thinking about the consequences. Like, you just got your mind in the passion and you're trying to get it done and get out." The young men typically did not consider the possibility of pregnancy until they experienced a "pregnancy scare," actually impregnated a partner, or had a vicarious experience through a friend or loved one. Thus, awareness of procreative potential – or perhaps caring about procreative potential - lagged behind awareness of sexual desire.

This theme has been found in other studies conducted with young, disadvantaged men; many believe that status can be gained through sexual exploits and many do not think about the possibility of pregnancy when engaging in sexual activity; if anything, it was not of primary concern (Buston 2010; Silverman, Decker, Reed, Rothman, Hathaway, Raj, and Miller 2006). An aspiration linked to dominant masculinity in many cultures is to have many sexual partners and to initiate sex early on in one's life (Szasz 1998). Some theorists posit that traditionally Catholic Hispanic culture encourages men to be sexually active in order to have their masculinity affirmed (Amuchástegui 2001; Amuchástegui and Rivas Zivy 2004; Van Oss Marin, Gomez, and Hearst 1993) In fact,

men from disadvantaged background tend to have their sexual debut at a much younger age than more advantaged men. National data show that 21.7% of teenage men whose mothers have less than a high school diploma have sex by the time they are 15 years of aged, compared to just 10.9% of teenage men whose mothers have a bachelor's degree (Martinez et al. 2006).

Reproduction, on the other hand, has long been considered to be a feminine domain and thus considered to be the woman's responsibility. Of course, as Bourdieu noted, social origin (including one's cultural background) does not take the form of mechanical determinism (Bourdieu 1976). Thus, the values of one's culture do not necessarily dictate one's own values or one's behavior but may help explain certain patterns of behavior. The findings of this study therefore resonate with previous work in this area: many young men privilege sexual pleasure over reproductive responsibility, which inevitably has consequences for unplanned pregnancy.

In addition to speaking about the primacy of pleasure over procreative consciousness, certain focus group participants spent a great deal of time talking about how much easier it is to get women to "give it up" (have sex) than it used to be. Thus, they are able to have more sexual partners now. They believe that women are much more sexually aggressive now and that they do not have to spend as much time or money wooing or courting a woman in order to get her into bed.[13]

> Participant 1: Yeah, I don't think it really is men, nowadays. Nowadays, you don't even ask for it and they be giving it to you.

[13] Of course, as these men are 18 to 25 years of age, it is unclear to what they are comparing their situation. It is doubtful that they are referencing their "younger days;" thus, this perception of it being easier to bed a woman now compared to "then" may be an idea that is perpetuated by peers, older siblings, or parents.

> Participant 2: Yeah, it ain't like before. It used to be that you go to a club and you had to work to get some ass. Now you go to a club and all you have to do is buy a chick a drink and you gonna walk home with her.
> -Two male participants in Puerto Rican focus group

These men are representing to the group that they are having more sex with more partners "nowadays." This was not tied into an awareness of the risk of impregnating multiple partners, though. In fact, these men were often dismissive of the women (whom they considered "jump-offs" or casual partners) with whom they were having sex. While they certainly did not want to have a baby with these women (because of their perceived lack of morals, as evidenced by their ready willingness to have sex), the men did not seem to be overly concerned about preventing such pregnancies and spoke of occasionally having unprotected intercourse with them. This could potentially be a result of some of these men privileging pleasure over reproductive responsibility.

Desires for Children

While not always thinking about the possibility of pregnancy during the heat of the moment, especially with longer-term partners, in general the young male participants in the PHRESH focus groups do think about having children in the future, if they have not already fathered a child (or children). And mostly their talk around children is positive. Only a few men stated that they did not want to have children or spoke negatively about childrearing (e.g. a Puerto Rican participant said "That's one of the reasons I don't want to have kids because it is a big responsibility"). The childless black participants seemed to be especially hopeful about raising kids and talked about what a father-child relationship would be like. In a discussion surrounding the positive aspects of having kids, one participant remarked:

> Kids are just like really funny. And they're real honest. So everything they say is honest and it's the truth and I see you know, so much potential in kids. They are our future and depending what you teach them, how you raise them, because they're going to be the future. You know, I want to have a little son and I want to raise him right, teach him everything. The world is so crazy right now, and I want my son to change the world. I want to have a son or a daughter, whoever, that's out there doing things. I want to just teach them and give them everything they need, because I don't want them out here doing crazy stuff. I want them to be a leader, to change things. I just love kids because they have just so much to give to the world.
> -Black male participant

Research conducted with young men in the UK regarding their transition to fatherhood discovered that all of the men in the sample described a positive move in their self-identity following the birth of their children (Reeves 2006). Theoretical work conducted in the US suggests that low-income men may view young fatherhood in a more positive light than their wealthier peers because they are exposed to a social context/environment that encourages it, or at least does not view it as negatively as the middle class context (Gohel, Diamond, and Chambers 1997; Nelson 2004; Rivara, Sweeney, and Henderson 1985). This group of men does not typically risk the same opportunity costs as young middle class men do when considering child-bearing in their late teens or early 20s. Most disadvantaged young men do not have the opportunity or financial resources to attend college and steady employment is also not a firm reality for many (Christie 2010; Conley 2009; Graefe and Lichter 2002; Manlove 1998; Young Jr. 2004). Child-bearing, then, can prove to be a positive force in these young men's lives and thus may explain why many of the PHRESH men have optimistic ideas about what fatherhood will mean to them. For example, one young man explained how having children can keep you off the streets and out of trouble:

Moderator: And also, being a father gives you a sense of pride in yourself?

Participant: It gives you mind.

Moderator: When you say, "gives you mind," what does that mean?

Participant: It means that now is not the time to be on the streets hustling and stuff like that. You got to think about you kid first, you know? You got to be there, you don't wanna be locked up, 'cause the kids is being growing up without you.

Moderator: So having kids forces you to settle down.

Participant: Yeah.

Moderator: Have responsibility?

Participant: Definitely. Responsibility.

However, this was not a universal sentiment among the participants in the focus groups: several participants expressed anxiety about raising children in our modern, sometimes violent, and unpredictable world. As one young man remarked:

> What the world has come to today, I do wish a lot of times that I didn't have my daughter, that I could just go back in time and be like, okay, well, right now this isn't going to happen because I already see how everything is going and the route that everything is. And like, it just doesn't make any sense because like, kids nowadays, you got kids on my end like, go out to LA in California, and Long Beach, you got kids running around throwing up gang signs, holding nines, forty-fives [guns], all that stuff and it doesn't make any sense. . . It just shouldn't be happening, you know what I mean? Kids nowadays need to be able to just go to school, watch their cartoons, do whatever it is that they're going to do, have fun, you know what I mean? Don't worry about, oh are you going to get jumped by this dude because you're wearing this color or you're going to get jumped by these dudes because they don't like you in school or because something that you have on, or you were talking about somebody and all of that, you know what I mean? Like, it's crazy.

However, this did not seem to be a deterrent from eventually wanting to become a father for most participants. It just was a fact that they would have to prepare for and make sure to teach their children how to handle the difficulties of the world.

Overall, the responses from the young men regarding the positive and negative aspects of having children and what they believe fatherhood to men indicate that fatherhood is a status to which they aspire. It is a role that they hope to fulfill at some point in the future (if they are not already raising children) and expect to receive a great deal of enjoyment and fulfillment out of it. For those who already have children, they hope to be (or continue to be) good fathers. They indicated that it may provide a great purpose in life for them, something they can be proud of. Previous research backs up this finding: In a small ethnographic study of men who fathered children with adolescent mothers, the researchers found that the children provided the fathers of these children with a positive and valued component of self-identity (Foster 2004). Plus, as Marsiglio reported in 1993, using data from a nationally representative sample, young men aged 15-19 who were socioeconomically disadvantaged seemed to view paternity as a source of self-esteem and were accordingly more likely to say that fathering a child at this time would make them feel like a real man and that they would be pleased/not upset with an unplanned pregnancy compared to more affluent young men (Marsiglio 1993).

Ideas about Fatherhood Roles

Related to desires for children, many of the men had ideas – both abstract and concrete - about what fatherhood is or will be like. The participants were equally likely to talk about the personal benefits of having children as they were to talk about the difficulties of raising a child properly. These young men either expect that having kids will make them more mature and better men or have witnessed that transformation first hand. As one gentleman said, "[Having kids is the] best - it'll mature you quick, though. You know what I'm saying?" Another participant remarked, "If I was a father, I would

probably step my game up too. You know, get more jobs, increase my dough [money]. I would probably want them to have the best and along the way, I would probably be collecting extra cash. And that's about the only thing. Step up my game." These men also look forward to teaching the next generation and having the ability to watch "a part of them" in another human being. Fatherhood seemed to be a central part of their identity. One participant remarked, "I could assume having a kid could mean the world to a person. I mean, that's something you brought into this world" and another said that his child is his "everything." They see having children as a way to shape the future of our society – to create people who do good for the world – as well as to shape their own personal futures. Children are a strong motivating force for these men; they help them stay out of the streets, stay out of trouble, and focus on legitimate employment.

The men also recognized that it takes a lot of work to keep the child out of trouble and to make sure that he/she is well-cared for (financially, emotionally, etc.). For example, while one young man remarked, "The good thing about having a kid is everybody seen him grow up and since you guided him, he can accomplish a lot of things that you may not have accomplished in life," another in the same focus group said "I want to enjoy my life. [Children] are going to take a lot of time out of my life. I'm going to have to be taking care of them and you know putting aside stuff I wish I could do just to take care of them." Overall it seems that the majority of these young men have given some thought to what it will be like to have children and how they want to enact the father role. Plus, it appears to be something that most look forward to doing, if they have not already become parents. This mirrors the results of other investigators, who find that

disadvantaged young men find fatherhood to be a central part of their identity as well an impetus for introspection about the future (Young Jr. 2004).

Procreative Responsibility

While procreative consciousness deals with the more cognitive aspects of men's procreative identities, procreative responsibility (PR) looks at the related behaviors that men engage in as a result of these identities. PR "emphasizes males' preferred and actual level/type of involvement as well as their personal sense of obligation in the areas of contraception, pregnancy resolution, and child support/child care, respectively" (Marsiglio 1991, pg. 272). More concretely, this concept relates to men's sense of responsibility and autonomy in terms of contraceptive usage (preventing pregnancy), handling a pregnancy (contributing to the decision of whether to continue with the pregnancy or terminate it), and once a child has been born, taking on the role of father.

General Thoughts about Procreative Responsibility

It is evident from the focus groups that procreative consciousness and procreative responsibility do not necessarily come about or mature at the same time. As mentioned above, most of these men spoke of having a sexual awakening long before they were able to accurately perceive the risk of impregnating their partners and certainly much before they were able to take responsibility for this fact. Several Puerto Rican men asserted the idea of procreative responsibility kicked in after the first pregnancy or first child is born. They believed that often it is not something that is thought about until there are real consequences; for instance, one does not use contraception until one personally sees that

a pregnancy can result from unprotected sex[14]. As one young man remarked, "A lot of times, especially when you're young, when you start having sex and stuff like that, you don't seem to plan. It's just something that happens. You're alone and then it takes place, and then it keeps taking place and then next thing you know she pops up pregnant. So, prevention techniques usually pop up after like the second or the third baby." This young man describes having a desire to have sex with his partner before recognizing or admitting the real risks that can result from a pregnancy (or perhaps before he at least takes it seriously) and much before he is ready to take care of a baby. Several participants said that young people are "ignorant," "immature," and "irresponsible" when it comes to sex and babies.

In addition to a delayed sense of responsibility for preventing pregnancy[15], several participants discussed what "being ready" for fatherhood meant, mentioning both mental/emotional preparation as well as financial/material preparation. To the former point, a young black man remarked, "No matter what your situation is, you can plan for it [but] it's not going to go anything like you planned. . . You could have the highest paying job in the world, graduate, or whatever, still have a baby and still not be ready for it. It's all in the mind, whether you're ready to be a parent or not. I mean, all the money and high school diploma, or a certificate, that's paper. That's nothing. I mean, that's not

[14] Type of relationship does matter here. The men were often more concerned about using condoms to prevent pregnancy and sexually transmitted infections if they were having sex with a casual partner. See the section "Responsibility for Contraception" for a further discussion about the effects of relationship type.

[15] This "delayed" sense of responsibility for preventing pregnancy among young men is more universal than just among this PHRESH sample; qualitative research projects conducted with young men from all class backgrounds find a similar lack of responsibility (or failure to recognize the possibility of pregnancy). In fact, pregnancy prevention is still widely considered to be a woman's responsibility throughout society (Flood, M. 2003. "Lust, trust and latex: Why young heterosexual men do not use condoms." *Culture, Health & Sexuality* 5:353-369, Marsiglio, W, S Hutchinson, and M Cohan. 2001. "Young Men's Procreative Identity: Becoming Aware, Being Aware, and Being Responsible." *Journal of Marriage and Family* 63:123-135, Wallace, S. V. and E. M. Carlin. 2001. "Contraception and men attending a genitourinary medicine clinic." *Journal of Family Planning & Reproductive Health Care* 27:217-9.)

going to get you prepared to have a baby." This comment indicates that the respondent feels it may be virtually impossible to be completely ready for a new baby that being emotionally/mentally ready is more important than materially ready. This was the majority opinion. On the other hand, one Puerto Rican man said that one is not ready to become a father *until* he has his own place and a good job. Having a child should not even be a thought that crosses one's mind until that happens. "If you ain't financially ready and you aint' got a place to stay, or you still living in your mother's basement and playing your Xbox and you don't have a job or haven't finished anything, didn't finish high school, don't have no type of educational skills or whatever, you could [talk about having a baby] till your blue in the face and you still not ready for the kid, you know." This participant as well as a handful of others had clear ideas about when young men should think about having children, pointing to a relatively stronger desire to prevent pregnancy from occurring until one is ready. He wanted to have more things in place before he got his partner pregnant. Overall, then, most of the men felt that one can never be "truly ready" for a new child. This, combined with a lack of male-controlled contraceptive options, may have allowed them to detach (or distance) themselves from pregnancy prevention and pregnancy planning.

Involvement in Contraception

As mentioned in the introduction, most contraceptive methods on the market today are made to be used by women. The condom is one of the only male-controlled methods. Thus, the focus within the topic of men's involvement

in contraception will be on condoms [16]. The men in the focus groups were about equally split regarding their feelings about condoms. Some said that they usually or always "try" to use condoms during intercourse (e.g. "I'm a person, I like to try to use condoms all the time. Rarely do I not use a condom" – Puerto Rican man) while others had quite a disdain for condoms (in response to the moderator asking if the participants would wear condoms if their partner asked them to: "I put one on but then I hit it so hard that shit would break and I keep fucking her like that. Fuck it!" (Puerto Rican man) or "Me personally, I don't even use no condoms! I don't even use no nothing, just get it in. Pull it out! (laughs). Let's go").

There was an interesting theme regarding the association between condom use and relationship type; on the one hand, the men seemed to be more respectful of his long-term/committed partner's desire to use contraception (if she wanted to) while on the other hand the men seemed to be less worried about using condoms with these same women (i.e. they did not fear contracting a sexually transmitted infection from their committed partners and perhaps were less worried about getting her pregnant as they would not mind having a child with her). The men spoke more clearly about ensuring condom use with casual partners and/or their "side pieces" (with whom they were cheating on their main partners). In these instances the participants discussed the importance of using condoms to protect *themselves* (as opposed to protecting the women). Some mentioned not

[16] The other male-controlled methods are vasectomy and withdrawal. I chose to focus on condoms because none of the men in the focus groups discussed vasectomy and withdrawal is not an effective way to prevent pregnancy. A handful of men did mention other forms of contraception – namely the birth control pill – but as this is a female-controlled method, the men could not be certain that it was being used at all or at least correctly. Plus, the condom seemed to be the most common form of contraception by a large margin.

knowing "where the women had been" (referring to concern about sexually transmitted infections or having sex with someone who had had many partners and not wanting to create a child with her. Their talk of condom use seemed to more often stem out of self-interest and to protect themselves from women who could be "out to get them." Overall, though, it does appear that the main form of contraception used by these men and their partners are condoms (if anything is used at all). There was very little talk about the female partners using the birth control pill and no discussion of IUD, contraceptive patches, depo provera, etc.[17] So many times, if not most times, if contraception was used, the men were involved in its use.

While this was not the majority opinion, a handful of men put the entire responsibility for preventing pregnancy on their female partners. In this context, these men signified that if a condom was to be used during sex, the woman had to insist upon its use; otherwise the men would not offer to wear one.

> Puerto Rican Participant: Another thing, a lot of people be getting pregnant because girls ain't on top of their job too. Sometimes when you get ready for sex, you just whip it out and try to put it in there and they don't try and stop you. If a female don't want to get pregnant, it's their job to be like, "hold up, you gonna throw a jimmy [condom] on that?" You feel me? Some girls just keep it moving and they want you to pull out but at the same time, if they get knocked up, now they not gonna let you do it again type shit. It's their job to be on top of that.
>
> Moderator: But isn't it your job too?

[17] It is important to note that the men may not have been aware of or asked their female partners if they were using any form of contraception. The women could have been using a form of which the men were not aware.

> Participant: It's our job too but . . . They are the ones that are gonna get pregnant, regardless of whatever, so it be their job. I don't know.

This sentiment mirrors the feelings shared by the men in a similar study conducted with young men in Chicago. The investigator of this study remarked of the pregnancies among the young black men he interviewed: "While these men were clearly also involved in creating these situations, they spoke as if black women were solely responsible" (Young Jr. 2004 pg. 134).

Pregnancy Resolution

Overall, the men in the focus groups were generally anti-abortion. If they impregnated a woman, they were reportedly willing to step up and take responsibility for the pregnancy and impending fatherhood. However, there were a few participants in the Puerto Rican focus groups who made a clear distinction between impregnating so-called "jump offs" (casual partners) and girlfriends. They believed that if a casual partner became pregnant, they would encourage her to end the pregnancy but not so with a girlfriend. However, in response to such talk, another participant in the group retorted: "If you was man enough to put a penis in there, no matter whether you were sober or drinking, you man enough to take care of the kid." There was not much discussion of pregnancy resolution outside of this distinction. Pregnancies that were discussed either were miscarried or carried to term. The men who had children portrayed a completed pregnancy as a foregone conclusion; no one mentioned discussing the various pregnancy resolution options with their partners. They believed that if one was to impregnate a woman, he should become a father. It is of course possible that some of these men's partners obtained abortions without their knowledge or consent.

Responsibility for Child Care and Child Support

The element of procreative responsibility that was most often talked about was that of child care and child support. Even if many of the men did not take responsibility for preventing pregnancy or planning pregnancy, if a pregnancy did occur, most felt a strong moral obligation to help care for the child, regardless of the circumstances in which it came about. One Puerto Rican man said:

> If it's yours, fight for it. Take your kid. Be a man. . .What I'm saying is if it's yours, if the DNA test come out and says it's yours, you know, you gotta step up. If Maury [Povich, talk show host whose shows often feature paternity tests] jump out of the screen and say, "You ARE the father!" then yo', you know, you gotta step up. You got to take care of your child. What I'm saying is fight for your kid, that's all. Take your kid, be with your kid.

While the majority of men held a similar viewpoint about paternal responsibility, the opinion was not unanimous. A minority perspective was that the amount of paternal responsibility hinged on the context in which the baby was created and/or the type of women who was carrying the child. If a young man impregnated a casual partner (a "jump off"), it was not always necessary to be accountable for that pregnancy and baby. A short interaction between a research moderator and two men illustrates this idea:

Moderator: What if it's a jump that gets pregnant by you?

Participant 1: No way, no way.! Naw, you don't want no kid with no jump!

Participant 2: No, I mean, if she's a jump, I'm not saying you got to take responsibility for it. You could still stay busting it down [having sex with the girl] but, that's on her. . . 'cause she got an addiction to penis!

Related to the prior discussion of fatherhood visions or ideas about fatherhood, many of these men are able to talk abstractly about how they take care of the children that they already have or how they anticipate taking care of future children. A Puerto Rican

father said his goal is to "teach [his daughter] the way that I want her to be." Much of this talk centered on making sure their children did not "end up like them." These men wanted to raise their children "right" and correct their past mistakes. Similarly, in a study of black single fathers, researchers found that these men decided to take full custody because of sense of duty and responsibility to their children but also to modify the effects of having had weak or absent fathers themselves and to become the type of father they did not have (Coles 2002; Coles 2003). Wanting to "break the cycle" of absentee fatherhood can drive these men to be a positive presence in their children's lives (Waters 2009).

Contrary to negative media images of young men as "dead-beat dads", participants said it was important for fathers to be involved in all aspects of their children's lives. Certain participants discussed having to know what type of media their children are consuming, who is influencing them, and to know what is going on at their schools. Others talked about the importance of being there when the child takes his/her first steps and on the first day of school. This finding lines up with the findings of other studies; the majority of low-income, disadvantaged young fathers are involved significantly in the lives of their children, despite their own struggles (Glikman 2004). Of course, level of involvement is dependent upon living arrangements as well: married fathers spend the most time and resources on their children, followed co-habiting fathers (who are not married to the children's mother) and non-residential fathers (see Nelson 2004 for a review). However, even if they cannot contribute financially to the lives of their children, these men often take on some child-rearing responsibilities (Hollander 1996). In fact, data from the Child Development Supplement to the Panel Study of

Income Dynamics demonstrated that both black and Hispanic fathers exhibit more responsibility for child rearing than white fathers (Hofferth 2003). As one-third of unmarried black men and Hispanic men have at least one biological child (Martinez et al. 2006), this is positive news.

Several participants noted the distinction between the relationship a father has to his child and the relationship between the father and the mother; whatever is going on between the mother and father should not affect how the father parents or takes care of his children. Participants had much to say regarding how to deal with "baby mamas" and co-parenting outside of a committed relationship with the mother(s). If the parents are not getting along, that is no excuse to be an absentee dad. Edin and colleagues (2009) found this to be particularly true of black men. While in general father involvement declines after the romantic relationship ends, this effect is tempered in black families. Based on theoretical work conducted by Mincy and Pouncy, they hypothesize that fathers' roles outside of conjugal relationships may be more strongly institutionalized in the black community thus making it easier for these men to stay involved in their children's lives (Mincy and Pouncy 2007). One of the black participants spoke about the need to provide for one's children regardless of the state of the romantic relationship with the children's mother:

> Now as far as the difficulties with your relationship, you know, with the wife, with the ex-girlfriend. Once you have the kid, you're supposed to become mature. That puts something in your mind saying I got something out here on this earth that come from me that's my everything. That's my offspring. That's [what] I produced. That's what I made. So you got to provide for that kid. So, regardless of how you feel about her, when it comes to that kid you got to provide. Like I said, either financially or mentally and, and make them feel loved.

Perhaps related to these men's commitment to taking care of their children in spite of the state of their relationship with the mother, another theme discussed by these men was the deep emotional bond that many of the men have with their children or expect to have with future children. One Puerto Rican father said, "I love my child more than anything in this world, I can say." And a young black man, recounting the experience of pregnancy and birth, said, "I'm going to go back with what [another participant] said. I mean, about it brings joy to you. Like, yeah they do. Because like when I had my son, it's hard for me show how I feel emotionally. But I'm not going to lie, when that little [baby] came out, man . . . I was the biggest baby, you know what I mean. Like, I ran to the other room where my mom was at, started crying." These men talked about the importance of having a strong emotional connection with children, something that clearly comes through for those participants who talked about their own children.

The issue of child support was not brought up as much, possibly because many of these men were not yet fathers and those that were are still living with their children and their children's mother. However, one young man in a Puerto Rican focus group said that having child support was the worst aspect of having children. In response, a fellow participant said:

> Child support wouldn't have to be bad if we didn't have babies having babies. If we didn't have kids having children, you know? When you're not ready, when you're not of age, when you're not financially ready. The mother or the father would have to get on welfare to help pay for food or whatever, and now you got the father or the mother, now they got to pay child support. Now the father don't want to pay, he don't want to get a job 'cause he don't want to pay the child support or whatever, but he's there taking care of the kids any way he can.

This participant was speaking in the abstract and not about his personal experiences, but this statement expresses his viewpoint – and perhaps that of his peers – regarding the consequences of early child-bearing. Only one participant put forth the idea that women purposely get pregnant so they can garnish money from the fathers. This was certainly not an idea shared by the majority. A multitude of studies have been published recently that look at how increasingly strict child support policies are impacting child-bearing and father involvement (e.g. Huang 2001; Huang 2005; Plotnick, Garfinkel, McLanahan, and Ku 2006) but the results thus far are inconclusive. However, the worries that some of these young men expressed about the negative effects of having to pay child support are very real: some scholars have questions if low-income men can afford to pay even minimal child support payments. One study found that only 25% of non-residential fathers with incomes less than 130% of the poverty line worked full-time year round, and that their average annual income was just $6,989 (Sorensen and Lerman 1998). These men often have formidable barriers to obtaining more lucrative employment, including low educational attainment and prison histories (Sorensen and Zibman 2001).

Pregnancy Planning among Young Men

Before addressing if and how the PHRESH participants talk about their experiences with pregnancy planning (and in particular, unintended pregnancies) using PC and PR language, it is instructive first to see how what these men think about pregnancy planning in general. Is it possible? What does it mean? Have they engaged in pregnancy planning? The men in the focus groups were all directly asked to speak about the feasibility of planning a pregnancy. Overall, while many agreed that planning would be best, most believed that it is a difficult feat.

Moderator: Do you feel as though you should plan all the time, try to do your best to plan…

Black Participant: I think at least attempt to. . . Try to plan. You don't want to just have a baby out of nowhere. It's a lot involved in that.

Another participant in the same focus group said that it is good to try to plan a pregnancy, but the plan never goes the way it should.

> Participant: Like, when I had my daughter, it wasn't nothing planned about that. And when me and my baby mama went over that. . .When we were going to have a kid, was going to be after I come out of high school. After I get that high school and turn around and finish college and I feel as though, 'okay, I'm going to have a kid,' then I'll have that kid. That didn't go nowhere near according to plan. I'm coming right out of high school automatically having a baby. . .The plan never flows the way you want it. The plan always is going to take off to the other way that it wants to go because your plan is never going to go as planned. That's the whole point of a plan.

One young Puerto Rican man said, in affirming the importance of pregnancy planning, "If you can't support yourself and then you bring another life into this world, then how are you going to support that child if you can't support you? You know you have to be able to keep on yourself before you can take care of another person." While talking about the value of planning, at the same time these men do not believe that most people plan their pregnancies; they often "just happen." This feeling of not being able to control one's fertility may be a symptom of an overall feeling of powerlessness in some of these men's lives. Sociologist Alfred Young interviewed 26 young black men in an inner-city neighborhood of Chicago and found this to be an overwhelming theme in the men's talk. Young noted that the everyday lives of these men were so unstructured – because of lack of employment, mostly – that they had little ability to organize or plan (Young Jr. 2004). Hanging out on the street all day requires little orientation to time or the future. Plus,

they did not believe that good, steady employment was a real possibility for them (in most cases, rightly so), so they did not have a *way* to plan for their futures. These circumstances often lead to feelings of powerlessness and the inability to control aspects of one's life. In the PHRESH men's case, then, these feelings could translate to notions of pregnancy being unpredictable. This lack of a so-called "future orientation" has elsewhere been shown to negatively affect young men's achievement (Brown and Jones 2004; Liebow 2003). Increasing intimacy of their romantic relationships and a social environment that condones early pregnancy and child-bearing could also contribute to a more laissez-faire approach to pregnancy.

Another interesting theme that emerged was the distinction that the men, the black men in particular, made between pregnancy planning (i.e. deciding when to become pregnant) and pregnancy preparation (i.e. once a pregnancy has occurred, getting ready for the baby to come). And from this distinction, the men spoke more about the importance of pregnancy preparation.

> I think it's not all the time going to be planned. Everything in this life is not planned. But once you know it's going to happen, you can begin planning. I mean, it's necessary when you're having a baby, you pretty much have to make a plan. You have to have some type of plan, where you're going to live, if you have enough room for the baby, clothes, milk, and everything. You have to think about that stuff. Like, how can you not?
> -Black male participant

And similarly, another young man in the same focus group remarked, "I think a lot of people really don't plan, they prepare. Once the girl gets pregnant, then they start preparing to have the baby. A lot of people don't plan, but as soon as the girl get pregnant, then they start preparing for it." These results are similar to those found in focus groups conducted with pregnant women in North Carolina. To them, the concept

of ‘‘planning’’ a pregnancy in terms of contraceptive or proceptive behaviors was not meaningful. Instead, these women, just like the PHRESH men, considered ‘‘planning’’ to be steps taken to prepare for the baby *after* conception occurred (Moos, Petersen, Meadows, Melvin, and Spitz 1997).

Pregnancy planning was not a common theme in the focus groups. None of the men who were already fathers spoke of their pregnancies as being planned or intended. Despite this, they all seemed to be *wanted* pregnancies, even if they were unexpected or came at a less-than opportune time. A black man whose girlfriend just gave birth to their child wished they would have planned when to have the baby. For him, the pregnancy seemed to come “out of the blue” and he did not feel they were ready for it. His educational aspirations were put on hold because he felt he had to take care of his baby. Despite this, he has just returned to college and feels he is getting back on track. Many of the young men thought it was best to plan (and in particular delay) pregnancy until they are ready to financially, materially, and emotionally support a child. However, if pregnancy planning is not the norm among these men’s friend, peer, and family groups, the idea of being able to control fertility may not be part of the men’s worldview. The men’s social environments direct their cognitive and behavioral options (Young Jr. 2004). Too often pregnancies happen before the young man and woman are ready to shoulder that responsibility. However, it is important to point out again that even for the men who felt that their pregnancies came too soon, the majority “stepped up” and immediately took on the responsibility of caring for their children.

In sum, the young men in PHRESH believed that planning pregnancy and delaying it until one was ready was probably ideal, but it is something that many felt

unable to accomplish or it was not a priority for them. At the same time, few of the men seemed burdened by the fact. As mentioned above, although most of the pregnancies that these men had been involved in were not planned or intended, they were still very much wanted and treasured.

Summary

From a reading of the transcripts, it seems that these young, minority, economically disadvantaged men have a relatively strongly developed sense of procreative consciousness. As 18 to 25 year old men, they are now well aware of their ability to and risk of impregnating women and indeed many have. If they have not yet become fathers, the majority of these men intend to become one in the future and have at least abstract ideas of how they would want to raise their children. Becoming/being a father is something that they prize and look forward to doing. Interviews conducted with middle-class suburban men hear them talk about how having children and becoming a father is often just part of the "package deal" that comes with culturally accepted sources of middle class achievement (e.g. marriage, owning a home, a stable career). They also often buy into the belief that these elements should follow a certain sequence (Townsend 2002). On the other hand, some social science scholars have suggested that low-income and disadvantaged men may view children a bit differently. Nelson and colleagues propose that these men may see a child as their only opportunity for a form of "upward mobility" in that he can encourage his child to stay in school and not repeat the same mistakes that he may have made (Nelson, Clampet-Lunquist, and Edin 2002). The men in the PHRESH focus groups expressed similar sentiments as well as the belief that children can help oneself mature and demonstrate their adulthood.

Data also shows that children hold different meanings for different socioeconomic groups. For instance, one study demonstrated that male high school drop-outs were more than four times as likely as their college-educated peers to say that they think childless people lead empty lives (Sayer, Wright, and Edin 2003). The NSFG shows that men who did not graduate from high school expect to have 2.6 children in their lifetimes while men who graduate college expect to only have 2 children (Martinez et al. 2006). Plus, many disadvantaged individuals believe that child-bearing should happen when people are relatively young (see Edin and Kefalas 2005) which is not necessarily the case for middle-class individuals, who often choose to pursue school and work before family (Townsend 2002). National data demonstrates that while 50.8% of men without a high school diploma or GED have their first child between the ages of 20-24, only 9.1% of men with a bachelor's degree or higher have their first child in that time frame (Martinez et al. 2006).

Overlapping with PR, many of these men still seem to separate their "need" to have sexual intercourse (their sexual prowess) from their ability to reproduce. Thus, in this way, their sense of PC, at least in terms of sexual prowess, outweighs their sense of PR, at least in terms of pregnancy prevention. The responsibility for preventing pregnancy; several put the entire onus on their female partners as they are technically the ones who will have to bear the direct consequences. This is likely a viewpoint that is not only confined to the economically disadvantaged; studies continue to demonstrate that women take on the lion's share of pregnancy prevention (Berlin and Berman 1994; Ekstrand, Larsson, Von Essen, and et 2005; Kero, Hogberg, and Lalos 2001). However, the National Survey of Family Growth has documented a strong positive trend in both

men's involvement in preventing pregnancy as well as their attitudes toward contraception (Martinez et al. 2006). It is interesting to note the most frequently-mentioned type of contraception discussed in the focus group was condoms: a male-controlled method[18].

There also did not seem to be a strong, consistent drive to prevent pregnancy; at least this was not articulated in the focus groups. These young men seemed more likely to "roll the dice" in terms of pregnancy risk. This is in contrast to many young men from middle class backgrounds, who often would have "more to lose" by impregnating a woman unintentionally (see Adamczyk 2008; Graefe and Lichter 2002; Manlove 1998). This is reflected in these groups' use of contraception. While 72.6% of men whose mothers have a bachelor's degree used contraception at their first sex, only 46.7% of those men whose mothers did not finish high school used a form of contraception at their first sex (Martinez et al. 2006). Men from lower socioeconomic backgrounds are actually more likely to report using condoms to prevent disease transmission instead of pregnancy prevention (compared to more affluent men, who report using condoms for both purposes) (Martinez et al. 2006). Very few spoke of exact timelines for having children, thus, "when it happens, it happens." Waters (2009) made the distinction in fatherhood readiness between "decided readiness" and "trial readiness"; the former referring to men knowing that they would like to become fathers and knowing how they would like to parent before a pregnancy occurs while the latter refers to men becoming ready to parent when their hand is forced by the circumstances of an unplanned pregnancy and birth. It

[18] While condoms were frequently mentioned as the contraceptive method of choice for these men, it does not necessarily mean that this was the sole form of contraception used with their female partners. They may not be aware of other methods their partners were using or simply chose to focus on the one that they had control over.

was apparent, though, that when pregnancies did occur, most of these men "stepped up" to take care of their off-spring the best they could and for those not yet fathers, there was an overall culture of it being the "right thing to do" to accept fatherhood responsibility.

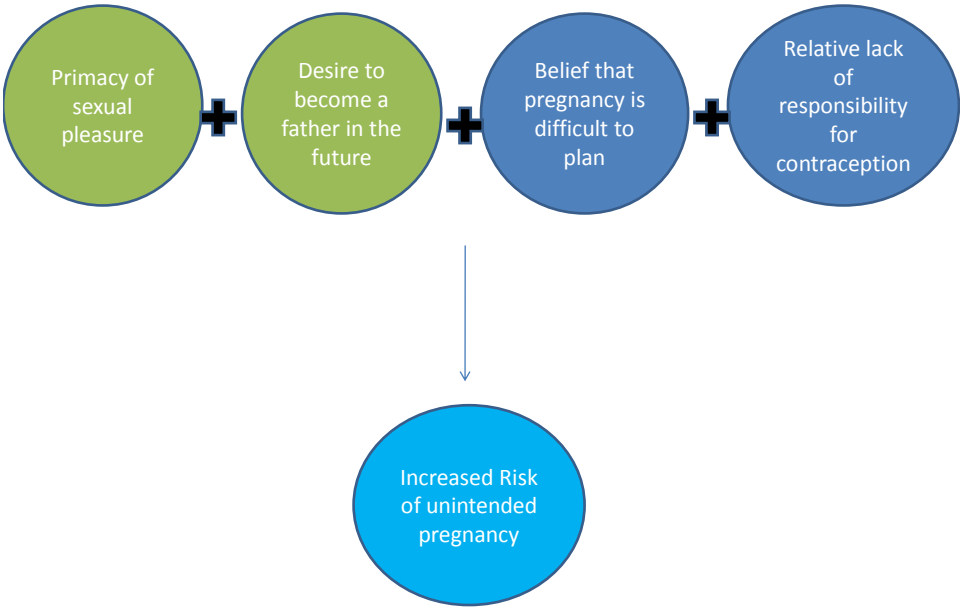
In sum, the men in the PHRESH focus groups evidenced a relatively clear sense of PC in terms of their knowledge of their ability to procreate and their desires to become fathers (either now or in the future). Many of the men were already fathers and considered their children to be one of the most important motivating forces in their lives. Virtually all of men who were not yet fathers intended to become one in the future and expected this role to become a major part of their identity. They anticipated that children will be a pathway for them to right their perceived wrongs as well as give them hope for the future. On the other hand, the men's sense of PR was less developed in terms of contraception and preventing pregnancy but much more fully-formed in terms of childcare responsibility. Many considered contraception and pregnancy to be more of the women's responsibility; however, they did note that they were more likely to take initiative in contraceptive matters with their non-main partners. If pregnancy and birth did result from their sexual encounters, though, they talked very seriously about taking care of their children, both financially and emotionally. In the next section I will discuss how these men's senses of PC and PR may affect their rates of unintended pregnancy.

Conclusion: How do PC and PR Affect Unintended Pregnancy/Birth

It is likely that the PHRESH men's procreative consciousness and sense of procreative responsibility do indeed affect their chance of having an unintended pregnancy. These men often seem to prioritize pleasure over reproduction and at the same time separate those two things. Thus, if one is "caught up in the heat of the

moment" and only concerned about their own pleasure during sex (and not preventing conception), an unintended pregnancy is likely to result. Additionally, most of these men have a strong desire to become fathers one day. That combined with their belief that pregnancy "happens when it happens" (especially in a committed relationship) and that it is difficult to plan a pregnancy may also increase their risks of having an unintended pregnancy (see Figure 4.1). Overall, then these socioeconomically-disadvantaged men evidenced a high sense of procreative consciousness and a relatively lower sense of procreative responsibility. When added together, this creates a recipe for a high risk of unintended pregnancy and birth, which this group has evidenced in national surveys.

Figure 4.1: How Procreative Consciousness and Procreative Responsibility lead to unintended pregnancy



Limitations

While this study was unique in that it allowed young men to use their own words to describe their procreative identities and procreative experiences, there are several

limitations. As with all qualitative research, the sample for this study was small and the findings cannot be generalized to a wider population, but that is rarely the goal of qualitative research. The sample was gathered using convenience and snowballing methods and thus we cannot ensure the representativeness of even the demographic or regional groups to which the individuals belong. Second, as only disadvantaged young men of color were recruited for the PHRESH project, I am unable to make comparisons between these men and other demographic groups (e.g. middle class men, white men, even women). Thus, it is difficult to conjecture if and how these men's views and experiences are different from other men's.

Implications

The first major implication of these findings is that we need to include men more in family planning efforts. My analysis demonstrates that many young men engage in risky behavior despite their firsthand (or sometimes secondhand) experience with negative outcomes. They know that a pregnancy can result from unprotected sex yet this does not necessarily deter them from engaging in that behavior. We must involve men in pregnancy prevention efforts in a variety of ways beyond just encouraging condom use. Previous studies have found that even the most educated men do not always have accurate information about contraceptive methods other than the condom and that men are not always able to correctly assess different methods' level of effectiveness (Grady, Kiepinger, and Nelson-Wally 1999; Johnson and Williams 2005). Another way to inspire male involvement in preventing unintended pregnancy and births, then, may be to extend contraceptive education for males (both during and beyond the school years). This education should be focused on equality in reproductive responsibility (Andrews and

Boyle 2003). Once young men are beyond high school, there are very limited pregnancy-prevention or pregnancy-delay programs directed toward them (Bradner, Ku, and Lindberg 2000; The Alan Guttmacher Institute 2002). It is important for public policy to continue to create and nurture programs geared specifically for older men and find more active ways of involving them more fully in the prevention of unintended pregnancies and births. Some investigators have suggested that family physicians and other health care providers working with teen and young women should include the boyfriend in any discussions aimed at delaying pregnancy: invite boyfriends to be a part of clinic visits (Cowley and Farley 2001). A study conducted with 900 female members of a managed care plan found that 74% of them reported that it is "very important" for health care providers to include men in discussions of birth control and pregnancy planning (Weisman, Maccannon, Henderson, Shortridge, and Orso 2002). Thus, women are supportive of the idea of including men in pregnancy prevention discussions with clinicians. It will be interesting to note how the Patient Protection and Affordable Care Act, with its mandate to increase contraceptive coverage under all health insurance plans (it is already fully covered under Medicaid), will affect contraceptive usage and its consequent impact on unintended pregnancy and birth rates.

Second, we need longitudinal studies to follow how men's early senses of PC and PR end up manifesting themselves as more mature adults. These men are young, and we need to determine if they continue to take a backseat role in pregnancy prevention and whether their relatively optimistic values regarding fatherhood are enduring. For example, it would be important to learn whether their strong sense of responsibility for

child-rearing remains once other difficulties of life set in. Many of the men in the sample are not yet fathers and therefore are only speaking in the hypothetical.

Third, we need to study how the context of pregnancies and births affect men's attitudes and behaviors towards child-rearing and having a relationship with the mother. The focus groups did not provide enough information regarding the context of these men's child-bearing; we are not able to discern with whom the men are having children (e.g. girlfriends, co-habiting fiancés, casual partners, etc.) despite the fact that they likely have real consequences on the men's sense of procreative responsibility. The men did imply that the type of relationship with the mother *might* influence the manifestation of the fatherhood role. Thus, the circumstances in which a pregnancy occurs as much as whether it is planned or unplanned, may play a large role in determining pregnancy outcome. This suggests the need for further research on the circumstances in which pregnancies occur, as well as targeted interventions and policies that help women and men define and achieve the circumstances in which they would like to bear and rear children.

Fourth, we need to study couples together. The overwhelming majority of studies conducted on fertility intentions up to this point have focused on women *or* men, despite the fact that partners' intentions have reciprocal influence on one another. In the context of this study, we have no way of knowing how the PHRESH men's partners thought about their sexual experiences, contraception negotiation, or pregnancies. Even if the men felt happy about a certain pregnancy, it does not mean that their partners did. We know, for instance, that Black and Hispanic women are disproportionately represented among women obtaining abortions and have higher relative abortion rates than all women

(abortion indices, 2.06 and 1.46, respectively) (Jones, Finer, and Singh 2010). Thus, there is likely some disconnect between how men and women feel about the same pregnancies and that women may be obtaining abortions without their partners' knowledge.

It is important to study how going through with an unplanned pregnancy differentially affect men and women. These men, when confronted with a pregnancy, were resolute in their commitment to keeping the pregnancy and were generally very happy with their child-rearing responsibilities. We do not know if their partners had similar feelings, if there was any pregnancy resolution disagreement, and the true level of work that these men were putting into raising their children. It is a well-known fact that despite women's increasing participation in the labor market, women still do much more housework and child-care than their male counterparts (Bureau of Labor Statistics 2012; Harryson, Strandh, and Hammarstrom 2012). Child-bearing, then, still means something different for men and for women. It is time that researchers start interviewing couples who are becoming parents/have recently become parents to finally study the dynamics that go into the individual and joint determination of whether a certain pregnancy or birth is deemed as intended, mistimed, or unwanted.

Finally, as noted by other investigators, we need to consider whether the conceptual framework of "unintended pregnancy" is applicable to men who in committed relationships, are inconsistent contraception users, and believe that pregnancy is difficult to plan. Studies with similar groups of women (e.g. Lifflander, Gaydos, and Hogue 2007) have found that there are major differences between the definition and values of planned and unplanned pregnancies promoted by public health practitioners and those

held by the women in their studies. To understand such fatherhood intentions and reactions, we must investigate further the cultural place of fatherhood in disadvantaged communities and families. Previous studies have found that in communities and families that have more supportive and accepting attitudes toward non-marital child-bearing, fathers are more involved in their children's lives and thus a so-called unintended pregnancy may not be as detrimental in this context as in non-supportive communities (Nelson, Clampet-Lunquist, and Edin 2002; Nelson 2004). Luker (1999) also brings up the intriguing idea that by becoming "accidentally pregnant" may "permit people to duck the onerous responsibility of having to *decide* whether to enter into parenthood, and to do so in the only country in the developed world that permits people to become parents with virtually nothing in the way of social support" (p. 249). If men, particularly the disadvantaged men upon which the PHRESH project was focused, do not conceptualize their unplanned pregnancies as unintended and they do not seem to have any adverse consequences on the men's future trajectories (which is a question still up for debate), perhaps this is not a meaningful distinction in this context.

Chapter 5: Conclusion – Men Matter; At Least to an Extent

Summary of Findings

Using the National Survey of Family Growth (NSFG), as well as a set of transcripts from the Philadelphia Hartford Research and Education on Sexual Health and Communication (PHRESH) focus groups that were conducted with young, economically disadvantaged men, I conducted secondary data analyses that allowed me to answer a series of questions regarding men's role in unintended pregnancy and birth. I will summarize my findings by research question.

What concepts make up men's procreative consciousness and procreative responsibility?

According to William Marsiglio (1991), procreative consciousness (PC) refers to men's cognitive and affective activity (perceptions, beliefs, values, etc.) within the reproductive realm. Specifically, PC deals with men's beliefs and attitudes regarding their virility, sexual prowess, desires for children, and fatherhood. In the NSFG, I was able to find indicators of each of these sub-concepts of PC[19]. I was able to test concepts related to men's number of sexual partners, frequency of sex, number of pregnancies, intention to have children in the future, and feelings about the importance of being a father in one's overall life. In the PHRESH focus group transcripts – the qualitative portion of my project - the men talked about each of these aspects of PC with equal import. For example, underneath the umbrella of PC, I observed meaningful discussions regarding both their virility as well as their desires to be fathers in the future.

Procreative responsibility (PR), on the other hand, is more behavioral in nature and relates to men's senses of responsibility in terms of contraceptive usage, pro-ceptive

[19] As this was a secondary data analysis, I used the items that were available to me in the NSFG to best operationalize Marsiglio's concepts.

behaviors, handling a pregnancy, and fatherhood roles. Unfortunately, the NSFG did not provide as many quantitative measures of PR as it did for PC. Most items focused on the contraceptive side of the concept. I was able to gather information on the men's use of contraception during their first and last episode of sexual intercourse, their frequency of condom use in the last four weeks, and their attitudes regarding condoms. Future studies should attempt to gather data on the other aspects of men's PR and not just their sense of contraceptive responsibility. Once again, the men in the PHRESH focus group identified with each aspect of procreative responsibility. Condom use seemed to be the most common form of contraception for them, which speaks to the sense of responsibility they feel for preventing pregnancy and disease transmission. They had very strong views on how to handle a pregnancy (i.e. keep it) and what a father should do for his children.

As stated previously, I could identify only two studies that had attempted to empirically measure PC and PR (Marsiglio 1993; Nesmith, Klerman, Oh, and Feinstein 1997) and both acknowledged that their measurement was not exact. Quantitatively, then, I was able to provide researchers with alternative measures of PC and PR. The variables that I used from the NSFG may prove to be fruitful for other researchers to use as well. My qualitative work on this topic also provides clues into new directions for concept measurement: which aspects of PC and PR are most important, what pregnancy planning means to individuals, how PC and PR relate to one's overall identity, etc. Therefore, I have added to the small literature that has attempted to operationalize PC and PR as well as suggested ways to improvement upon their measurement. As later portions of my project demonstrate, PC and PR have important implications for unintended birth. It is my belief that the concepts say something useful about men's procreative identities

and that other researchers may utilize them to predict different reproductive health outcomes.

How do men talk about procreative consciousness and procreative responsibility in everyday life?

A thorough analysis of the PHRESH transcripts allowed me to examine how men, and in particular those men who have evidenced a high rate of unintended pregnancy and birth, talk about PC and PR in their everyday lives. It is clear from the structured-yet-casual conversations the men had with the moderator and with each other that their procreative identities are something that they are aware of and that are also evolving. Most men could identify the time in their lives when they became aware of their procreative potential and the power that came along with that. Their talk indicated that their procreative consciousness developed before their sense of procreative responsibility; they were aware of their ability to procreate and their desire to be sexually active before they realized or took seriously the repercussions of their budding sexuality (i.e. the possibility of pregnancy). As they grew into young men, though, their PR became more fully developed and most acknowledged a responsibility, though not necessarily equal to that of their female partners, for preventing pregnancy. However, they did not always believe that preventing pregnancy was possible. They also indicated a strong desire to become fathers (if they were not already fathers) and expected the role of father to be a central part of their identity. Related to this, most of the young men understood and elucidated the serious responsibilities that came along with child-bearing and put forth the notion of involved fatherhood. Overall, the men in the PHRESH focus group evidenced a clear and fully-developed sense of PC in that sexuality and fatherhood were both fundamental to their identities as young men and a less fully developed sense of PR.

These findings challenge the common notion that men are "backseat players" in reproduction and leave all of the thinking about these issues to their female partners.

How do the concepts of procreative consciousness and procreative responsibility relate to unintended pregnancy/birth?

I was able to answer this question both quantitatively and qualitatively. NSFG data analysis demonstrated that (a) PC and PR vary by sociodemographic profile and (b) PC and PR are associated with unintended birth (UIB) in a bivariate manner. As displayed in Table 3.7, certain measures of PC and PR vary according to one's race, educational attainment level, age, and poverty level. For example, men with less than a college degree are significantly more likely to intend to have (more) children in the future than are men who have a college degree or higher. This is a critical indicator of one's PC. White men are much more likely to have used some form of contraception at their last sex than men of other racial groups, which is an indicator of PR. However, other measures, such as how the man would react if he found out he had impregnated his partner, do not vary appreciably by these social determinants. It is important to note that poverty level and educational attainment are statistically significant related to each aspect of PC and PR[20]. Thus, there appears to be a strong socioeconomic relationship to how men express their procreative identities.

When we look at how these indicators relate to UIB in the bivariate context (Table 3.6), we see that there are statistically significant relationships (as assessed by the χ^2 statistics) between UIB and virtually all of the independent variables – both social determinant measures and PC and PR measures. We see, for instance, that those living at

[20] The other social determinants – race, religion, marital status, and age – are significantly associated to only some measures of PC and PR.

or near the poverty level have a greater likelihood of reporting an unintended birth within the last five years compared to wealthier individuals. Married individuals are much less likely to report experiencing an unintended birth than never married, divorced, separated, or widowed individuals. When looking at the theoretically important variables, men who disagree with the statement that a person cannot be happy without children were more likely to have reported an unintended birth than men who agree with that statement. The behavioral measures had significant associations with UIB as well: the more female sexual partners a man reported having in the previous 12 months, the more likely it was that he fathered an unintended birth in the last five years, for example. These bivariate analyses demonstrate that the likelihood of fathering an unintended birth within the last five years is significantly associated with a host of demographic, procreative consciousness, and procreative responsibility variables[21].

Analysis of the PHRESH focus group transcripts also provided insight into how PC and PR correlate with unintended pregnancy and birth. As we saw in Figure 4.1, there are several manifestations of these young men's senses of PC and PR that may put them at a higher risk of experiencing an UIB. First, the men privileged their sexual desire over sexual responsibility, in terms of preventing pregnancy. They full acknowledged that they were often more concerned with pleasure than making sure that they did not impregnate their sexual partners. This meant that contraception was not always used, especially if it was not readily available (for example, if they did not have a condom on their person, they were not necessarily going to interrupt the sexual experience to buy one at the drug store). Second, most (if not all) of these men desire to become fathers one day

[21] The multivariate analysis produced slightly different findings; see below.

and expect that that role will provide a great deal of fulfillment for them. They cherish children and find them to be a blessing. Third, there was a clear belief among the men that pregnancies are difficult to plan. It is not always possible to prevent a pregnancy from happening, even if you try to (which the men did not always try to do anyway). None of the men who were already fathers spoke of planning their pregnancies and births. And finally, while the young men recognized in theory that they had an equal role in causing and therefore preventing pregnancy, most still put the onus of pregnancy prevention and contraception on their female sexual partners. If she did not ask him to put on a condom, he was not going to put on a condom. After all, she is the one who would end up pregnant – not him. These four factors added together create a recipe for an increased risk of experiencing an unintended pregnancy or birth for these men. The men evidenced a high sense of procreative consciousness (focus on sexuality, desire to become fatherhood) but a relatively lower sense of procreative responsibility (lack of contraceptive use, belief that pregnancies are hard to plan). Overall, the results from this analysis suggest that different manifestations of PC and PR in can contribute to the disparities we see in UIB rates.

How much do differences in the concepts of procreative consciousness and procreative responsibility explain differences in unintended pregnancy rates among different demographic groups?

Once again, the NSFG data helped me to answer this question. As stated earlier, I hypothesized that a man's PC and PR may mediate the relationship between his sociodemographic profile and his risk for fathering an unintended birth. While the bivariate associations showed us demographic measures were significantly correlated with measures of PC and PR and in turn and PC and PR were significantly correlated

with the likelihood of having experienced an unintended birth, the relationships were tempered when I accounted for other factors. The final models allowed me to control for all of the other predictor variables simultaneously, which provides the clearest picture of the true relationship between all three categories of variables. Most relationships lost their statistical significance in the full model. The final model demonstrates that only a handful of PC and PR variables significantly influence the odds that a man has experienced an UIB, after controlling for sociodemographic variables (see Table 3.12 for an easy reference): how would the respondent feel if he impregnated his current partner (happier responses correlate with a lower odds of having an unintended birth), the respondent's belief that it is better if the man earns the main living in a household (agreement correlates with a lower odds ratio), the number of children the respondent has ever fathered (more children correlates with a higher odds ratio), the number of opposite sex partners the respondent has had in his lifetime (more partners correlates with a higher odds ratio), whether the respondent has children living at home (a positive response correlates with a lower odds ratio), and whether the respondent used a female method of contraception at his last sexual encounter (a positive response correlates with a higher odds ratio). The directions of the effects were not always in the expected direction; a higher sense of procreative consciousness and a lower sense of procreative responsibility did not always correlate with a higher odds ratio of having experienced an unintended birth in the last five years. It is difficult, then, to make a general statement regarding *how* a man's PC and PR affect his risk of UIB. At this point I can only conclude with certainty that they do have an impact or are correlated with unintended birth.

What is perhaps more important than the relationship seen between PC, PR, and UIB is the relationship that the measures of social determinants had with UIB. Several of the social determinant measures maintained their significance in the full model, even after accounting for all 22 PC and PR measures: marital status (married men have a lower odds of having experienced an unintended birth), age (older men have a lower odds), and educational attainment (more educated individuals had a higher odds) still had a statistically significant effect on one's odds of having experienced an unintended birth in the last five years, even after controlling for all of the PC and PR measures. Overall, then, there are several aspects of a man's procreative identity that do predict his likelihood of experiencing an unintended birth but in general they do not mediate the relationship between demographic characteristics and one's risk of having an unintended birth. While being Catholic lost its statistically significantly protective effect, marital status, age, and educational attainment did not[22]. Plus, marital status and age demonstrate the strongest relationships with UIB of any of the variables in the model[23]. And educational attainment increases a man's odds of fathering an UIB more than any other measure except the type of contraception he used at last sex. Therefore a man's PC and PR matter, but it is still a man's position in society that matters *most* when talking about his probability of fathering an unintended birth.

The fact that race and poverty status did not statistically significantly impact men's probability of fathering an unintended birth deserves further examination. For so

[22] However, the addition of the procreative consciousness and procreative responsibility measures did alter or temper the relationships between the social determinants and UIB. For instance, in the first model the odds ratio of experiencing an UIB for married men was 0.378 when compared to never married men. When the PC and PR measures were added in, the odds ratio increased to 0.437, therefore lessening the effect of marital status. However, as stated, the relationships retained their statistical significance.
[23] According to these variables' p-values, which are both 0.000.

long the discussion on preventing unintended or unplanned pregnancies has focused squarely on lower-income, disadvantaged, men and women of color. And in fact, if we do not take into account other factors (such as age, marital status, religion, and education), these groups do evidence a higher proportion of pregnancies and births that are unintended (Finer and Henshaw 2006a). In my bivariate analyses, this is indeed what I found. When I looked at the group of black men as a whole, they demonstrate the highest proportion of births that are unintended (55.1%) compared to all other racial groups. However, it is foolish to conclude that these men (or poor men) have a particularly difficult time in planning their pregnancies or births compared to other groups of men without accounting for the other factors that have known association with unintended pregnancy and birth. We see that once we account for age, marital status, educational attainment, and religion that black men actual demonstrate a *lower* likelihood of fathering an UIB than white men (although this relationship is not statistically significant). This is similar for men at higher poverty levels. The bivariate associations demonstrate that men at the 0-99% poverty line have the greatest proportion of births that are unintended (53.6%) compared to men at other poverty levels. Once the other social determinants are accounted for, though, there is no significant difference in likelihood of fathering an UIB based on poverty level. Public health, medical, and sociological researchers need to be more careful in interpreting their findings and making sure that their focus is targeted appropriately on groups that *do* have the most difficulty in having unintended births: young, unmarried men of *all* racial and sociodemographic backgrounds.

How do men's senses of procreative consciousness and procreative responsibility affect unintended pregnancy rates?

This was my overall research question and perhaps could be asked in a more direct way: how do men contribute to the strikingly high proportion of unintended pregnancies in this country? My quantitative analyses demonstrate that, just as with their female counterparts, a man's social status is still likely one of the most important and powerful predictors of his risk of fathering an unintended pregnancy/birth. Being married and being older, for instance, protect a man from fathering an unintended birth. However, we should not discount men's procreative identities here; it is clear that some aspects of PC and PR are important in predicting a man's risk of fathering an UIB, over and above his socio-structural place in society. In particular, we see that men who have already fathered one or several children are at an increased risk for subsequently experiencing an UIB, men who have an active sexual life and numerous partners (perhaps hinting at the importance of virility or sexual prowess in his life) have an increased risk for having experienced an UIB, and the use of particular forms of contraception during sex differentially affect a man's risk of UIB. All of these factors matter; there was just not a clear path leading through a man's demographic profile to his PC-PR profile to his risk for fathering an unintended birth. These findings point to the notion that men's values, beliefs, and attitudes surrounding procreation should be considered when assessing their risk for UIB but that they are clearly not the only not the only factors that matter.

Strengths

There are several strengths to my work. First, a mixed methodology approach provides a unique level of depth to any research project. As outlined by Leeuw and

Vaessen (2009), a combination of methods can be used to assess different facets of complex issues, "yielding a broader, richer portrait than one method alone can" (p. 37). Each methodology brings its own advantages and disadvantages; by combining methodologies, I am able to play up the advantages while compensating for the disadvantages. For example, purely quantitative studies are often criticized for their lack of depth; my work with the PHRESH transcripts helped to make up for any lack of depth seen in the NSFG analyses. For example, in the NSFG we can only see what proportion of American men are fathers; in PHRESH we are able to see what fatherhood means to the men. On the other hand, qualitative methods can be criticized for their lack of representativeness; as the NSFG is a nationally representative survey, I was able to provide estimates and odds ratios that can apply to the population of American men. Using more than one method allows me to "triangulate" the issue and look at it from multiple viewpoints (Mikkelsen 2005). Therefore, I was able to examine how common different procreative consciousness and procreative consciousness profiles are in the population as well as how these different profiles manifest themselves in men's everyday lives. Similar to other projects (e.g. Chow, Quine, and Li 2010; Creswell, Fetters, and Ivankova 2004), my study's use of both quantitative and qualitative methods increased the comprehensiveness of overall findings by showing how the findings from the quantitative data (NSFG) manifested itself in real-life situations in the focus groups (PHRESH). Second, it expanded the dimensions of the research topic, as the qualitative work permitted investigation of the concepts of PC and PR more broadly after empirically operationalizing the concepts with the NSFG data. Third, it increased the methodological rigor as findings in both parts of my study could be checked for

consistency. In other words, the validity of my study is increased when both methodologies produce similar findings. And they do: men's values, attitudes, and behaviors matter in unintended birth.

Alongside the benefits of a mixed methods approach overall, each component portion has its own advantages. As the quantitative portion of my project relied on data collected as part of the National Survey of Family Growth, I am able to report on the quality of that data system. The data are drawn from interviews with a large national sample of men (in the 2006-2010 cycle, 10,403 men were interviewed), selected by rigorous probability sampling methods. Plus, the response rate for men was 75% - generally considered to be very high – suggesting that good representativeness was achieved. Thus, the estimates provided in this dissertation can be generalized to the non-institutionalized population of men aged 15–44. The quality of the NSFG data is judged to be excellent. I was also able to use the most recent data provided by the NSFG: the 2006-2010 sample. My research provides the most up-to-date estimates of issues surrounding unintended birth. Finally, the NSFG is the largest survey covering issues of sex, contraception, and pregnancy, and one of the few to include men in their sampling.

The focus group transcripts used from the PHRESH project allow us to hear the men describe issues related to procreative consciousness, procreative responsibility, and pregnancy planning in their own words – not in the words of an interviewer or the words on a survey[24]. Focus groups or interviews allow respondents more time and latitude to fully describe their thoughts and experiences and do not limit them to a choice of four or

[24] It bears repeating that the men in the PHRESH focus groups were not asked directly about procreative consciousness and procreative responsibility; I simply used this as a guiding framework to code their discussions of sex, contraceptives, pregnancy, and child-rearing.

five response options. Plus, focus groups allow respondents to talk to one another, piggy-back on another's response, or question one's representation of culture (e.g. culture of their community, culture of being young and a minority, etc.). For this particular project, the choice of using the PHRESH group as a sample affords us the opportunity to get an in-depth look on a group of young men who have demonstrated a particularly high rate of UIB. Thus, this qualitative work provided a nice supplement to the NSFG analyses.

Implications and Areas for Future Research

The results of both the quantitative and qualitative analyses have implications for the usefulness of the concepts of PR and PC. It is clear from the PHRESH analysis that men express facets of PC and PR when discussing their reproductive lives and the work with the NSFG shows that certain aspects of PC and PR have a real impact on the risk of unintended birth. However, as mentioned previously, the concepts up to this point have been measured and represented imperfectly in surveys. A mixed method, two-step approach may aid in clarifying the meaning of the concepts as well as the improving their measurement in surveys. Targeted interviews and focus groups with different groups of men (e.g. older men, married men, white men) will help to clarify which aspects of PC and PR are most salient to men, how the concepts manifest themselves in the everyday lives of men, the consequences of different manifestations, and whether PC and PR are universal concepts or whether they vary based on contextual circumstances. It is possible that men living in different socioeconomic contexts, for instance, will have a different understanding of their procreative identities and their impact on UIB. Once this work has been done, we can create measures to add to already-existing surveys to use in wider settings with more men, which would allow us to correlate the measures with different

outcomes that are related to unintended birth. It is possible that men's senses of PC and PR impact myriad aspects of their lives (e.g. contraceptive usage, enacting of the fatherhood role, career trajectory, political ideologies, etc.). At this point we can only conclude that certain aspects of a man's procreative consciousness and procreative responsibility (e.g. how many children he has, how many sexual partners he has had, what form of contraception he most recently use) impact his likelihood out of fathering an UIB but that his position in society still may be the *most* important determinant of his risk.

It is clear that unintended pregnancy and birth is a problem faced by many men; men (and women) continue to have difficulty controlling their fertility. However, we must question and push men on the issue of wanting to avoid pregnancy yet often leaving contraceptive decision-making and responsibility in their partners' hands. We need more data – both survey and interview – to determine why and how men choose to use or not use contraception. Thanks to Zabin (1999), Lifflander et al. (2007), and others, we know why women are sometimes inconsistent contraceptive users (e.g. feelings of lack of self-efficacy regarding contraceptives, ambivalence about becoming pregnant, dislike of particular methods, etc.) but we do not have the parallel information for men. Additionally, we have substantial information from women on knowledge of conception risk in unprotected intercourse, perceptions of fertility, contraceptive negotiating skills, opportunity costs of births, and potential benefits of childbearing and rearing, we do not have that same data on men (Montgomery 1996). All of this speaks to the fact that researchers have almost exclusively targeted women (with good reason, of course) in the research agenda on unintended pregnancy and birth.

In addition to the gender bias in research on UIP and UIB, there has also been a noticeable age bias. As noted by Gaydos and colleagues (2006), virtually all programming and most research conducted in the United States on the issue of unintended pregnancy and birth focuses on teenagers, despite the fact that rates of teen pregnancy have dropped in recent years and despite the fact that most individuals at risk are over the age of 20 (Mosher, Martinez, Chandra, Abma, and Willson 2004a; Mosher and Jones 2010; Mosher, Jones, and Abma 2012). Teenagers comprise only a small fraction of all unintended births. It is clear from my work as well as others' that adults in the 20s, 30s, and beyond continue to have a difficult time controlling their fertility and planning their pregnancies and births; it is time that the focus expands to include those outside of their teenage years.

As mentioned in chapters 3 and 4, the usefulness of the concept of pregnancy intendedness should continue to be challenged. As suggested by Kramer and colleagues (2006), "readiness" may actually be a better indicator for determining an individual or couple's true feeling about a particular pregnancy and birth and thus the consequences that each pregnancy/birth will have on the individuals. Readiness can capture objective indicators such as marital/relationship status, contraceptive usage, and concordance between partners on intention status. Continued qualitative research with disadvantaged populations will help us unpack the issue of whether the concepts we use to describe fertility intentions (i.e. unintended vs. intended pregnancies and births) are applicable to all groups in the US. This would allow these individuals, couples, and groups to define for themselves their ideas about pregnancy planning and child-bearing. Relatedly, we still know very little about the physical, emotional, and financial impact of having an

unintended birth on men. If there are few consequences for men of going through with an unintended pregnancy, is the distinction even important? With over 41% of men who have had at least one birth within the last five years having an unintended birth, this is clearly a widespread phenomenon that deserves to have more research into the consequences.

In addition to an expanded research agenda, the results of this study also speak to the need to make contraceptives more easily accessible, especially to the uninsured and economically disadvantaged. We saw the unfortunate attempts to decrease public funding to non-profit women's health clinics (e.g. Planned Parenthood) which may make it harder for some groups to access preventive health services including contraception. However, it is possible that the Affordable Care Act with its mandate that contraceptives be universally covered under private health insurance plans and its offer to states to increase Medicaid coverage to those living at 133% of the poverty level, will allow lower-income men and women to make up this loss. Studies have demonstrated that community family planning clinics promote effective contraception among community members (e.g.Grady, Klepinger, and Billy 1993). Therefore, it is important for people of child-bearing age to be aware of community planning clinics, among other options, and to know how to access their services. While providing easy access to contraceptives seems to be a controversial issue in some political circles, it is important to balance the implied controversy with the incontrovertible evidence that preventing pregnancy is more cost-effective than paying to raise the child of an unintended birth, especially if that child will require government funds for income support (Frost, Henshaw, and Sonfield 2010).

Conclusion

In conclusion, my project demonstrates that men do have a role to play in unintended pregnancy and birth. Their sociodemographic background as well as some of their procreative beliefs, values, and attitudes impact the likelihood that they will experience an unintended birth at some point in their lives. It is high time that researchers and policymakers, when addressing the problem of unintended pregnancy, expand their focus to include the other 50% of the population. Men do matter and perhaps by bringing them into the conversation regarding pregnancy planning and making them feel more responsible for reproduction, we can decrease the proportion of births in the US that are unintended.

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Appendix: Listing of Procreative Consciousness and Procreative Responsibility Variables found in the National Survey of Family Growth Dataset

Procreative Consciousness Attitudinal Variables

- How respondent would feel if he got a female pregnant now (REACTSLF)
- Respondent's intentions for additional births (INTENT)
- Central number of additional births expected by respondent (ADDEXP)
- Respondent's belief that people can't be really happy unless they have children (CHUNLESS)
- Respondent's belief that the rewards of being a parent are worth it despite cost (CHREWARD)
- Respondent's belief that it is better if man earns main living and woman cares for family (ACHIEVE)
- Respondent's belief that it is more important for a man to spend time with his family than have a successful career (FAMILY)

Procreative Consciousness Behavioral Variables

- Number of female sexual partners in respondent's lifetime (LIFPRTNR)
- Number of female sex partners in last 12 months (MON12PRTS)
- Number of times had sex with female in last four weeks (SEXFREQ)
- Respondent's age at first intercourse (FSTSEXAGE)
- Total number of pregnancies (that respondent was involved in) collected throughout interview (TOTPREGS_C)
- Number of biological children respondent has ever fathered (EVRCHILN)
- Whether respondent has children (18 or younger) living in the household (HHKIDTYP)
- Whether respondent has ever had pregnancy ending in miscarriage/stillbirth/abortion (OTPREG)
- Whether respondent's wife/partner is currently pregnant with respondent's child (CWPPRGNW)
- Whether respondent and his wife/partner are currently trying to get pregnant (CWPTRYPG)

Procreative Responsibility Attitudinal Variables

- Respondent's belief that it would be embarrassing to talk about condoms with a new partner (EMBARRAS)
- Respondent's belief that using condoms during sex is less pleasurable (LESSPLSR)

Procreative Responsibility Behavioral Variables

- Contraceptive method use at first sexual intercourse (SEX1MTHD1)
- Contraceptive method used at last sexual intercourse ever (LSEXUSE1)
- Number of times respondent used a condom during sex with a female in last four weeks (CONFREQ)