Sexual Satisfaction and Pregnancy Intentions among Married and Cohabiting Women in the U.S.: Variations by Race and Ethnicity

Larry Gibbs

University of Nebraska-Lincoln

Stacy Tiemeyer

University of Nebraska-Lincoln

Julia McQuillan

University of Nebraska-Lincoln

Arthur L. Greil

Alfred University

Karina Shreffler

Okalahoma State University

Paper for the Population Association of American

2015 in San Diego, CA

This study was supported by a grant from NICHD [R01-HD044144 "Infertility: Pathways and Psychosocial Outcomes" (Lynn White and David Johnson, Co-PIs)].

Sexual Satisfaction and Pregnancy Intentions among Married and Cohabiting Women in the U.S.: Variations by Race and Ethnicity

Abstract

Changes in union formation patterns in the United States suggest that on many indices, cohabitors are now more marriage-like than in prior decades. Having sex and children occurs in cohabiting and married relationships, yet the implications for differences in sexual satisfaction are unclear. Further, little is known about sexual satisfaction and race/ethnicity variations. Guided by the Social-Cognitive model of fertility intentions, we analyze data from the 2,828 cohabiting and married women in the U.S. National Survey of Fertility Barriers, we explore the relationships between union statuses, pregnancy intentions, sexual satisfaction and variations by race/ethnicity. Results indicate that white cohabiting and married Hispanic women report higher levels of sexual satisfaction after adjusting for relationship quality and social support. Union status matters very little for predicting sexual satisfaction among Black women. Pregnancy intention status does not predict sexual satisfaction for married women, however, cohabiting women trying to get pregnant report higher levels of sexual satisfaction compared to cohabiting women who are sterile or avoiding pregnancy.

Key Words

Sexual Satisfaction, Pregnancy Attitudes, Race/ethnicity, Health Disparities

Introduction

In spite of dramatic changes in the practices and norms associated with non-marital sex, pregnancies and cohabitation, sexual satisfaction in non-marital unions remains an understudied area. Indeed, even with many relationship similarities between cohabiting and married women in the United States (Sweeney 2010), there is still a strong sense that marriage is the normative context for having children and sexual relationships (Cherlin 2010; DeMaris and Rao 1992; Gerson 2010; Laumann et al. 1994; Thornton, Axinn, and Xie 2007; Waite and Joyner 2001; Forste and Tanfer 1996). For non-sterile women, sex occurs with the risk of pregnancy. For women who are trying to or okay with pregnancy, there should be little anxiety associated with sex. Yet for women who are trying not to conceive, anxiety about the risk of pregnancy could inhibit sexual satisfaction, particularly for women who are not married. We know of no prior studies on the association of pregnancy intentions and sexual satisfaction by relationship type. Knowing if there is an association between pregnancy intention and sexual satisfaction is useful, particularly in the current social context in which reliable birth control exists yet about 50% of pregnancies are unintended (Sawhill 2014). In addition, rates of childbearing within marriage vary by race/ethnicity (Burton and Tucker 2009). Wider disparities in health by race/ethnicity and differential patterns of childbearing, cohabitation and marriage suggest the importance of also examining differences in sexual satisfaction by race/ethnicity. Our research seeks to fill the gap in the literature by investigating the effect of relationship status, and pregnancy intentions on sexual satisfaction and to determine is racial and ethnic variations exist.

Although sexual satisfaction plays an important role in relationship outcomes, the World Health Organization (WHO) reports that public research on sexual wellbeing has waned (see Higgins et al. 2011). Despite the importance of the topic, the declining controversy over sex outside of marriage compared to prior decades (Call et al. 1995; Christopher and Sprecher 2000; Laumann et al. 1994), and trends towards decoupling of marriage, sex, and childbearing (Furstenberg 2013) have led to fewer studies on sexuality. There are many reasons to study variations in sexual satisfaction among contemporary heterosexual cohabiting and married women. For example, the growth of cohabitation in the United States over the last two decades (Manning 2013), delays in the age at first birth (U.S. Census Bureau 2011), differences in the importance of motherhood among U.S. women (McQuillan et al. 2011), and evidence of an uneven gender revolution among heterosexual couples (England 2010) shape the context of sex in marital and non-marital unions.

Presently, little is known about the correlates of sexual satisfaction in non-marital cohabiting unions and whether or not correlates of sexual satisfaction in marriages are similar to those in cohabiting relationships. Because most pregnancies still result from sex, it is also possible that pregnancy attitudes are associated with sexual satisfaction. Pregnancy intentions tend to differ between cohabiting and married women, which may explain differences in sexual satisfaction. There are considerable differences in patterns of cohabiting, marrying and having children by race/ethnicity in the United States. Therefore, we also explore if patterns of sexual satisfaction also vary by race/ethnicity. For this study, we use the National Survey of Fertility Barriers (NSFB) to explore levels of sexual satisfaction among heterosexual U.S. women ages 25-45 by union status (cohabiting and married), race/ethnicity, adjusted for covariates indicated by prior research.

Theoretical Framework

We extend the *Cognitive-Social Model of Fertility Intentions* (Bachrach and Morgan 2013) to the association of union status, pregnancy attitudes and race/ethnicity on sexual satisfaction. Because sex can have different meanings, and therefore different implications for pleasure, we use pregnancy intention as a proxy for the reason for sex. Women having sex because they are trying to get pregnant could either see their relationship as good enough for a child and therefore have higher sexual satisfaction, or see sex as less about pleasure and more

about procreation and therefore have lower sexual satisfaction. Presumably, women who are trying not to get pregnant are concerned about an unplanned pregnancy and may have less sexual satisfaction than women trying to or okay either way about conception. Yet having sex while seeking to avoid pregnancy suggests that pleasure and intimacy are larger motives than procreation. If women who say that they are "okay either way" about pregnancy truly are ambivalent about whether or not they become pregnant, and if pregnancy attitudes shapes the experience of sex, then they should be the most satisfied because they have no worries about the potential pregnancy outcome of sex either way. Bachrach and Morgan (2013) highlight the importance of capturing social context (e.g. union status: cohabiting or married) cognitive schemas (e.g. sex for pleasure, sex for procreation) for understanding demographic outcomes. We use the cognitive-social model of fertility intentions to also understand sexual satisfaction.

Evidence of the convergence between cohabiting and married women on many indicators suggests that sexual satisfaction may also be similar (Brown 2005; Smock and Manning 2004; Sweeney 2010). Research suggests that the rates of intended pregnancy among cohabiting women reflect the institutionalization of cohabitation as a family structure (Musick 2006). There are still average differences between cohabiting and married women, however, that could be relevant for explaining any apparent differences in sexual satisfaction. We focus on pregnancy intentions and race/ethnicity as key differences between cohabiting and married women that could explain differences in sexual satisfaction.

Relationship Quality, Union Status and Race/Ethnicity

Previous research indicates that being married is associated with higher levels of intimate relationship qualities relative to cohabitation or being single (Brown 2000; Horwitz and White 1998; Kurdek 1991). Three perspectives account for these differences. The selection argument asserts that well-adjusted people compared to poorly adjusted people are more likely to get married. Marriage is positively associated with wellbeing as well as mental health outcomes (Horwitz, White and Howell-White 1996; Kim and McHenry, 2002; Waite 1995; Willams 2003).

A second perspective argues that differences in wellbeing among married and cohabiting women are based on social support and social integration. The core of this framework suggests individuals who have a network of support and help from others are more likely to have higher levels of life satisfaction (House, Umberson and Landis 1988). Specific to relationship status, the social support and integration framework suggests that marriage relative to cohabitation provides higher levels of relationship wellbeing due to the social support provided by spouses and the satisfaction gained from being in a long-term, committed relationship (Umberson, Chen, House, Hopkins and Slaten 1996). Because more cohabiting relationships seem to be alternatives to marriage, it is possible that longer term, committed cohabiting relationships will also provide higher social support.

Structural symbolic interactionism forms the basis for the third perspective which focuses on the view of self (Stryker and Burke 2002; Stryker and Statham 1985). The views of self are based on several roles, for example, spouse, partner, and friend. These roles are then organized in terms of hierarchy with high roles associated with stronger or core identities compared to lower roles. The values of the individual's particular identity will determine the level of commitment affixed to it. The perceived benefits and costs of social relationships are also related to the individual's particular identity. Therefore, based on this perspective, married individuals experience a strong sense of identity and value relative to cohabiting individuals. Further, marriage implies individuals are in committed role relationship versus cohabitation which views individuals in less committed role relationship. Family scholars also argue that while cohabitation is considered normative, it remains an incomplete institution as roles and expectations for partners are vaguely defined and shared (Cherlin

2004; Nock 1995). The constant negotiation of roles within cohabiting relationships leads to a general undermining of overall relationship quality (Brown and Bulanda 2008; Halpern-Meekin et al 2013; Nock 1995).

Relationship type often has different implications for Black and White women. For example, compared to White women, Black women are less likely to marry (Rinelli and Brown 2010) and are more likely to divorce (Cherlin 1998; Teachman 2004). Hispanic women, however, tend to be similar to White women in cohabiting and marital relationships. Cohabitation is more common among Black compared to White and Hispanic women (Copen et al. 2012). Raley and colleagues (2004) find that Hispanics have higher rates of marriage, more positive attitudes towards marriage, and lower likelihood of divorce compared to Black women. White women have higher average marital quality than Black women (Trent and South 2003). The trends in cohabitation and marriage by race/ethnicity are associated with socio-cultural and economic factors. For example, higher rates of mass incarceration among Black men limits the likelihood of marriage for Black women because of race/ethnicity marital homogamy (Wilson and Neckerman 1987). There is also evidence that among lower income Black and Hispanic women there is more acceptance of childbearing in cohabiting unions (Edin and Kefalas 2005). Even with socioeconomic disadvantages, there is a high emphasis on marriage among Hispanic women (Oropesa et al. 1994, Raley et al. 2004).

Measuring Sexual Satisfaction

Sexual satisfaction is associated with higher wellbeing and higher relationship stability. (Dundon and Rellini 2010; Henderson-King and Veroff 1994; Scott, Sandberg, Harper and Miller 2012; Sprecher 2002). Yet there is little consensus about how to define or conceptualize sexual satisfaction (Arrington, Cofrancesco, and Wu 2004; McClelland 2011). The lack of a standard measure of sexual satisfaction measure makes comparison of scales and findings difficult (Mark et al. 2014).

Previous studies measure sexual satisfaction mostly by frequency of sexual intercourse or orgasms (Henderson-King and Veroff 1994; Waite 1995). According to Lawrance and Byers (1992) the measurement of sexual satisfaction becomes unclear when not defined explicitly as a construct. Lawrance and Byers (1992) further suggest that sexual satisfaction, by definition, should incorporate evaluative (e.g. success) and affective (e.g. happiness) components. Earlier measures of sexual satisfaction are flawed due to the predictor-criterion overlap which examines constructs that not only predict but also are predicted by sexual satisfaction (e.g. sexual function, sexual frequency) (Mark et al. 2014).

There are studies that measure sexual satisfaction using more direct approaches, for example, self-reports. There are also measures that focus on emotional and physical dimensions of satisfaction, plus impacts on relationship quality (Christopher and Sprecher 2000; Waite and Joyner 2001). Another set of measures explore the positive and negative dimensions of sexual satisfaction (McClelland 2011). Bancroft, Loftus and Long (2003) argue that more objective measures of sexual problems (e.g., painful intercourse and lubrication difficulty) should not be compared to more subjective reports of dissatisfaction. Some studies use a composite measure of sexual satisfaction (Higgins et al. 2011; Lui 2003), but a challenge with composite measures involves combining unidimensional and bidimensional measures of sexual satisfaction (Mark et al. 2014). A study using the NSFB included a single item about sexual satisfaction into a general scale of relationship satisfaction (McQuillan, Greil and Shreffler 2011).

Sexual Satisfaction among Married and Cohabiting Individuals

Compared to cohabitation, marriage seems to provide a protective health effect, particularly for men (Waite and Gallagher 2000, 2001). Yet the marriage advantage over cohabitation depends upon relationship quality (Umberson et al. 2003). Sexual satisfaction could contribute to and/or reflect relationship quality

(Laumman et al 1994). Indeed, sexual satisfaction has been shown to be associated with individual's well-being, stability and longevity of marital and cohabiting relationships (Yucel and Gassanov 2010; Henderson-King and Veroff 1994; Sprecher, Christopher and Cate 2006; Yeh et al. 2006).

The landmark study by Laumann and colleagues (1994) indicated that individuals in martial unions are more sexually satisfied relative to the cohabiting and single counterparts. In follow-up research, Waite and Joyner (2001) find that increased sexual satisfaction is associated with emotional satisfaction and that this association differs between cohabiting and married women. Other studies provide clinical evidence that some couples can have strong relationship quality but low sexual satisfaction, and vice versa (Birnbaum et al. 2006; Edwards and Booth, 1994). Butzer and Campbell (2008) suggest that the association between marital relationship quality and sexual satisfaction may vary in strength for some people more than others.

Sexuality research also provides evidence of desired and actual frequency of sex by union status. Smith and colleagues (2011) find that dating and married couples share similar desired frequency of sex. Other studies, however, indicate that married couples have sex less often than dating or cohabiting couples (Call, Sprecher and Schwartz, 1995; Yabiku and Gager, 2009). According to Willoughby, Farero and Busby (2013), this difference in sexual frequency is less related to union status and more to a normal decline in sexual frequency overtime. Patterns of sexual behavior may also have different effects on union stability. Lower sexual frequency is associated with increased likelihood of union dissolution more for cohabiting than married couples (Yabiku and Gager, 2009). Additionally, married couples have higher physical sexual satisfaction than cohabiting or dating couples (Waite, 1995). Overall, there is evidence that sexual satisfaction is associated with overall relationship satisfaction and individual well-being, but that associations depend upon relationship type and race/ethnicity.

Measuring Pregnancy Intentions

Because we explore the association between pregnancy intentions and sexual satisfaction, we summarize measures of pregnancy intentions.

The high rate of unintended pregnancies (49% of all births) in the US (Finer and Zolna 2011) continues to pose serious public and social health concerns in the United States. There is concern, however, that measures of pregnancy intentions are biased towards the experiences of higher reproductive control among higher socioeconomic status women (Bell 2014). To better understand the problem of unintended fertility, there is more focus on defining and measuring fertility intentions (pregnancy intentions), (Guzzo and Hayford 2014; McQuillan, Greil and Shreffler 2011).

Based on the foundational work by Trussell, Vaughan and Standford (1999), research examining pregnancy intentions has increased. Trussel et al (1999) reveal inconsistencies in reported pregnancy intentions as well as contraceptive use prior to pregnancy and feelings about a pregnancy. Recent examinations of pregnancy intentions produce a dichotomous classification of either intended/unintended or planned/unplanned pregnancies (Finer and Henshaw 2006; Hayford and Guzzo 2010; Musick 2002; Santelli, Lindberg, Orr, et al. 2009). Both retrospective and prospective measures have been used to evaluate pregnancy intentions. The former measure takes account of motivations and attitudes at the time of conception and the latter considers attitudes toward pregnancy (Yoo, Guzzo and Hayford 2014).

The dichotomous typology of pregnancies (i.e. intended and unintended) continues to remain as the *modus operandi* within fertility research, however, the approach has important limits. Evidence suggests that this measure does not capture the totality of women's lived experience (Bell 2014; Greil and McQuillan 2010; Hagewen and Morgan 2005; Speizer, Santelli, Afable-Munsuz and Kendall 2004). Women who are unsure

about pregnancy could either be in a transition period between intentions (Lifflander, Gaydos and Rowland Hogue 2007) or are less intentional regarding their fertility (McQuillan, Greil and Shreffler 2011). Alternatively, ambivalence toward pregnancy can explain why some women insist that they do not want to get pregnant but at the same time they are inconsistent contraceptive users (Yoo, Guzzo, Hayford 2014; Zabin 1999). More recently, researchers using National Survey of Fertility Growth (NSFG) data have begun using a four category measure of pregnancy intentions using data (Intended, Unintended, Mistimed < 2 years, Mistimed 2+ years), yet the measure still may not capture the experiences of women who do not intend to or intend to avoid pregnancy (Kost and Lindberg 2015).

New studies have emerged using prospective measures to explore the incongruity of pregnancy intentions by creating neutral or midpoint responses based on scaled questions (Bruckner, Martin and Bearman 2004; McQuillan, Greil and Shreffer 2011; Zabin, Astone and Emerson 1993). Our research is situated in this new body of work. Specifically, we measure pregnancy intentions based on categorization employed by McQuillan and colleagues (2011), that is, "trying to", "not trying to" (avoiding) and "okay either way". For this research we also include an additional category for sterile women. We suggest that women who are "trying to" may view sex as more about procreation than pleasure. We argue that women who are "trying not to" may be concerned about pregnancy and therefore have less sexual pleasure. We view women who are "okay either way" as most free to have sexual pleasure without concern about pregnancy. Findings are mixed as it concerns the association between sterilization and sexual satisfaction. Research reveal that, post-sterilization, women experience changes in sexual pleasure which for the most part improve sexual satisfaction (Costello et al. 2002). In contrast, women who undergo tubal ligation are more likely to report stress interfering with sex (Warehime, Bass and Pedulla 2007) which may lead to lower sexual satisfaction.

Sexual and Contraceptive Behaviors and Outcomes and Race/Ethnicity

There are racial and ethnic disparities in sexual and contraceptive behaviors of adults in the United States. These differences have been studied from a life course perspective, with emphasis on life experiences as predictors of subsequent behavioral outcomes (Elder, 1994). Compared to White women, Black and Hispanic women report earlier age of first sex and a higher proportion of sexual-risk taking behaviors (Manlove, Ikramullah, Mincieli, Holcombe and Danish 2009). Among Black and Hispanic compared to White women, sexual information and sexual norms are spread more through informal social networks than provided by health professionals (Yee and Simon 2010).

There are also race/ethnicity variations in rates of contraceptive use (Finer and Zolna 2011; Martinez, Copen and Abma 2011). Black and Hispanic women at risk of unintended pregnancy are less likely to use contraception compared to White women (Frost, Singh and Finer 2007; Mosher et al. 2012). The use of the most effective contraception also differs by race/ethnicity. Black and Hispanic women relative to white women, are more likely to use condoms for birth control than more highly effective contraception (Jones et al. 2012). Black women are the least likely to use effective contraception (Jacobs and Stanfors 2013). Hispanic and Black women are more likely than White women to discontinue or use inconsistently use contraception (Kost, Singh, Vaughn, Trussell and Bankole 2008).

Permanent childlessness is rare in the US across all ethnic groups (US Census 2010), yet more women are choosing not have children than in prior decades (Gillespie 2003). Hispanic women are less likely than Black or White women to be permanently childless (US Census 2010). Women also vary by when they have their first child. Based on NSFG 2006-2010 data almost 14% of white women had a child before their twentieth birthday compared to 30% and 33% of Hispanic and black women (Sweeney and Raley 2014).

Racial and ethnic differences in births are magnified when unintended pregnancies and births are considered. Black and Hispanic women are much more likely than White women to experience an unintended pregnancy (Cohen 2008; Finer and Henshaw 2006; Finer and Zolna 2011). Specifically, Black women are more likely to have unintended births (54%) compared to Hispanic women (43%) and white women (31%), (Mosher et al. 2012). Ethnic minority women are also more likely to have subsequent unintended births compared to white women (Wildsmith et al. 2010).

In some studies race/ethnicity is (Henderson-King and Veroff 1994), and in other studies it is not (Christopher and Sprecher 2000), associated with sexual satisfaction. Henderson-King and Veroff (1994) find that Black women have higher sexual pleasure than White women, but others find that white women have higher sexual satisfaction than Black women (Carpenter, Nathanson and Kim 2009; McCall-Hosenfeld et. al. 2008).

Correlates of Sexual Satisfaction

Prior research suggests several variables that are associated with sexual satisfaction could also be associated with pregnancy intentions and race/ethnicity, and therefore could explain the apparent direct associations. We therefore include several control variables in the analyses. *Relationship quality* is a key correlate of sexual satisfaction; overall higher quality marital relationships are associated with higher sexual satisfaction in relationships (Byers 2005; Sprecher 2002). Longer relationships (measured by the *length of the relationship)*, however, are associated with lower sexual satisfaction (Laumann et al. 1994; Rainer and Smith 2012). Women who have had other sexual partners have a comparison referent for sexual satisfaction and therefore may have higher or lower satisfaction. Yet studies of married couples do not report an association *between previous union history* and sexual satisfaction (Yucel and Gassanov 2010). Higher level of *well-being* is also associated with increased sexual satisfaction (Dundon and Rellini 2010). Prior research does not provide a consistent association between *religiosity* and sexual satisfaction. Davidson, Darling and Norton (1995) find no association between religious practice and sexual satisfaction. A study of white men and women found that religiosity was associated with lower sexual satisfaction (Higgins et al. 2010).

Higher conventional *gender roles and attitudes* are associated with higher levels of sexual satisfaction (Daniel and Bridges 2012; Pedersen and Blekesaune 2003). We know of no prior studies that have asses the association between importance of motherhood and sexual satisfaction. Yet *importance of motherhood* is associated with pregnancy attitudes ant race/ethnicity, and could therefore be a relevant control variable. *Parity* and the *presence of children* are associated with higher sexual satisfaction relative to single women (Waite and Joyner 2001). There is evidence that the association between parity and sexual satisfaction does not hold among women aged 40 or older (Fehniger et al. 2013). Women who have recently given birth (i.e. the postpartum period) tend to have lower sexual satisfaction (De Judicibus and MaCabe 2002; von Sydow 1999). Higher *age* is associated with lower sexual satisfaction (Edwards and Booth 1994, Laumann et. al. 1994); this associated has been attributed to the aging process (Segraves and Segraves 1995). An alternative explanation for lower sexual satisfaction among older women is generation/cohort effects (Carpenter, Nathanson and Kim 2009).

Social status and work status/characteristics are also associated with sexual satisfaction. For example, there is evidence that higher *education* is associated with higher sexual satisfaction (Carpenter, Nathanson and Kim 2009). Based on a sample of Hong Kong Chinese population, Lau, Kim and Tsui (2003) find that work has a debilitating effect on sexual satisfaction. Among a US based population, Black women with higher incomes have lower sexual satisfaction than Black women with lower incomes (Henderson-King and Veroff 1994). Work-related stress or dissatisfaction are also associated with lower sexual satisfaction (Call, Sprecher and

Schwartz 1995). Another issue is availability for sexual activity; couples with non-overlapping work schedules have lower sexual satisfaction than couples with similar work schedules (Keith and White 1990).

Current Study

The current study provides several important contributions to understanding variations in sexual satisfaction among U.S. women of reproductive age. First, we provide a contemporary portrait of sexual satisfaction by relationship status and race/ethnicity. Second, we assess if associations between relationship type, race/ethnicity, and sexual satisfaction are moderated by women's pregnancy intentions, that is, "trying to", "not trying to" and "okay either way" about pregnancy (controlling for those who are surgically sterile).

Hypotheses

Guided by the Cognitive-Social Model of Fertility Intentions (Bachrach and Morgan 2013) and based on our review of prior research on sexual satisfaction, pregnancy intentions and race/ethnicity, we assess the following hypotheses:

H1: *Relationship type* will be associated with sexual satisfaction: married women will report higher levels of sexual satisfaction than cohabiting women.

H2: *Pregnancy intentions* (proxy for cognitive schemas) will be associated with sexual satisfaction for cohabiting and married women in the same way: women who have 'okay either way' pregnancy intentions will report higher levels of sexual satisfaction than women whose pregnancy intentions are trying to or avoiding pregnancy.

H3: *Race/ethnicity health disparities* in sexual satisfaction: married Black and Hispanic women will report lower levels sexual satisfaction than married White women; cohabiting Black and Hispanic women will report higher levels of sexual satisfaction than cohabiting White women.

H4: The association between *relationship quality* and sexual satisfaction should differ by relationship type. Married women will report higher levels of sexual satisfaction than cohabiting women.

H5: The positive association between social support and sexual satisfaction should be stronger for married than cohabiting women.

Data

The National Survey of Fertility Barriers (NSFB) is a national, population-based, random-digit-dialing (RDD) telephone survey. This publically available survey was designed to study the social and behavioral consequences of infertility. The NSFB contains measures of social and health factors related to reproductive and fertility experiences among U.S. women ages 25-45 (Johnson et al. 2009). Screening questions determined eligibility for the survey and ensured that 1/10 of women with no fertility barriers or risk of fertility barriers were selected, as well as all of the women who had or could have fertility barriers. The response rate for the screening questions was 53 percent, typical for contemporary RDD surveys (McCarty et al. 2006). Similar to other studies with modest response rates (Keeter et al. 2006), there is minimal bias in the NSFB compared to in-person surveys (e.g. the National Survey of Family Growth); the NSFB somewhat over-represents higher educated women.

The full sample includes completed interviews with 4,794 women aged 25 to 45 in the United States collected between September 2004 and January 2007. In addition to over-sampling with at risk for experiencing infertility, women from census tracks with higher proportions of racial/ethnic minority groups were also oversampled. Therefore, we use a weight variable to adjust for over-sampling. The survey used a "planned missing" design to minimize participant burden and still ask questions that measure all of the theoretically

implied concepts. Using computer programming, participants were randomly assigned to two-thirds of the scale items for each of the twenty-one scales in the survey. A subset of participants (approximately 500) were asked all of the survey items in order to "seed" the imputations and to assess the impact of the planned missing design. Because the scales were highly reliable and the data were missing completely at random, there was very little loss of information (Allison 2002). The analytical sample for the current study is restricted to the 2,828 women who are in married or cohabiting unions.

Concepts and Measures

Outcome	
Sexual Satisfaction	"Overall, how satisfied are you with your sexual relationship? Would you say very satisfied, pretty satisfied or not too satisfied?"
Focal Independent Variables	
Relationship Status (Married or Cohabiting)	Constructed from a series of questions about current relationships status and for those who were single (could be divorced, separated, or widowed) "Are you currently living with a partner?"
Race/Ethnicity	*Constructed from* two questions based on Census wording: "What race or races do you consider yourself to be?" and "Do you consider yourself to be either Hispanic or Latino or neither one?" Individuals who reported Hispanic/Latino ethnicity were classified according to coding rules that gave first priority to identification as "Hispanic" and second priority to identification as "Black." Based on this coding, dummy variables were constructed for *Black* and *Hispanic,* compared to *White,* the reference category. Those indicating "other" were eliminated from the analysis due to small cell counts.
Pregnancy Intention	"Currently, are you pregnant, trying to get pregnant, trying not to get pregnant, or are you okay either way?" Responses were coded into three dummy variables for *trying to get pregnant*, *trying not to get pregnant,* and *okay either way*. Women who were pregnant at the time of the interview, did not answer the question, or gave "other" answers were excluded. Sterilization creates a context for sex in which pregnancy is not a consideration. We measure s*terilization* using two questions, "Have you ever had a surgery that makes it difficult or impossible to have a baby?" and "Has your partner ever had a surgery that makes it difficult or impossible for him to father a baby?" where 1=yes and 0=no. The pregnancy intentions measure is comprised of the following mutually exclusive categories: sterile, avoiding pregnancy, 'okay either way' and trying to get pregnant. Trying to get pregnant is the reference category for all analyses.
Control Variables	
Relationship Quality	We combined responses from two variables to measure relationship quality: "Taking all things together, how would you describe your relationship? Would you say that it is very happy, pretty happy, or not too happy?" and "Have you ever thought your relationship might be in trouble?" (Yes or No).
Length of Co-	Participants were asked the start date of their current relationships.

residence (yrs)	This date was subtracted from the interview date to calculate the length of time in years of the current relationship.
Respondent in previous union	Women who were divorced or widowed and currently cohabiting, or women who said that they had been in a prior cohabiting relationship were coded "1" and those who had not had a prior cohabiting or marriage relationship were coded "0".
Social support	A scale constructed by taking the mean of the following items: "How often is each of the following kinds of support available to you if you need it?": "someone to give you good advice about a crisis", "someone to give you information to help you understand a situation", "someone whose advice you really want", and "someone to share your most private worries and fears with." The possible response choices were (1) often, (2) occasionally, (3) seldom, and (4) never. The higher values were coded to indicate higher levels of social support.
Wellbeing	We combined variables from three scales (life satisfaction, self-esteem, and depressive symptoms) to measure wellbeing. We coded all of the response categories so that higher values indicate higher wellbeing, and then summed the responses to form a general index of well-being. The *Life satisfaction* variables include "In most ways, my life is close to ideal;" "I am satisfied with my life;" "If I could live my life over, I would change almost nothing;" and "So far, I have gotten the important things I want in life. The *Depressive Symptoms* variables come from the modified (10-item) version of the CES-D scale (see Radloff, 1977). The *Self-esteem* variables are "I feel I do not have much to be proud of;" "I am a person of worth at least equal to others;" and "All in all, I am inclined to feel that I am a failure."
Religiosity	The *Religiosity* measure consists of four variables: "How often do you attend religious services?", "About how often do you pray?", "How close do you feel to God most of the time?", and "In general, how much would you say your religious beliefs influence your daily life?"
Importance of Leisure	"How important is having leisure to enjoy your own interests?" Responses range from (1) "Not at all important" to 4) "very important."
Importance of Career	"How important is being successful in your line of work?" Responses range from (1) "Not at all important" to 4) "very important."
Traditional Gender Attitudes	"It is much better for everyone if the man earns the main living and the woman takes care of the home and family," and "If a husband and a wife both work full-time they should share household tasks equally."
Importance of Motherhood	The importance of motherhood scale is the sum of responses to five variables. The first four were measured on Likert scales (strongly agree to strongly disagree): 1) "Having children is important to my feeling complete as a woman," 2) "I always thought I would be a parent," 3) "I think my life will be or is more fulfilling with

	children," and 4) "It is important for me to have children." A fifth item was measured on a scale from very important to not important: 5) "How important is each of the following in your life…raising children?"
Parity	A count of the number of live births that was created from a pregnancy history.
Age	Measured in years, and constructed by subtracting the date of birth from the date of the interview.
Education (yrs)	Education is measured as the number of years completed at the time of the interview.
Economic Hardship	***Perceived economic hardship*** was measured by the mean of the following three items: During the last 12 months, how often did it happen that you had trouble paying the bills? During the last 12 months, how often did it happen that you did not have enough money to buy food, clothes, or other things your household needed? During the last 12 months, how often did it happen that you did not have enough money to pay for medical care? (responses ranged from 1=never to 4 = fairly often).
Work full-time, part-time, or other work situation	***Employment status*** was measured by the question: "I'd like to know a little bit about your present job. Last week were you employed full-time, part-time, going to school, keeping house, or something else?" (indicator variables for *full time* and *part time*).

Analytic Strategy

First, we provide weighted descriptive statistics by union status and race/ethnicity to examine the distributional differences in sexual satisfaction, pregnancy intentions, and the control variables. Using the Brant (1990) technique, we determined that the parallel lines assumption did not hold for this set of variables. We next examined stereotype logistic regression and determined that all categories of all variables were distinguishable from one another (Long and Freese 2006) and that the *phi* statistics indicate that all items operated as ordinal variables. Therefore, stereotype logistic regression is the most appropriate method for this analysis of sexual satisfaction. For the multivariate analyses, we ran two sets of models. Our first set of models predicts sexual satisfaction for all women. To decompose the effects of covariates across union status, our second set of models estimate sexual satisfaction separately for married and cohabiting women. We present the results of stereotype logistic models as odds ratios being "very satisfied" with as the reference category for all models.

Results

Table 1

Table 1 presents weighted descriptive statistics of all variables by union status and race/ethnicity. Married women make up roughly 87% of the sample. Of the married women in our sample, 69% self-identify as white, 13% as black and 14% as Hispanic. Black (25%) and Hispanic (24%) make up a larger proportion of cohabiting women. Sexual satisfaction varies by union status and race/ethnicity. Among married women fewer White than Black or Hispanic women report being very satisfied. Among cohabiting women the pattern is reversed; a higher proportion of White compared to Black or Hispanic women report being very satisfied.

Surgical sterilization rates are lowest for married Hispanic women and highest for married white women and cohabiting black women. Among non-sterile married women, more Hispanic (39%) than White (33%) or

Black (26%) women were avoiding pregnancy at the time of interview. With the exception of Black women (28%), more White (41%) and Hispanic (48%) cohabiting women were avoiding pregnancy. Interestingly, the proportion of women who reported being “okay either way” about pregnancy were similar across union status groups. Few married or cohabiting women reported that they were trying to get pregnant at the time of interview (less than 10%).

Overall, relationship satisfaction is similar across racial/ethnic groups among married women. White women reported the highest level of relationship quality (1.07), followed by married Hispanic women (.99) and married Black women (.96). Both cohabiting White and Hispanic women reported similar levels (.93) of relationship quality, and cohabiting black women reported the lowest levels of relationship quality (.49). Unsurprisingly, married women reported that they have been co-residing with their partners longer than cohabiting women; likely because cohabiting relationships are more prone to dissolution (Waite and Joyner 2001). Married Hispanic women report living with their partners on average 12 years, compared to Black women (10.27 years) and White women (11.58 years). Therefore, differences in sexual satisfaction could be due to differences in the length of relationships by union status. Roughly, 23% of married White women reported living with a different partner prior to their marriage, compared to 21% of married Black women and 14% of married Hispanic women. More than half of cohabiting women reported living with a partner prior to their current union.

Religiosity differs considerably by race/ethnicity and union status. White women reported lower levels of religiosity relative to Black and Hispanic women. Cohabiting white women had the lowest level of religiosity (-.42), followed by cohabiting Hispanic women (-.25), married white women (-.04), cohabiting black women (.12), married Hispanic women (.25) and married Black women (.37). All women reported similar levels of valuing leisure, however, cohabiting white women reported the highest (3.38) and married white women reported the lowest (3.13). Hispanic women were most likely to report traditional gender attitudes, and cohabiting Black women were least likely, although on average all women had low levels of traditional gender attitudes. Cohabiting women reported lower levels of importance of motherhood compared to married women.

Within each union status groups, Hispanic women on average had more children compared to Black and White women. Married Hispanic women reported on average 2.55 children, married Black women reported 2.10 children and married White women report 1.94 children. The average age at the time of the interview was similar across groups (34 to 36 years old). On average, cohabiting women reported lower levels of education than married women. Years of education ranged from 11.7 for Hispanic women who were cohabiting to 14.2 years for White women who were married. Economic hardship also varied by union status and race. Economic hardship was lower for married than cohabiting women, and lower for White than Black or Hispanic women. Full time employment was highest among Black women and lowest among Hispanic women.

Main Analyses

Table 2 presents results from stereotype logistic regression models estimating sexual satisfaction. Model 1 includes union status as the only predictor of sexual satisfaction. Cohabiting women have lower odds of being “very satisfied” relative to married women (OR=.61, p<.05). Model 2 includes pregnancy intention status; contrary to expectations, pregnancy intentions are not associated with sexual satisfaction. In model 3, we add race/ethnicity. Compared to white women, black women have significantly lower odds of being “very satisfied” (OR=.61, P>.05). There is no significant difference between White and Hispanic women. The fourth model adds relationship variables. In this model, cohabiting women have higher odds than married women of being “very satisfied”, but the difference is no longer statistically significant. Hispanic women have higher odds relative to white women, but the difference is no longer statistically significant once the rest of the control

variables are added in model 5. Relationship quality and social support appear to explain the difference between married and cohabiting women.

Table 3

In table 3 we estimate the odds of being "very satisfied" for married and cohabiting women separately. For married women there is no association between pregnancy intention (model 1) and sexual satisfaction. There is an association between race/ethnicity and sexual satisfaction. Married Hispanic women have significantly higher odds of being "very satisfied" relative to white women (OR=2.91, p<.001) in model 3 which contains all of the relationship variables, but not in model 4 which contains all of the control variables. Therefore, for married women, pregnancy intentions and race/ethnicity are not associated with sexual satisfaction. Both relationship quality and social support are associated with an increase in odds of being "very satisfied." Among cohabiting women, women who are surgically sterile or avoiding pregnancy have significantly lower sexual satisfaction than women who are trying to conceive. This association for women who are avoiding pregnancy emerges in model 3 and for women who are surgically sterile in model 4. Although Black women in cohabiting relationships have significantly lower sexual satisfaction compared to white women, this association is only in the model controlling for relationship satisfaction. It does not persist in model 4 with all of the control variables. For cohabiting women, relationship quality is associated with higher odds of being "very satisfied", but unlike married women, social support is not significantly associated with higher levels of sexual satisfaction.

Discussion

Our study explores how relationship status provides potentially different contexts for sexual satisfaction. We found mixed support for our first hypothesis: *Relationship type will be associated with sexual satisfaction: married women will report higher levels of sexual satisfaction than cohabiting women.* Cohabiting women do have lower sexual satisfaction than married women, but the association is explained by relationship quality. Therefore relationship type itself matters less than the quality of the relationship.

Our second hypothesis: *Pregnancy intentions will be associated with sexual satisfaction for cohabiting and married women in the same way: women who have 'okay either way' pregnancy intentions will report higher levels of sexual satisfaction than women whose pregnancy intentions are trying to or trying not to conceive* was not supported. Pregnancy intentions are not associated with sexual satisfaction for married women (see Figures 1 & 2). Adjusted for the control variables, pregnancy intentions are associated with sexual satisfaction for cohabiting women (see Figures 3 & 4). Women who are surgically sterile and women who are avoiding pregnancy have lower sexual satisfaction than women who are trying to conceive. The findings suggest that cohabiting women who are trying to get pregnant differ substantively from cohabiting women who are surgically sterile or avoiding pregnancy. One potential explanation for why pregnancy intention matters for cohabiting women, but not married women, is that trying to get pregnant signifies a commitment to the relationship and partner, reflecting a union similar to marriage. Previous studies suggest that intended childbearing within cohabiting unions reflects the institutionalization of cohabitation (Musick 2002). Married women have already formalized their commitment to partners. This argument does provide support for cognitive schemas, but rather than viewing sexual satisfaction as a function of importance of procreation versus pleasure, pregnancy intentions may signify commitment to the relationship.

Our results do not support hypothesis three: *There will be race/ethnicity health disparities in sexual satisfaction: married Black and Hispanic women will report lower levels sexual satisfaction than married White women; cohabiting Black and Hispanic women will report higher levels of sexual satisfaction than cohabiting White women.* Married Hispanic women have significantly higher sexual satisfaction than married White women, but the coefficient is no longer significant once we control for background characteristics. Cohabiting

Black women have lower sexual satisfaction than cohabiting White women do, but the association is explained by relationship quality.

Hypothesis four: *The association between relationship quality and sexual satisfaction should differ by relationship type. Married women will report higher levels of sexual satisfaction than cohabiting women*. Hypothesis five: *The association between social support and sexual satisfaction should differ by relationship type. Married women will report higher levels of sexual satisfaction relative to cohabitating women*. We find support for both hypothesis four and five. Married women have higher levels of relationship quality and social support, and these variables largely explain the differences in sexual satisfaction among married and cohabiting women. Interestingly, social support was only significant in the models for married women, but not cohabiting women. Although our variables do not measure the sources of social support, our findings suggest that married women's sexual satisfaction is more sensitive to perceived levels of support.

Limitations and Conclusions

There are some limitations associated with this research. Measuring pregnancy intentions using survey questions remains a challenge. Our study incorporates a measure, which distinguishes women who may be ambivalent from women who are avoiding or trying to get pregnant. We do not include a measure of contraceptive use, which may be an important mediator of pregnancy intention and sexual satisfaction. We also recognize that the pregnancy intentions reflect only female responses and more importantly, that reproductive intentions and behaviors occur for the most part in dyadic relationships. Future research should consider couples' intention as well as sexual satisfaction levels.

Notwithstanding these limitations, we provide several contributions to the family demographic and public health literature. First, our findings support prior research that indicates that sexual satisfaction levels are higher for married women relative to cohabiting women. This reinforces the argument that marriage provides a protective (sexual) health effect (Waite and Gallagher 2001). Our study also illustrated that relationship quality acts as a mechanism through which sexual satisfaction is derived. Of note, relationship quality is a predictor of sexual satisfaction regardless of relationship type. Social support enhances sexual satisfaction but only among married women. Returning to our theoretical framework of Cognitive-Social Model of Fertility Intentions, we found that cognitive schemas, measured by pregnancy intentions, do operate differently based on relationship type. Our findings suggest that for cohabiting women who are trying to conceive, their odds of sexual satisfaction increases. Therefore, trying to become pregnant may be indicative of a next step in the romantic relationship for the couple, which further enhances sexual encounters.

Prior to this study there has been no known research examining sexual satisfaction and pregnancy attitudes by relationship type as well as race/ethnicity. We suggest that understanding women's total sexual and reproductive experiences are critical for explaining sexual health and this includes pregnancy intentions as well.

References

Allison, P. (2002). Missing data. Series: Quantitative applications in the social sciences. Thousand Oaks. CA, Sage.

Arrington, R., Cofrancesco, J., & Wu, A.W. (2004). Questionnaires to measure sexual quality of life. *Quality of Life Research*, 13, 1643– 1658.

Bachrach, C., & Morgan, S. P. (2013). A cognitive-social model of fertility intentions. *Population and Development Review, 39(3)*, 459-485.

Bancroft, J., Loftus, J., & Long, J.S. (2003). Distress about sex: A national survey of women in heterosexual relationships. *Archives of Sexual Behavior*, 32, 193-208.

Bell, A.V. (2014). Diagnostic diversity: The role of social class in diagnostic experiences of infertility. *Sociology of Health & Illness*, 36(4), 516-530.

Birnbaum, G.E., Reis, H.T., Mikulincer, M., Gillath, O., & Orpaz, A. (2006). When sex is more than just sex: Attachment orientation, sexual experience, and relationship quality. *Journal of Personality and Social Psychology*, 91, 929–943.

Brown, S. L. (2000). Union transitions among cohabitors: the significance of relationship assessments and expectations. *Journal of Marriage and Family*, 62, 833-846.

Brown, S. L. (2005). How cohabitation is reshaping American families. *Contexts, 4*(3), 33 – 37.

Brown, S. L., & Bulanda, J. R. (2008). Relationship violence in young adult: A comparison of daters, cohabitors and marrieds. *Social Science Research*, 37(1), 73-87.

Brückner, H., Martin, A. and Bearman, P.S. (2004). Ambivalence and pregnancy: Adolescents' attitudes, contraceptive use and pregnancy. *Perspectives on Sexual and Reproductive Health*, 36: 248–257.

Burton, L.M., & Tucker, M.B. (2009). Romantic unions in an era of uncertainty: A post-Moynihan Perspective on African American Women and Marriage. *The Annals of the American Academy of Political and Social Sciences,* 621(1): 132-148.

Butzer, B., & Campbell, L. (2008). Adult attachment, sexual satisfaction, and relationship satisfaction: A study of married couples. *Personal Relationships*, 15, 141–154.

Byers, E.S. (2005). Relationship satisfaction and sexual satisfaction: a longitudinal study of individuals in long-term relationships. *Journal of Sex Research*, 42(2), 113-8.

Call, V., Sprecher, S., & Schwartz, P. (1995). The incidence of and frequency of marital sex in a national sample. *Journal of Marriage and the Family, 57*, 639-652.

Carpenter, L.M., Nathanson, C.A., & Kim, Y.J. (2009). Physical women, emotional men: Gender and sexual satisfaction in midlife. *Archives of Sexual Behavior*, 38:87-107.

Cherlin, A. J. (1998). Marriage and marital dissolution among black Americans. *Journal of Comparative Family Studies*, 29(1), 147-158.

Cherlin, A. J. (2004). The deinstitutionalization of American marriage. *Journal of Marriage and Family*, 66: 848–861.

Cherlin, A. J. (2010). Demographic trends in the United States: A review of research in the 2000s. *Journal of Marriage and Family, 72*, 403–419.

Christopher, F. S., & Sprecher, S. (2000). Sexuality in marriage, dating, and other relationships: A decade review: *Journal of Marriage and the Family, 62*, 999-1018.

Cohen, S.A. 2008. Abortion and women of color: The big picture. *Guttmacher Policy Review*. http://www.guttmacher.org/pubs/gpr/11/3/gpr110302.html.

Copen, C. E., Daniels, K.,Vespa, J., & Mosher, W. D. (2012). First marriage in the United States: data from the 2006-2010 National Survey of Family Growth. National Health Statistics Report, No.49, US Department of Health and Human Services, National Center for Health Statistics.

Costello, C., Hillis, S.D., Marchbanks, P.A., Jamieson, D.J., & Peterson, H.B. (2002). The effect of interval tubal sterilization on sexual interest and pleasure. *Obstetrics & Gynecology*, 100(3), 511-517.

Daniel, S., & Bridges, S.K. (2012). The relationships among body image, masculinity, and sexual satisfaction in men. *Psychology of Men & Masculinity*, 14(4), 345-351.

Davidson, L. K., Sr., Darling. C. A., & Norton, L. (1995) Religiosity and the sexuality of women: sexual behavior and sexual satisfaction revisited. *The Journal of Sex Research*, 32, 235-243.

De Judicibus, M. A., & McCabe, M. P. (2002). Psychological factors and the sexuality of pregnant and postpartum women. *The Journal of Sex Research*, 39, 94– 103.

DeMaris, A. K., & Rao, V. (1992). Premarital cohabitation and subsequent marital stability in the United States – a reassessment. *Journal of Marriage and the Family, 54*, 178-90.

Dundon, C. M., & Rellini, A. H. 2010. More than sexual function: Predictors of sexual satisfaction in a sample of women age 40-70. *Journal of Sexual Medicine*, 7, 896-904.

Edin, K., & Kefalas, M. J. (2005). Promises I can keep: Why poor women put mother before marriage. Berkeley: University of California Press.

Edwards, J. N., & Booth, A. (1994).Sexuality, marriage, and well-being: The middle years. In A. S. Rossi (Ed.), Sexuality across the life course (pp. 233–259). Chicago: University of Chicago Press.

Elder, (Jr.), G. H. (1994). Time, human agency, and social change: perspective on the life course. *Social Psychology Quarterly* 57(1): 4-15.

England, P. (2010). The gender revolution: Uneven and stalled. *Gender & Society*, 24:149-66.

Fehniger, J.E., Brown, J.S., Creasman, J.M., Van Den Eeden, S.K., Thom, D.H., Subak, L.L., & Huang, A.J. (2013). Childbirth and female sexual function later in life. *Obstetrics Gynecology*, 122(5), 988-997.

Finer, L.B., & Henshaw, S.K. (2006). "Disparities in rates of unintended pregnancy in the United States, 1994 and 2001,"*Perspectives on Sexual and Reproductive Health* 38 (2): 90–96.

Finer L.B., & Zolna, M.R. (2011). Unintended pregnancy in the United States: incidence and disparities, 2006. *Contraception*; 84(5):478-485.

Frost, J. J., Singh, S., & Finer, L.B. (2007). Factors associated with contraceptive use and nonuse, United States, 2004. *Perspectives on Sexual and Reproductive Health*, 39: 90–99.

Forste, R., & Tanfer, K. (1996). Sexual exclusivity among dating, cohabiting, and married women. *Journal of Marriage and the Family, 58*, 33-47.

Furstenberg, (Jr.), F.F. (2013). Transitions into adulthood. *The Annals of the American Academy of Political and Social Sciences*, 646:28-41.

Gerson K. (2010). The Unfinished Revolution: How a New Generation Is Reshaping Family, Work, and Gender in America. Oxford: Oxford Univ. Press

Gillespie, R. (2003). Childfree and feminine: Understanding the gender identity of voluntarily childless women. *Gender and Society*, 17(1), 122-136.

Greil, A.L., & McQuillan, J. (2010), "Trying" Times. *Medical Anthropology Quarterly*, 24: 137–156.

Guzzo, K.B., & Hayford, S.R. (2012). Fertility and the stability of cohabiting unions: Variations by intendedness. *Journal of Family Issues*, 35(4), 547-576.

Hayford, S. R., & Guzzo, K.B. (2010). Age, relationship status, and the planning status of births. *Demographic Research*, 23(13), 365-398.

Hagewen K.J., & Morgan, S.P. (2005). Intended and ideal family size in the United States, 1970–2002. *Population and Development Review*, 31(3):507–27.

Halpern-Meekin, S., Manning, W.D., Giordano, P.C., & Longmore, M.A. (2013). Relationship Churning, Physical Violence, and Verbal Abuse in Young Adult Relationships. *Journal of Marriage and Family*, 75: 2–12.

Henderson-King, D. H., & Veroff, J. (1994). Sexual satisfaction and marital wellbeing in the first years of marriage. *Journal of Social and Personal Relationship, 11*, 509-534.

Higgins, J.A., Mullinax, M., Trussell, J., Davidson (Sr.), K., & Moore, N.B. (2011). Sexual satisfaction and sexual health among university students in the United States. *American Journal of Public Health, 101(9)*, 1643-1654.

Higgins, J.A., Trussell, J., Moore, N.B., & Davidson, J.K. (2010). Virginity lost, satisfaction gained? Physiological and psychological sexual satisfaction at heterosexual debut. *Journal of Sex Research*, 47, 384-394.

Horwitz, A.V., & White, H. R. (1998). The relationship of cohabitation and mental health: A study of a young adult cohort. *Journal of Marriage and Family*, 60(2), 505-514.

Horwitz, A.V., White, H.R., & Howell-White, S. (1996). Becoming married and mental health: A longitudinal study of a cohort of young adults. *Journal of Marriage and Family*, 58(4), 895-907.

House, J. S., Umberson, D., & Landis, K. R. (1998). Structures and processes of social support. *Annual Review of Sociology*, 14, 293-318.

Jacobs, J., & Stanfors, M. (2013). Racial and ethnic differences in U.S. Women's choice of reversible contraceptives, 1995–2010. *Perspectives on Sexual and Reproductive Health*, 45: 139–147.

Johnson, D.R., McQuillan, J., Jacob, M.C., Greil, A. L., Lacy, N., Scheuble, L. K., … Young, R. (2009). National survey of fertility barriers: Methodology report for wave 1. *National Survey of Fertility Barriers – Working Papers Series.* Paper 1.http://digitalcommons.unl.edu/nsfbworking/1

Jones, J., William, D.M., & Daniels, K. (2012). Current contraceptive use in the United States, 2006–2010, and changes in patterns of use since 1995. National Vital Statistics Report No. 60. Hyattsville, MD: National Center for Health Statistics.

Keeter, S., Kennedy, C., Dimock, M., Best, J., & Craighill, P. (2006). Gauging the impact of growing nonresponse on estimates from a national RDD telephone survey. *Public Opinion Quarterly*, 70(4):125–48.

Keith, B., & White, L. (1990). The effect of shift work on the quality and stability of marital relations. *Journal of Marriage and Family*, 52, 453-463.

Kim, H.K., & McHenry, P.C. (2002). The relationship between marriage and psychological well-being. *Journal of Family Issues*, 23, 885–911.

Kost, K., & Lindberg, L. (2105). Pregnancy intentions, maternal behaviors, and infant health: Investigating relationships with new measures and propensity score analysis. *Demography*, 52(1), 83-111.

Kost, K., Singh, S., Vaughan, B., Trussell, J., & Bankole, A. (2008). Estimates of contraceptive failure from the 2002 National Survey of Family Growth. *Contraception*, 77(1), 10-21.

Kurdek, L. A. (1991). Marital stability and changes in marital quality in newly wed couples: A test of the contextual model. *Journal of Social and Personal Relationships*, 8, 27–48.

Lau, J.T.F., Kim, J.H., & Tsui, H. Y. (2005). Mental health and lifestyle correlates of sexual problems and sexual satisfaction in heterosexual Hong Kong Chinese population. *Urology, 66,* 1271-1281.

Laumann, E. O., Gagnon, J., Michael, R. T., & Michaels, S. (1994). The social organization of sexuality: sexual practices in the United States. Chicago: University of Chicago Press.

Lawrance, K., & Byers, E.S. (1992). Development of the interpersonal exchange model of sexual satisfaction in long-term relationships. *Canadian Journal of Human Sexuality*, 1, 123–285.

Lifflander, A., Gaylos, Laura, M.D., & Rowland Hogue, C. J. (2007). Circumstances of pregnancy: Low income women in Georgia describe the difference between planned and unplanned pregnancies. *Journal of Maternal Child Health*, 11, 81-89.

Long, J.S., & Freese, J. (2005). Regression Models for Categorical Dependent Variables Using Stata, Second Edition.

Lui, C. (2003). Does quality of sex decline with duration? *Archives of Sexual Behavior*, 32, 55-60.

Manlove, J., Ikkramullah, E., Mincieli, L., Holcombe, E., & Danish, S. (2009). Trends in sexual experience, contraceptive use and teenage childbearing: 1992-2002. *Journal of Adolescent Health*, 44(5), 413-423.

Manning, W.D. (2013). Trends in cohabitation: Over twenty years of change, 1987-2010. (FP-13-12). National Center for Family & Marriage Research. http://ncfmr.bgsu.edu/pdf/family_profiles/file130944.pdf

Mark, K, P., Herbenick, D., Fortenberry, J. D., Sanders, S., & Reece, M. (2014). A psychometric comparison of three scales and a single-item measure to assess sexual satisfaction. *Journal of Sex Research*, 51(2), 159-169.

Martinez. G., Copen, C., & Abma J. (2011).Teenagers in the United States: Sexual activity, contraceptive use, and childbearing, 2006-2010 National Survey of Family Growth. Atlanta, GA: Centers for Disease Control and Prevention.

McCall-Hosenfeld, J.S., Freund, K.M., Legault, C., Jaramillo, S. A., Cochrane, B. B., Manson, J. E., Wenger, N. K., Eaton, C. B., McNeeley, S. G., Rodriguez, B. L., & Bonds, D. (2008). Sexual satisfaction and cardiovascular disease: The women's health initiative. *American Journal of Medicine, 121,* 295-301.

McCarthy, Christopher et al., (2006). Effort in phone survey response rates: The effects of vendor and client-controlled factors. *Field Methods*, 18, 172-188.

McClelland, S.I. (2011). Who is the ‘‘self’’ in self reports of sexual satisfaction? Research and policy implications. *Sexuality Research and Social Policy*, 8(4), 304–320

McQuillan, J., A. Greil, and K. M. Shreffler. (2011). Pregnancy intentions among women who do not try: Focusing on women who are okay either way. *Journal of Maternal Child Health*, 15:178-187.

Mosher, W.D., Jones, J., & Abma, J.C. (2012). Intended and unintended births in the United States: 1982–2010. National Health Statistics Reports No. 55. Hyattsville, MD: National Center for Health Statistics

Musick, K. (2002), Planned and unplanned childbearing among unmarried women. *Journal of Marriage and Family*, 64: 915–929.

Nock, S. L. (1995). A comparison of marriages and cohabiting relationships. *Journal of Family Issues*, 16(1), 53-76.

Oropesa, R.S., Litcher, D.T., and Anderson, R.T. (1994). Marriage markets and the paradox of Mexican American nuptiality. *Journal of Marriage and Family*, 56: 889-907.

Pedersen, W., & Blekesaune, M. (2003). Sexual satisfaction in young adulthood: Cohabitation, committed dating or unattached life? *Acta Sociologica*, 46, 179-193.

Radloff, Lenore Sawyer. 1977. "The Ces-D Scale a Self-Report Depression Scale for Research in the General Population." Applied psychological measurement 1(3):385-401.

Rainer, H., & Smith, I. (2012). Education, communication and wellbeing: An application to sexual satisfaction. *Kyklos*, 65, 581-591.

Raley, K.R., Durden, E.T., & Wildsmith, E. (2004). Understanding Mexican-American marriage patterns using a life-course approach. *Social Science Quarterly*, 85: 872–890.

Rinelli, L. N., & Brown, S. L. (2010). Race differences in union transitions among cohabitors: The role of relationship features. *Marriage and Family Review*, 46(1-2), 22-40.

Santelli, J. S., Lindberg, L.D., Orr, M.G., Finer, L.B., & Speizer, I. (2009). Toward a multidimensional measure of pregnancy intentions: Evidence from the United States. *Studies in Family Planning*, 40: 87–100.

Sawhill, I. (2014). Family complexity. Is it a problem, and if so, what should we do? *The Annals of the American Academy of Political and Social Sciences*, 654(1): 240-244.

Scott, V.C., Sandberg, J.G., Harper, J.M., & Miller, R.B. (2012). The impact of depressive symptoms and health on sexual dissatisfaction for older couples: Implications for clinicians. *Contemporary Family Therapy*, 34, 376-390.

Segraves, R.T., & Segraves, K.B. (1995). Human sexuality and aging. *Journal of Sex Education and Therapy*, 21, 88-102.

Smock, P.J., & Manning, W.D. (2004). Living together unmarried in the United States: Demographic perspectives and implications for family policy. *Law and Policy, 26*, 87 – 117.

Smith, A., Lyons, A., Ferris, J., Richters, J., Pitts, M., Shelley, J., et al. (2011). Sexual relationship satisfaction among heterosexual men and women: The importance of desired frequency of sex. *Journal of Sex and Marital Therapy*, 37, 104-115.

Speizer, I. S., Santelli, J. S., Afable-Munsus, A., & Kendall, C. (2004). Methods for measuring pregnancy intentions of women's first and last pregnancies. Atlanta: CDC Working Paper, January 2004.

Sprecher, S. (2002). Sexual satisfaction in premarital relationships: associations with love, commitment, and stability. *Journal of Sex Research 39*, 190-196.

Sprecher, S., Christopher, F. S., & Cate, R. (2006). Sexuality in close relationships. In A. Vangelisti, & D. Perlman (Eds.), *The Cambridge handbook of personal relationships* (pp. 463-482). New York: Cambridge University Press.

Stryker, S., & Statham, A. (1985). "Symbolic Interaction and Role Theory." Pp. 311-78 in Handbook of Social Psychology, edited by Gardner Lindzey and Eliot Aronson. New York: Random House.

Styker, S., & Burke, P.J. (2000). The past, present and future of an identity theory. *Social Psychology Quarterly*, 63(4), 284-297

Sweeney, M.M. (2010). The reproductive context of cohabitation in the United States: recent change and variation in contraceptive use. *Journal of Marriage and Family*, 72(5):1155-1170.

Sweeney, M.M., & Phillips, J.A. (2004). Understanding racial differences in marital disruption: Recent trends and explanations. *Journal of Marriage and Family,* 66:239-250.

Sweeney, M.M, & Raley, K.R. (2014). Race, ethnicity, and the changing context of childbearing in the United States. *Annual Review of Sociology*, 40, 539-58.

von Sydow, K. (1999). Sexuality during pregnancy and after childbirth: A metacontent analysis of 59 studies. *Journal of Psychosomatic Research*, 47(1), 27-49.

Teachman, J. (2004). The childhood living arrangements of children and the characteristics of their marriages. *Journal of Family Issues* 25:86-111.

Thornton, A., Axinn, W.G., & Xie, Y. (2010). Marriage and Cohabitation. Chicago: University of Chicago Press.

Trent, K., & South, S. J. (2003). Spousal alternatives and marital relations. *Journal of Family Issues*, 24(6), 787-810.

Trussell, J., B. Vaughan, and J. Stanford. (1999). Are all contraceptive failures unintended pregnancies? Evidence from the 1995 National Survey of Family Growth. *Family Planning Perspectives*, 31(5):246–260.

Umberson, D., Chen, M.D., House, J. S., Hopkins, K., & Slaten, E. (1996). The effect of social relationships on psychological well-being: Are men and women really so different? *American Sociological Review*, 61(5), 837-857.

Umberson, D., Anderson, K., & Williams, K. (2003). Relationship dynamics, emotion state, and domestic violence: A stress and masculinities perspective. *Journal of Marriage and Family*, 65(1):233-247.

U.S. Census Burea. 2010. Fertility of American women: 2010-detailed tables. Current Population Survey (June). Washington, DC.http://www.census.gov/hhes/fertiltiy/data/cps/2010.htm.

U.S. Census Bureau. (2011). Estimated median age at first marriage, by sex: 1890 to the present. Retrieved from http://www.census.gov/hhes/families/data/marital.html

Waite, L.J. (1995). Does marriage matter? *Demography*, 32, 483–508.

Waite, L.J., & Gallagher, M. (2000). The case for marriage. New York: Broadway Books

Waite, L.J., & Gallagher, M. (2001). Case for marriage: Why married people are happier, healthier and better off financially. Westminster, MD: Broadway Books.

Waite, L.J., & Joyner, K. (2001). Emotional satisfaction and physical pleasure in sexual unions: time horizon, sexual behavior, and sexual exclusivity. *Journal of Marriage and the Family, 63*, 247-64.

Warehime, M.N., Bass. L. & Pedulla, D. (2007). The effects of tubal ligation among American women. *The Journal of Reproductive Medicine*, 52(4), 263-272.

Wildsmith, E., Guzzo, K., & Hayford, S. (2010). Repeat unintended, unwanted and seriously mistimed childbearing in the United States. *Perspectives on Sexual and Reproductive Health,* 42:14.

Wilson, W.J., and Neckerman, K. (1987). Poverty and family structure: the widening gap between evidence and public policy issues. In The Truly Disadvantaged: The Inner City, the Underclass, and Public Policy, ed. W.J. Wilson, pp.63-92. Chicago: Univ. Chicago Press.

Williams, K. (2003). Has the future of marriage arrived? A contemporary examination of gender, marriage, and psychological well-being. *Journal of Health & Social Behavior*, 44, 470–487.

Willoughby, B. J., Farero, A. M., & Busby, D. M. (2014). Exploring the effects of sexual desire discrepancy among married couples. *Archives of Sexual Behavior*. 43, 551-562.

Yabiku, S. T., & Gager, C. T. (2009). Sexual frequency and the stability of marital and cohabiting unions. *Journal of Marriage and Family*, 71, 983-1000.

Yee, L., & Simon, M. (2010). The role of the social network in contraceptive decision-making among young, African-American and Latina women. *Journal of Adolescent Health*, 47, 374–380.

Yeh, H. –C., Lorenz, F. O., Wickrama, K., Conger, R. D., & Elder, G. H., Jr. (2006). Relationships among sexual satisfaction, marital quality, and marital instability at midlife. *Journal of Family Psychology, 20*, 339-343.

Yoo, S. M., K. B. Guzzo, and S. R. Hayford. (2014). Understanding the complexity of ambivalence toward pregnancy: Does it predict inconsistent use of contraception? *Biodemography and Social Biology*, 60:49-66.

Yucel, D., & Gassanov, M. A. (2010). Exploring actor and partner correlates of sexual satisfaction among married couples. *Social Science Research, 39*, 725-738.

Zabin, L.S. (1999). Ambivalent feelings about parenthood may lead to inconsistent contraceptive use and pregnancy. *Family Planning Perspectives*, 31, 250-251.

Zabin, L.S., Astone, N. M., & Emerson, M. R. (1993). Do adolescents want babies? The relationship between attitudes and behavior. *Journal of Research on Adolescence*, 3(1), 67-86.

Table 1. Descriptive Statistics by Union Status and Race/Ethnicity, U.S. women Ages 25-44 years

	Married (n=2,473)						Cohabiting (n=355)					
	White		Black		Hispanic		White		Black		Hispanic	
	(69%)		(13%)		(14%)		(48%)		(25%)		(24%)	
	m/p	SD	m/p	SD	m/p	SD	m/p	SD	m/p	SD	m/p	SD
Outcome Variable: Sexual Satisfaction												
Not Very Satisfied	.08		.10		.05		.10		.22		.12	
Pretty Satisfied	.43		.36		.38		.34		.30		.39	
Very Satisfied	.49		.54		.57		.56		.48		.49	
Pregnancy Intention												
Sterile	.50		.49		.41		.46		.50		.28	
Avoiding	.33		.26		.39		.41		.28		.48	
Okay Either Way	.13		.18		.15		.12		.15		.15	
Trying	.03		.06		.05		.01		.07		.10	
Control Variables												
Relationship Quality	1.07	(.81)	.96	(.81)	.99	(.76)	.93	(.80)	.49	(.72)	.93	(.89)
Length of Co-residence (yrs)	11.58	(6.77)	10.27	(6.92)	12.07	(6.29)	4.65	(4.45)	6.39	(6.83)	7.27	(6.25)
Respondent in previous union	.23		.21		.14		.62		.49		.59	
Social support	3.77	(.47)	3.58	(.68)	3.30	(.86)	3.63	(.69)	3.30	(.72)	2.91	(.92)
Wellbeing	8.49	(.78)	8.24	(.81)	8.17	(.89)	8.19	(.96)	7.88	(.98)	7.74	(.73)
Religiosity	-.04	(.78)	.37	(.55)	.25	(.57)	-.42	(.87)	.12	(.55)	-.25	(.66)
Importance of Leisure	3.13	(.86)	3.27	(.78)	3.24	(.78)	3.38	(.79)	3.32	(.85)	3.23	(.77)
Importance of Career	3.09	(.90)	3.49	(.73)	3.39	(.70)	3.38	(.79)	3.64	(.57)	3.51	(.78)
Traditional Gender Attitudes	1.92	(.53)	1.93	(.57)	2.10	(.48)	1.81	(.51)	1.73	(.52)	2.02	(.51)
Importance of Motherhood	13.51	(2.58)	12.83	(2.36)	13.21	(2.23)	12.73	(3.11)	12.20	(2.77)	12.09	(2.37)
Parity	1.94	(1.18)	2.10	(1.35)	2.55	(1.28)	1.39	(1.32)	2.15	(1.49)	2.22	(1.26)
Age	36.48	(5.74)	36.51	(5.81)	34.27	(5.51)	34.55	(6.66)	33.62	(6.53)	33.53	(6.31)
Education (yrs)	14.22	(2.36)	13.91	(2.20)	12.16	(2.66)	13.48	(2.48)	13.20	(2.25)	11.70	(3.00)
Economic Hardship	1.46	(.66)	1.66	(.78)	1.66	(.74)	1.75	(.90)	2.07	(.96)	1.88	(.73)
Work												
Full-Time	.51		.68		.37		.64		.57		.49	
Part-Time	.19		.12		.12		.10		.12		.21	
Other	.30		.20		.51		.26		.31		.29	
N	1707		315		451		170		99		86	

Table 2. Stereotype Regression of Sexual Satisfaction on Union Status, Pregnancy Intentions, and Race/Ethnicity For All women; Odds ratios for Very Satisfied compared To Not too Satisfied

	m1	m2	m3	m4	m5
	OR(SE)	OR(SE)	OR(SE)	OR(SE)	OR(SE)
Union Status (Ref Cat=Married)					
Cohabiting	.61 *	.55 **	.58 **	1.20	1.48
	(.14)	(.11)	(.11)	(.36)	(.44)
Pregnancy Intention (Ref Cat= Trying)					
Sterile		.42	.38	.73	.55
		(.31)	(.28)	(.33)	(.25)
Avoiding		.49	.43	.59	.54
		(.40)	(.37)	(.26)	(.24)
Okay Either Way		.70	.65	.66	.57
		(.43)	(.42)	(.30)	(.26)
Race (Ref Cat=White)					
Black			.61 *	1.30	1.13
			(.12)	(.38)	(.33)
Hispanic			1.19	2.27 **	1.44
			(.44)	(.61)	(.41)
Relationship Quality Centered				8.98 ***	8.29 ***
				(1.61)	(1.47)
Social Support				1.46 **	1.39 *
				(.21)	(.21)
n	2828	2828	2828	2828	2828

Exponentiated coefficients; Standard errors in parentheses

Data Source: NSFB 2006 Wave I

* p<.05, ** p<.01, *** p<.001

Model 5 includes all of the model 4 variables plus wellbeing, religiosity, importance of leisure, importance of career, traditional gender attitudes, importance of motherhood, parity, age, education, economic hardship, work status (full time is the reference category).

Table 3: Stereotype Regression of Sexual Satisfaction on Pregnancy Intention by Union Status, Odds Ratios for Very Satisfied compared to Not too Satisfied

	Married				Cohabiting			
	m1	m2	m3	m4	m1	m2	m3	m4
	OR(SE)	OR(SE)	OR(SE)	OR(SE)	OR(SE)	OR(SE)	OR(SE)	OR(SE)
Pregnancy Intention (Ref Cat= Trying)								
Sterile	.43	.44	1.01	.79	.04	.01	.07	.04 *
	(.21)	(.27)	(.46)	(.37)	(.68)	(.05)	(.12)	(.07)
Avoiding	.51	.48	.95	.87	.03	.01	.04 *	.03 *
	(.28)	(.23)	(.41)	(.38)	(.46)	(.04)	(.06)	(.04)
Okay Either Way	.76	.71	.91	.77	.07	.02	.09	.07
	(.37)	(.31)	(.41)	(.35)	(.97)	(.09)	(.15)	(.11)
Race (Ref Cat=White)								
Black		.88	1.58	1.38		.33 *	.89	.83
		(.44)	(.49)	(.44)		(.16)	(.48)	(.51)
Hispanic		1.84	2.91 ***	1.85		.66	.87	.54
		(.78)	(.91)	(.62)		(.40)	(.43)	(.28)
Relationship Quality Centered			8.53 ***	7.81 ***			10.04 ***	10.66 ***
			(1.58)	(1.50)			(4.89)	(5.11)
Social Support Centered			1.50 *	1.45 *			1.44	1.25
			(.25)	(.26)			(.41)	(.36)
n	2473	2473	2473	2473	355	355	355	355

Exponentiated coefficients; Standard errors in parentheses

Data Source: NSFB 2006 Wave I

* p<.05, ** p<.01, *** p<.001

Model 4 includes all of the model 4 variables plus controls for wellbeing, religiosity, Importance of leisure, importance of career, traditional gender attitudes, importance of motherhood, parity, age, education, economic hardship, work status (full time is the reference category).

Figure 1: Sexual Satisfaction by Pregnancy Intention Status for Married Women Unadjusted Predicted Probabilities
Not too Satisfied
Pretty Satisfied
Very Satisfied
1.00
.80
.60
.40
.20
.00
.09
.40
.51
.08
.43
.50
.05
.44
.51
.04
.42
.54
sterile
avoiding
okay
trying
Married

Figure 2: Sexual Satisfaction by Pregnancy Intention Status for Married Women Adjusted Predicted Probabilities
Not too Satisfied
Pretty Satisfied
Very Satisfied
1.00
.80
.60
.40
.20
.00
.08
.42
.50
.08
.41
.51
.08
.42
.50
.07
.41
.52
sterile
avoiding
okay
trying
Married

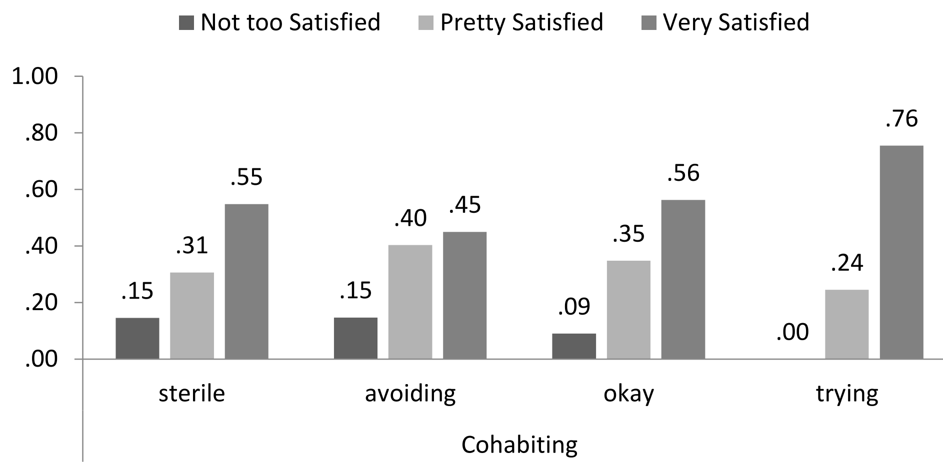
Figure 3: Sexual Satisfaction by Pregnancy Intention Status for Cohabiting Women Unadjusted Predicted Probabilities
Not too Satisfied
Pretty Satisfied
Very Satisfied
1.00
.80
.60
.40
.20
.00
.15
.31
.55
.15
.40
.45
.09
.35
.56
.00
.24
.76
sterile
avoiding
okay
trying
Cohabiting

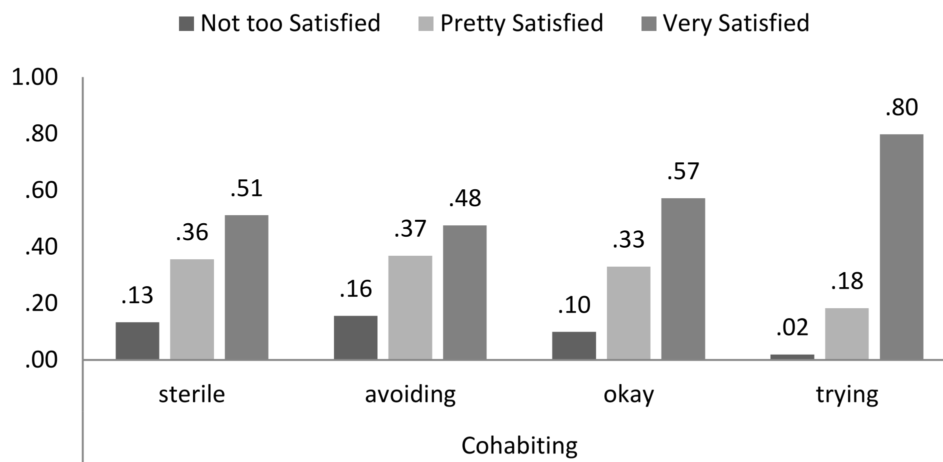
Figure 4: Sexual Satisfaction by Pregnancy Intention Status for Cohabiting Women Adjusted Predicted Probabilities
Not too Satisfied
Pretty Satisfied
Very Satisfied
1.00
.80
.60
.40
.20
.00
.13
.36
.51
.16
.37
.48
.10
.33
.57
.02
.18
.80
sterile
avoiding
okay
trying
Cohabiting