Arch Sex Behav (2011) 40:725–740
DOI 10.1007/s10508-010-9679-z

ORIGINAL PAPER

Sexual Well-Being: A Comparison of U.S. Black and White Women in Heterosexual Relationships

John Bancroft · J. Scott Long · Janice McCabe

Received: 25 January 2010 / Revised: 22 August 2010 / Accepted: 28 August 2010 / Published online: 17 October 2010

Abstract In the United States, considerable attention has been directed to sexual behaviors of black and white adolescents, particularly age at first sexual experience and the prevalence of teenage pregnancies. More limited attention has been paid to comparing established sexual relationships in these two racial groups. In this study, we used a national probability sample to compare black ($n = 251$) and white ($n = 544$) American women, aged 20–65 years, who were in an established heterosexual relationship of at least 6 months duration. We focused on two aspects of their sexual well-being; how a woman evaluated (1) her sexual relationship and (2) her own sexuality. A range of possible determinants of sexual well-being, including demographic factors, physical and mental health, and aspects of the women's recent sexual experiences, were also assessed using Telephone-Audio-Computer-Assisted Self-Interviewing (T-ACASI). We found no significant difference between black and white women in their evaluation of their sexual relationships nor in the independent variables that were correlated with this evaluation. Black women, however, evaluated their own sexuality more positively than white women. In examining the correlates of this evaluation, a woman's rating of her own sexual attractiveness proved to be the strongest predictor, with black women rating themselves significantly more sexually attractive than did the white women. Overall, these findings were consistent with previous findings that, compared to white women, black women in the United States have higher self-esteem and tend towards more independence and individualism.

Keywords Sexual well-being · Women · Heterosexual relationships · Ethnicity · Sexual attractiveness

J. Bancroft
The Kinsey Institute for Research in Sex, Gender and Reproduction, Indiana University, Bloomington, IN, USA

J. S. Long
Department of Sociology, Indiana University, Bloomington, IN, USA

J. S. Long
Department of Statistics, Indiana University, Bloomington, IN, USA

J. McCabe
Department of Sociology, Florida State University, Tallahassee, FL, USA

J. Bancroft (✉)
4 Blenheim Road, Horspath, Oxfordshire OX33 1RY, UK
e-mail: jbancrof@indiana.edu

Introduction

The twentieth century showed marked changes in various aspects of sexuality in the Western world, particularly the sexuality of women. A comparison by Kinsey, Pomeroy, Martin, and Gebhard (1953, Figs. 35, 50) of women born before 1900 with those born in the first three decades of the century showed clear increases in both pre-marital petting and intercourse and at younger ages across these cohorts. Even more marked have been changes since the 1960s with further reduction in age at first intercourse and increases in teenage pregnancies and the likelihood of women masturbating (reviewed in Bancroft, 2009). Such changes can only be explained in sociocultural terms and probably reflect a lessening of social suppression of women's sexuality, which has accompanied other major changes in the role of women, including their increased ability to control their reproductive lives.

It is less clear to what extent the sexual well-being of women has changed over time. In Finland, a comparison of surveys from 1971 and 1992, using basically the same questions, showed an

increase in sexual satisfaction among women (Haavio-Mannila & Kontula, 1997) but comparable evidence across time for other societies is not available.

More attention is now being paid to cross-cultural comparisons (e.g., Laumann et al., 2006; Wellings et al., 2006), although such comparisons are challenging because of cultural differences across countries in how sexuality is conceptualized. In the early stages of the HIV pandemic, it soon became apparent that applying Western-based survey questions across different cultures was problematic (Parker, Herdt, & Carballo, 1991).

The United States is a multicultural society, and increasing attention is being paid to comparisons of the principal cultures involved from a sexual perspective. We have little information about the sexuality of indigenous Native Americans. White Americans represent the largest and longest-established immigrant group, mainly of European origin, and provide the "cultural norm" for the United States. Hispanic and Asian immigrant groups, growing substantially but with a comparatively short history, show a picture complicated by varying degrees of acculturation. Black Americans, in contrast, are a cultural group with origins based primarily on slavery rather than immigration. The limited literature on differences between the sexuality of white and black women in the U.S. has led to conclusions that African-Americans have experienced a specific subculture in the U.S. (Weinberg & Williams, 1988), with different attitudes, norms, and beliefs compared to white Americans (Sterk-Elifson, 1994). Staples (1981) argued that this resulted from the African past, the impact of slavery and the continuing oppression and exploitation, and Patterson (1999) has emphasized the deinstitutionalization of marriage and disruption of stable sexual relationships that resulted from slavery. Obviously, in the U.S., socioeconomic factors could confound these effects of race and Wilson (1996) has emphasized that relatively recent changes in the U.S. economy, with concentrated poverty in urban neighborhoods, have had profound effects on African American culture, particularly as it effects the sexual development of young people. Browning and Burrington (2006), in a study of 77 neighborhoods in Chicago, concluded that at least 26% of the tendency for early sexual activity among African-American youth could be attributed to economic disadvantage. The impact that such factors have on the sexuality of African American adults is less clear.

There is a substantial literature comparing sexual behavior in black and white American teenagers, with racial differences being larger for males than females. However, early onset of sexual activity is more frequent in black than white females (Santelli, Lindberg, Abma, McNeely, & Resnick, 2000), and particularly striking is the higher birth rate. In 1996, the nonmarital birth rate for white teenagers was 34.5 per thousand, and for black teenagers 89.2 per thousand (Nathanson, 2000). With the changes that followed the "sexual revolution" in the late 1960s and 1970s, these racial differences lessened but are still very much in evidence.

This pattern reflects a greater acceptance of premarital sexuality by black than white women, reported by Reiss (1964) in an early study of sexual attitudes. This, however, is combined with a preference in black women for "conventional" forms of sexual activity, in particular, vaginal intercourse. The Kinsey data from the 1940s and 1950s, comparing white and black college youths, found oral sex much more prevalent among whites (Gebhard & Johnson, 1979). Wyatt, Peters, and Guthrie (1988) compared 69 black college women from California with the original Kinsey sample of black college women, and found that there had been an increase in the reporting of oral sex, particularly cunnilingus, over the intervening 33 years. This difference between vaginal intercourse and "heavy petting," including oral sex, has been a manifestation of social class difference in the past (e.g., Kinsey, Pomeroy, & Martin, 1948). However, in the Weinberg and Williams (1988) study, these differences between black and white women persisted and in the *National Health and Social Life Survey* (NHSLS) became even more marked when socioeconomic factors were controlled for (Mahay, Laumann, & Michaels, 2001).

Limited attention has been paid to how black and white women compare in the role that sexuality plays in their lives and their relationships. Orbuch, Veroff, Hassan, and Horrocks (2002) compared white and black marriages over their first 14 years. Substantially more of the black marriages had ended in divorce during those 14 years (50.3 vs. 29.3%). Interestingly, they found that relationship problems were less predictive of divorce in the black than in the white marriages. Oggins, Leber, and Veroff (1993a, b) studied white and black newly married couples; they were all aged 35 or younger, and were assessed between the fifth and eighth month of their marriage. White women were more likely than black women to link sexual enjoyment with affirmation of the marriage. Black wives gave greater weight to positive sexual relations in their own right. This led Oggins et al. (1993a) to suggest that "white culture is relatively puritanical about people—and particularly women—enjoying sexual experience in its own right" (p. 158). Although no doubt an oversimplification, other evidence is consistent with this suggestion. For example, among college women, blacks were somewhat more likely than whites to indicate that they were more interested in their own sexual satisfaction than that of their partner (Houston, 1981). There are, therefore, indications of differences between the sexuality of white and black women in the United States that may be very relevant to understanding the impact of culture on women's sexuality.

In our study, we further explored such differences in black and white women in established heterosexual relationships, focusing on certain aspects of their sexual well-being and their possible determinants. The assessment of sexual well-being

has varied across studies, and is usually based on a small number of questions (e.g., Haavio-Mannila & Kontula, 1997; Laumann, Gagnon, Michael, & Michaels, 1994; Richters, Grulich, de Visser, Smith, & Rissel, 2003; Spira, Bajos, & The ACSF Group, 1994). The only study to attempt cross-cultural comparisons of sexual well-being is the Global Study of Sexual Attitudes and Behaviors (Laumann et al., 2006), a large project in which 27,500 men and women from 29 countries were surveyed. Here again one is left uncertain about the comparability of the sexual well-being questions across so many and varied cultures.

In this article, we used results from a national survey of women in heterosexual relationships within the United States, focusing on two aspects of sexual well-being: how the woman evaluates (1) her current sexual relationship and (2) her own sexuality. Whereas we would expect some overlap with assessments of sexual well-being in our study with those in other studies, there are also conceptual differences. We compared black and white women and explored to what extent their evaluations could be predicted by demographic and health factors and various aspects of the woman's recent sexual experiences. In addition, we asked how important certain aspects of a woman's sexual experience were to her "sexual happiness." This survey was carried out between November 1999 and March 2000. Results relating to distress about sex (i.e., distress about the woman's sexual relationship and her own sexuality) were reported in an earlier article (Bancroft, Loftus, & Long, 2003a).

Method

Participants

Our sample was obtained using random digit dialing from a national sampling frame. To be included, women had to be aged 20–65 years, white or black/African American, with English as their first language, and in a current relationship with a male partner of at least 6 months duration. Sampling was stratified by region of the country and racial composition, the latter by oversampling black women to produce a white-to-black ratio of 2:1.

A telephone survey, designed by the Kinsey Institute, was carried out by the Research Triangle Institute (RTI), after piloting the questions with cognitive interviewing. The survey was in two parts. The first part, *Computer Assisted Telephone Interview* (CATI), involved checking on inclusion and exclusion criteria, and covered basic demographics plus less sensitive information. In the second part of the survey using *Telephone-Audio-Computer-Assisted Self-Interviewing* (T-ACASI), the participant was switched over to interacting with a computer. Both parts of the survey were completed by 987 women, giving a response rate of 52.1%. Participants were paid $25 to complete the survey. For those who initially refused and subsequently agreed to participate, $50 was paid. The refusal conversion rate was approximately 35%. Of the completed interviews, 19.5% had missing data for one or more of the questions used in the primary analyses in this article, leaving a sample of 795 women. In the unweighted sample, 68.4% ($n = 544$) were white and 31.6% ($n = 251$) black. The weighted estimates were 86.7% white and 13.3% black.

Human subjects approval was granted by the Human Subjects Committee of Indiana University and by the IRB of the RTI, which carried out the survey.

Measures

Demographics

The following questions from this part of the survey were used in this article:

Q1. Race (Black or White).
Q2. Age.
Q3. Whether college educated (yes or no).
Q4. Family income (in thousand dollars).
Q5. Whether religion was very important (yes or no).

In the models presented in the results, we included both age and age-squared to allow for nonlinear effects of age. While age and age-squared are necessarily collinear, the extent of collinearity in our data did not cause numeric problems estimating the models.

The remaining questions were taken from the second part of the survey.

Health

Two questions were used for physical and mental health:

Q6. PCS12 measuring physical health.
Q7. MCS12 measuring mental health.

These scales were from the SF12, a commonly used "Quality of Life" assessment (Ware, Kosinski, & Keller, 1996). PCS12 provides a brief measure of physical health and MCS12 of mental health. Each scale has a range of around 10–70, and the U.S. population norm is a mean of 50 ($SD = 10$); a higher score means more positive health.

Q8. BMI; weight and height converted into Body Mass Index (BMI) defined as weight in kilograms divided by height in meters squared. This has been categorized as BMI 1 (below 20; underweight), BMI 2 (20–24; ideal weight), BMI 3 (25–29; overweight), and BMI 4 (30+; obese).

Sexuality

Detailed questions then followed about the woman's sexual experiences and feelings over the preceding month. These

were based on our previously used "Interviewer's Ratings of Sexual Function" (Cawood & Bancroft, 1996; Graham, Ramos, Bancroft, Maglaya, & Farley, 1995; Sanders, Graham, Bass, & Bancroft, 2001) and the full list of questions is reported elsewhere (Bancroft et al., 2003a). The following were the items used in this study.

Dependent Variables: Indicators of Sexual Well-Being

Q9. "In general, would you say your current sexual relationship is Excellent, Very good, Good, Fair or Poor?"
Q10. "In general, would you say your own sexuality is Excellent, Very good, Good, Fair or Poor?"

The first question was asked at the beginning of the sexuality section; the second question followed the first at the beginning, but was also asked a second time at the end of this section. The first and second responses to this question were strongly associated, with a polychoric correlation of 0.79,[1] but the second was used in our analyses since it followed a series of detailed questions about the woman's sexual responses. These two questions will be referred to as sexual relationship and own sexuality in the presentation and discussion of the results. For purposes of analysis, the five categories were collapsed into three: excellent/very good, good, and fair/poor. This was due to the small number of cases found in the extreme categories of excellent and poor. As shown by McCullagh (1980), this will not affect the estimates from the ordered logit model.

Independent Variables: Sexuality

Sexual Interest. One question was used:

Q11. "During the past 4 weeks, how often did you think about sex with interest or desire? This includes times of just being interested, daydreaming, and fantasizing, as well as times when you wanted sex." Response options were: Not at all; once or twice a month; once a week; several times a week; at least once a day.

Frequency of Sexual Activity During the Past Month. Two questions were used:

Q12. Frequency of sexual activity with partner (with or without sexual intercourse).
Q13. Frequency of masturbation.

Sexual Response During Sexual Activity. These questions were restricted to those who reported sexual activity during the past month.

Q14. "How many times did you experience an orgasm?"
Q15. "How many times did you experience pain or discomfort as a result of sexual activity?"

Two further composite variables were derived from other initial questions:

Q16. *Positive subjective response*. Four questions were used and scored as follows: felt pleasure during sexual act 80% or more of the time = 1; felt emotionally close to partner during sexual act 80% or more of the time = 1; felt indifferent about the sexual act less than 20% of the time = 1; had unpleasant feelings less than 20% of the time = 1; score range, 0–4; higher score, more positive experience. In the analysis, we recoded subjective response to a dummy variable coded 1 for scores 3 and 4 (i.e., more positive) and coded 0 for lower scores.
Q17. *Impaired physical response*. Three questions were used and scored as follows: felt aroused during sexual activity less than 50% of the time = 1; pleasant tingling in genitals less than 50% of the time = 1; enjoyed genitals being touched less than 50% of the time = 1. Score range, 0–3; higher score, more impairment. In the analysis, we recoded physical response to a dummy variable coded 1 for scores 1 to 3, otherwise 0.

The partner's response during sexual activity was measured with three questions:

Q18. "How many times did your partner have difficulty getting or keeping an erection?"
Q19. "How many times did he ejaculate too quickly (i.e., more quickly than either he or you would prefer)?"
Q20. "How often does your partner understand how you feel and what you enjoy while you are having sex?" (all of the time; most of the time; some of the time; a little of the time; none of the time).

Sexual attractiveness was measured with two questions:

Q21. "How sexually attractive have you felt recently?"
Q22. "How sexually attractive is your partner to you?"

Response categories were very attractive; somewhat attractive; neither attractive nor unattractive; somewhat unattractive; and very unattractive.

If a participant reported no sexual activity, she was not asked follow-up questions on specific sexual activity. For example, if the participant had not had sex with her partner, she was not asked how often her partner understood how she felt. For participants with no sexual activity, we assigned values of 0 for the frequency of specific activities. In order to capture both the effect of the extent of a specific activity and whether the participant reported any sexual activity, our models included both a variable for the frequency of a specific activity and a dummy variable indicating whether the participant had any sexual activity. This allowed us to differentiate between those who had sexual activity and reported 0 on a specific behavior and those who did not have any activity and consequently were coded 0.

[1] Software was not available to compute the polychoric correlation using survey weights. The Pearson correlation using the survey weights was .75.

Sexual Happiness. The following questions assessed the importance to the woman's sexual happiness of four aspects of sexual experience. "How important to your sexual happiness is it…":

Q23. "…to feel emotionally close to your partner?"
Q24. "…that your partner is sexually satisfied?"
Q25. "…to feel comfortable talking to your partner about sexual acts?"
Q26. "…to have an orgasm?"

The response options for these questions were: not at all; somewhat; moderately; very; extremely. As these sexual happiness questions are conceptually different from our other dependent variables, they will be considered separately, in the last part of the "Results" section.

Data Analysis

Weighting

To make accurate estimates of the target population, weights were used that reflected the probability of an individual's inclusion in the sample and to compensate for different response and coverage rates for specific demographic subsets of the population. Because groups in the target population had unequal probability of selection, design-based methods of estimation were used to obtain unbiased estimates of population parameters and standard errors. All results were computed using survey weights with the exception of the Brant test that is not available for weighted data. For a detailed discussion of these methods, see Hosmer and Lemeshow (2000) and Korn and Graubard (1999).

Statistical Methods

For the ordinal outcomes for own sexuality and sexual relationship, we used the ordinal logit model (Hosmer & Lemeshow, 2000; Long, 1997). The ordinal logit model (OLM) assumes that the effect of any predictor on the odds of lower compared to higher values of the outcome variable will be identical regardless of how one splits the outcome. The assumption, referred to as the proportional odds assumption or the parallel regression assumption, can be evaluated with the Brant (1990) test. Since this test does not adjust for complex samples, we tested the proportional odds assumption without adjustments for sampling. The Brant test showed no evidence that the assumption was violated for the model predicting own sexuality. In the model for sexual relationship, although not significant at the 0.05 level, the test was significant at the 0.10 level. These results supported our decision to use the ordinal logit model.

For the OLM, we report the estimated odds ratio (*OR*) that can be interpreted as the factor change in the odds of a more positive response compared to a less positive response for a unit increase in a predictor. For continuous variables, the *OR* is also computed for a standard deviation increase in the predictor variable holding all other variables constant (entered in the tables as Std *OR*). We also used the models to compute predicted probabilities of the outcomes at different values of the predictors. This allowed us to assess the magnitude of race differences and the effects of other variables in terms of the probabilities of the outcomes.

For the two ordinal outcomes, we estimated a series of OLMs that sequentially added new variables. The first model included only race. Model 2 added demographic variables, measures of health, interest in sex, and sexual activity. Model 3 added measures of sexual attractiveness of the participant and her partner. Model 4 added variables measuring sexual response and partner's response during sexual activity.

We used binary logit to model whether the participant thought she was sexually attractive. Odds ratios were used to indicate how the odds of thinking oneself attractive were affected by predictors in the models. For continuous variables, the *OR* was also computed for a standard deviation increase in the predictor variable. As with the OLM, we also computed predicted probabilities to make some comparisons of black and white women. These will be explained further below.

Some variables required the inclusion of multiple coefficients in the models (e.g., age includes coefficients for age and age-squared to allow for a nonlinear effect; BMI includes three dummy variables with normal (i.e., ideal) BMI used as the excluded category). For these variables, we report a joint test that all coefficients associated with a variable are equal to zero.

Results

The distributions by race of responses for the dependent variables, sexual relationship and own sexuality (Q9 and Q10), are shown in Tables 1 and 2. Black women rated their own sexuality significantly more positively than white women (Table 1; $p = .02$), but there was no significant difference between racial groups for sexual relationship (Table 2; $p = .13$). Univariate comparisons of black and white women for the independent variables are shown in Table 3. Not surprisingly, white women were significantly more likely to have a college education ($p < .01$) and a higher family income ($p < .001$). Black women were more likely to report that religion was very important for them ($p < .0001$). On health-related measures, there were no significant differences between groups for PCS12 or MCS12. BMI, however, showed a significant difference, with black women more likely to be in the overweight and obese categories ($p = .01$). In assessment of sexuality, there were no significant differences between groups for level of sexual interest (Q11), frequency of sexual activity with partner (Q12) or in the frequency of masturbation (Q13). Among the 97.6% of the black and 95.9% of the white participants reporting sexual activity within the past month, there were no race

Table 1 Assessment of "own sexuality" by racial group (% of each group) using weights

Racial group	Poor/fair	Good	Excellent/very good
Black	11.7	24.1	64.2
White	21.4	29.3	49.4

Note: $N = 795$. Designed based test of independence, $F(1.97, 1554) = 4.16$, $p = .016$

Table 2 Assessment of "sexual relationship" by racial group (% each group) using weights

Racial group	Poor/fair	Good	Excellent/very good
Black	26.0	32.3	41.6
White	28.1	23.2	48.7

Note: $N = 795$. Designed based test of independence, $F(1.97, 1555.6) = 2.04$, ns

differences in the frequency of orgasm (Q14) or in pain during sexual activity (Q15). Black women, however, were more likely to report impaired physical response (Q17; $p < .01$) and white women were more likely to report a more positive subjective response during sexual activity (Q16; $p < .01$). For partner's sexual responses, there was no difference in the reported frequency of erectile difficulty (Q18), but black women were more likely to report more frequent rapid ejaculation (Q19; $p = .036$). There was no significant difference in the percent reporting that their partner mostly or always understood how they felt during sex (Q20). While no differences were found in ratings of their partner's attractiveness (Q22), black women were significantly more likely to consider themselves sexually attractive (Q21; $p < .01$).

Explaining Race Differences in Own Sexuality

In Tables 1 and 2, we found race differences in assessments of one's own sexuality, but not in the participant's evaluation of her current sexual relationship. To explore how the independent variables affected these outcomes and to what extent these variables can explain race differences in the assessment of own sexuality, we estimated a series of ordinal logit models. Table 4 shows the odds ratios (*OR*), standardized *OR*s, and *t*-values from these four ordinal logit models predicting own sexuality. Model 1 included only race, with a significant *OR* of 1.9 ($p < .01$), reflecting the differences between blacks and whites in their assessment of their own sexuality as shown in Table 1. Model 2 added controls for demographics, physical and mental health, sexual interest and sexual activity, leaving the effect of race essentially unchanged.[2] Model 3 added the participant's assessment of her own sexual attractiveness and that of her partner. Both variables were statistically significant at the 0.001 level with *OR*'s of 3.3 and 2.8. To determine which variable was critical for explaining race differences in assessments of the woman's own sexuality, we entered each variable separately. When only partner's attractiveness was added to Model 2, partner's attractiveness remained significant but the effect of race not only remained significant, it was slightly larger. However, by including only self attractiveness, the effect of race became non-significant while the effect of self attractiveness remained significant. To understand the strength of the effect of a women's assessment of her own attractiveness, we examined predicted probabilities for the three categories of own sexuality for those who reported that they thought they were attractive compared to those who reported they did not think they were attractive. Holding other variables at their mean, the predicted probability of having a "very good or excellent" view of one's own sexuality was 0.29 higher ($p < .001$) for women who thought of themselves as attractive compared to those who did not. The probability of a "good" view was .14 lower while the probability of a "poor" or "fair" view was .15 lower. Since this is the first time we focus on the predicted probabilities from our ordered logit model, it is useful to explain what this number means. Based on our estimated model, a women who did not feel attractive but was average on other characteristics has a predicted probability of a very good or excellent view of her own sexuality of .32; a women with average characteristics who felt attractive had a predicted probability of .61; the difference was .29 (.61 − .32). These effects of feeling attractive on own sexuality were similar for blacks and whites.

While the effect of self-attractiveness was the most striking finding in Table 4, the next most striking was our measure of sexual interest, frequency of sexual thoughts. This was a strongly significant predictor of own sexuality in Models 2, 3, and 4. To assess the magnitude of this effect, consider Model 4. Holding other variables at their mean, the predicted probability of having a "very good or excellent" view of one's own sexuality was .65 for women reporting sexual interest daily and .38 for those reporting it once a month, a difference that was significant at $p < .001$.

While frequency of sexual activity was significant in Models 2 and 3, the effect was no longer significant after controlling for sexual response. More frequent orgasms and having a partner who understands were both associated with a more positive view of one's own sexuality. Increasing the number of orgasms by a standard deviation (measured on a square root scale), increased the odds of a more positive view by a factor of 1.7 ($p < .01$). Having an understanding partner increased the odds of

[2] In logit models for ordinal and binary outcomes it is misleading to compare the magnitudes of regression coefficients or odds ratios across nested models since these coefficients reflect both the magnitude of the effect and arbitrary identification constraints (Winship & Mare, 1984). Accordingly, our assessments of the effect of race across nested models are based on comparisons across models of race differences in predicted probabilities of the outcome at specific values of the independent variables.

Table 3 Univariate comparison of independent variables by racial group using weights

Q#	Variable	Black		White		Test of equality by race
		M	SD	*M*	SD	*p*
2.	Age (in years)	38.3 ± 16.5		40.6 ± 9.7		ns
3.	College degree	18.4%		33.9%		.004
4.	Family income ($1000s)	33.8 ± 39.1		54.2 ± 24.6		<.001
5.	Religion is very important	80.2%		47.9%		<.001
6.	PCS12	51.2 ± 12.7		51.0 ± 7.2		ns
7.	MCS12	48.2 ± 16.2		49.5 ± 8.8		ns
8.	BMI 1 (<20): underweight	6.6%		8.2%		
	BMI 2 (20–24): ideal weight	26.8%		48.4%		
	BMI 3 (25–29): overweight	39.5%		29.6%		
	BMI 4 (30+): obese	27.2%		13.9%		.013
11.	Sexual interest					
	Not at all	9.6%		6.6%		
	Once or twice a month	21.0%		21.8%		
	Once a week	20.4%		31.9%		
	Several times a week	31.8%		25.7%		
	At least once a day	17.2%		14.0%		ns
Sexual activity during the past month						
12a.	No sexual activity with partner	2.4%		4.1%		ns
12b.	Freq. sexual activity with partner	13.7 ± 28.6		12.1 ± 10.9		ns
13.	Frequency masturbation	2.6 ± 13.2		2.2 ± 4.6		ns
14.	Frequency of orgasm	8.6 ± 24.7		7.3 ± 8.2		ns
15.	Pain during sex activity (≥50%)	4.0%		6.4%		ns
16.	Positive subjective response	40.7%		56.8%		.007
17.	Impairment of physical response	52.7%		35.3%		.004
18.	Times partner difficulty with erection	0.7 ± 2.4		1.0 ± 2.3		ns
19.	Times partner ejaculated too quickly	2.4 ± 7.4		1.6 ± 2.8		.036
20.	Partner mostly/always understands how you feel	66.5%		71.6%		ns
21.	Sexually attractive: self	74.0%		57.7%		.003
22.	Sexually attractive: partner	86.2%		84.5%		ns

Note: $N = 795$ except for Questions 14–19 which are based on those who reported having sex at least once ($N = 760$)

a woman reporting a more positive view by a factor of 2.6 ($p <$ .001). For example, an average woman with an understanding partner had a predicted probability of having a very good or excellent view of her own sexuality of .56, compared to .33 for a women who reported that her partner was not understanding.

Both physical and mental health were significant in all models although the magnitude of the effects and the level of significance decreased slightly as controls were added. The effect of mental health was stronger and more significant than the effect of physical health. In Model 4, for a standard deviation increase in MCS12 (an increase in the score of about 10), the odds of a more positive view of one's own sexuality increased by a factor of 1.6, holding other variables constant. While the combined effects of the BMI variables were not significant, being in BMI 4 compared to BMI 2 decreased the odds of more positive views of one's own sexuality ($p < .05$).

The strong effect of self-attractiveness as a predictor together with our finding that black women reported higher self-attractiveness than white women (see Table 3) raised questions about cultural aspects of sexual attractiveness. We therefore looked more closely at the possible determinants of self-attractiveness to explore whether they showed racial differences (see below).

Predictors of Sexual Relationship

Table 2 shows that there were no significant racial differences in women's assessments of their sexual relationship. In this section, we examine factors that predicted a woman's assessment of her sexual relationship. We estimated a series of OLMs using the same sets of predictors as discussed above, to determine whether race differences emerged after adding controls. Since none of the models resulted in a significant effect of race and since the effects of other variables were largely unchanged across models, we have shown only Model 4 in Table 5, the

Table 4 Ordinal logit models predicting rating of "own sexuality"

	Model 1	Model 2	Model 3	Model 4
Race				
Black participant				
OR	1.875**	1.994*	1.561	1.526
t-value	(2.77)	(2.51)	(1.62)	(1.50)
Demographics				
Religion very important				
OR		1.087	1.057	1.081
t-value		(0.41)	(0.27)	(0.37)
College degree				
OR		1.270	1.092	1.159
t-value		(1.09)	(0.40)	(0.64)
Log of income				
OR		0.640**	0.655*	0.689*
Std *OR*		0.722	0.734	0.761
t-value		(−2.78)	(−2.56)	(−2.14)
Age				
OR		0.893	0.926	0.866
Std *OR*		0.290	0.433	0.207
t-value		(−1.53)	(−1.02)	(−1.94)
Age-squared				
OR		1.001	1.001	1.002
Std *OR*		2.834	2.090	4.537
t-value		(1.32)	(0.93)	(1.91)
Joint test: age, age-squared				
p-value		ns	ns	ns
Health				
PCS12				
OR		1.051***	1.044**	1.033*
Std *OR*		1.498	1.417	1.305
t-value		(3.60)	(3.04)	(2.18)
MCS12				
OR		1.073***	1.061***	1.051***
Std *OR*		2.008	1.804	1.639
t-value		(6.06)	(5.04)	(4.05)
BMI: 1 underweight				
OR		1.111	0.925	0.810
t-value		(0.30)	(−0.20)	(−0.54)
BMI: 3 overweight				
OR		0.963	1.069	0.955
t-value		(−0.16)	(0.28)	(−0.19)
BMI: 4 obese				
OR		0.516*	0.612	0.529*
t-value		(−2.24)	(−1.62)	(−2.04)
Joint test: BMI1, BMI3, BMI4				
p-value		ns	ns	ns
Sexual interest				
Sexual interest				
OR		1.399***	1.412***	1.450***
Std *OR*		1.466	1.482	1.528
t-value		(3.46)	(3.34)	(3.41)
Sexual activity				
No sex with partner				
OR		0.498	0.761	0.779
t-value		(−1.33)	(−0.51)	(−0.42)
Sqrt of freq sexual activity				
OR		1.434***	1.353***	0.983
Std *OR*		1.781	1.623	0.973
t-value		(4.12)	(3.53)	(−0.13)
Sqrt of times masturbated				
OR		1.096	1.108	1.126
Std *OR*		1.120	1.135	1.159
t-value		(0.92)	(1.07)	(1.19)
Attractiveness				
Self sexually attractive				
OR			3.327***	3.550***
t-value			(5.54)	(5.55)
Partner sexually attractive				
OR			2.779***	2.023*
t-value			(3.51)	(2.18)
Participant's sexual response				
Sqrt number of orgasms				
OR				1.432**
Std *OR*				1.724
t-value				(2.60)
Any physical impairment				
OR				1.431
Std *OR*				1.188
t-value				(1.41)
Positive subjective response				
OR				0.728
Std *OR*				0.853
t-value				(−1.26)
Pain during sex				
OR				0.463
Std *OR*				0.835
t-value				(−1.95)
Partner's sexual response				
Sqrt of # times quick ejaculation				
OR				1.007
Std *OR*				1.007
t-value				(0.06)
Sqrt of # times erection problems				
OR				0.909
Std *OR*				0.923
t-value				(−0.67)
Partner understands feelings				
OR				2.595***
t-value				(3.45)
Observations	795	795	795	795

OR odds ratio, *Std OR* odds ratio for a standard deviation increase in the predictor

* $p < .05$, ** $p < .01$, *** $p < .001$ for two-tailed tests

results from a single ordinal logit model that includes the same predictors as Model 4 in Table 4.

None of the demographic variables significantly affect the outcome. Among the measures of health, MCS12 significantly affected sexual relationship ($p < .001$), with a standard deviation increase in MCS12 increasing the odds of a more positive assessment by a factor of 1.7, holding other variables constant. Using predicted probabilities, as MCS12 increased from the 5th percentile to the median to the 95th percentile, the probability of reporting a very good or excellent relationship increased from .21 to .47 to .58, while the probability of a poor or fair relationship decreased from .42 to .18 to .13, holding other variables at their means.

Frequency of sexual activity, sexual attractiveness of partner, and a partner who understands how one feels during sexual activity were also important and significant predictors of reporting a positive sexual relationship in Table 5. A standard deviation increase in frequency of sexual activity increased the odds of a more positive sexual relationship by a factor of 2.6. In terms of predicted probabilities, we found that for a woman who reported no sexual activity in the previous month, the probability of reporting a poor or fair sexual relationship was .89 with the probability of a very good or excellent sexual relationship being only .02, holding other variables at their means. Reporting even a single sex act decreased the probability of a poor or fair sexual relationship to .47 and increased that of a very good or excellent sexual relationship to .19.[3] For participants in the 25th, 50th, 75th, and 95th percentiles (corresponding to 4, 8, 15, and 36 acts) for sexual activity, the probability of reporting a very good or excellent relationship increased from .29 to .41 to .57 to .83. Although not a strong predictor, frequency of masturbation was negatively and significantly related to evaluation of sexual relationship.

While views on one's own sexual attractiveness were critical for understanding assessments of one's own sexuality, it was the partner's attractiveness that most significantly affected a participant's assessment of her sexual relationship. If an average participant reported that her partner was not attractive, the predicted probability of a poor or fair relationship was .45 and of a very good or excellent relationship .20, compared to .17 and .49 for those who reported their partner as being attractive. None of the variables indicating the participant's sexual response was significant, while both erection problems and understanding by the partner were significant. The effect of problems with erections was relatively small, but significant at the .05 level. For someone who reported no erection problems for her partner, the probability of reporting a very good or excellent relationship was .49. At the 90th percentile (two reported problems), the probability dropped to .38 and continued to drop to .34 by the 95th percentile (four reported problems). The effect of the "partner's understanding" was stronger. For an average participant, if her partner understands how she feels during sex, the probability of a poor or fair relationship was .17 compared to .33 for a participant whose partner did not understand. Regarding very good or excellent relationships, the probabilities were .50 and .29.

Overall, the variables that stand out in this logit were MCS 12, frequency of sexual activity with partner, and sexual attractiveness of partner. Having good mental health, a sexually attractive partner, and sexual activity with one's partner at least once a month were the three most important predictors of a good sexual relationship. None of these variables differed significantly between black and white women.

Predictors of Women's Assessment of Their Own Sexual Attractiveness

Since black women in this sample were significantly more likely to rate themselves as sexually attractive than were white women, and since one's own sexual attractiveness was the main determinant of race difference in assessing one's own sexuality, it is important to look more closely at factors that influence a participant's assessment of her own sexual attractiveness, and consider the extent to which there were similar predictors for black and white women. For this purpose we estimated a binary logit of attractiveness-self, assessing the effects of demographic and health variables, including BMI. We also included the level of sexual interest, whether there had been any or no sexual activity in the past month, the square root of frequency of sexual activity, and the square root of frequency of masturbation. The resulting estimates from the logit model with controls are shown in Table 6.

Overall, being black significantly increased the odds of reporting that a woman feels attractive by a factor of 2.4, holding other variables constant. Holding all other variables at their mean, the predicted probability of a black participant reporting that she feels attractive was .75 compared to .56 for a white participant, a difference of .19. In addition, physical health, mental health, and frequency of sexual activity had significant effects on one's assessment of self attractiveness. For a standard deviation increase in PCS12, the odds of feeling attractive increased by a factor of 1.55, holding everything else constant. MCS12 had a similar effect, increasing the odds by a factor of 1.46. It is noteworthy, given that the ages of our sample ranged from 20 to 65, that age was not a significant predictor of sexual attractiveness-self.

To understand the effect of sexual activity, we need to consider both the indicator of whether the participant had any sex during the reporting period and the frequency of sexual activity if she did. Combining the effects of these two variables, we computed the predicted probability of feeling sexually attractive at different levels of sexual activity, holding other variables at their mean values. For black women, going from no sex acts, to the

[3] Recall that our model includes a dummy variable indicating that the participant did not have sex and a variable indicating the square root of the number of sex acts. The dummy variable allows us to evaluate what could be an important difference between not having sex and having even one sexual experience during the reporting period.

Table 5 Ordinal logit models predicting rating of "sexual relationship"

	Model 4
Race	
Black participant	
OR	1.036
t-value	(0.10)
Demographics	
Religion very important	
OR	1.203
t-value	(0.82)
College degree	
OR	0.929
t-value	(−0.31)
Log of income	
OR	0.944
Std *OR*	0.959
t-value	(−0.32)
Age	
OR	1.078
Std *OR*	2.285
t-value	(0.99)
Age-squared	
OR	0.999
Std *OR*	0.454
t-value	(−0.96)
Joint test: age, age-squared	
p-value	ns
Health	
PCS12	
OR	1.019
Std *OR*	1.168
t-value	(1.24)
MCS12	
OR	1.052***
Std *OR*	1.657
t-value	(4.07)
BMI: 1 underweight	
OR	0.489
t-value	(−1.53)
BMI: 3 overweight	
OR	0.822
t-value	(−0.75)
BMI: 4 obese	
OR	0.482*
t-value	(−2.11)
Joint test: BMI1, BMI3, BMI4	
p-value	0.109
Sexual interest	
Sexual interest	
OR	1.194
Std *OR*	1.224
t-value	(1.61)
Sexual activity	
No sex with partner	
OR	0.150*
t-value	(−2.54)
Sqrt of freq sexual activity	
OR	1.836***
Std *OR*	2.644
t-value	(4.20)
Sqrt of times masturbated	
OR	0.782*
Std *OR*	0.738
t-value	(−2.08)
Attractiveness	
Self sexually attractive	
OR	0.927
t-value	(−0.30)
Partner sexually attractive	
OR	3.895***
t-value	(3.72)
Participant's sexual response	
Sqrt number of orgasms	
OR	0.880
Std *OR*	0.824
t-value	(−0.87)
Any physical impairment	
OR	0.601
Std *OR*	0.783
t-value	(−1.63)
Positive subjective response	
OR	1.625
Std *OR*	1.274
t-value	(1.81)
Pain during sex	
OR	0.738
Std *OR*	0.931
t-value	(−0.65)
Partner's sexual response	
Sqrt of # times quick ejaculation	
OR	1.100
Std *OR*	1.102
t-value	(0.84)
Sqrt of # times erection problems	
OR	0.739*
Std *OR*	0.776
t-value	(−2.49)
Partner understands feelings	
OR	2.434**
t-value	(3.03)
Observations	795

OR odds ratio, *Std OR* odds ratio for a standard deviation increase in the predictor

* $p < .05$, ** $p < .01$, *** $p < .001$ for two-tailed tests

Table 6 Binary logit model predicting rating of "self attractiveness"

	Model 1
Race	
Black participant	
OR	2.405**
t-value	(3.01)
Demographics	
Religion very important	
OR	1.281
t-value	(1.10)
College degree	
OR	1.180
t-value	(0.69)
Log of income	
OR	0.858
Std *OR*	0.894
t-value	(−0.91)
Age	
OR	0.915
Std *OR*	0.377
t-value	(−1.28)
Age-squared	
OR	1.001
Std *OR*	2.439
t-value	(1.19)
Joint test: age, age-squared	
p-value	ns
Health	
PCS12	
OR	1.054***
Std *OR*	1.553
t-value	(3.71)
MCS12	
OR	1.039**
Std *OR*	1.458
t-value	(3.22)
BMI: BMI2 (normal) is the excluded category	
BMI: 1 underweight	
OR	1.911
t-value	(1.31)
BMI: 3 overweight	
OR	0.642
t-value	(−1.80)
BMI: 4 obese	
OR	0.432**
t-value	(−2.69)
Joint test: BMI1, BMI3, BMI4	
p-value	.012
Sexual interest	
Sexual interest	
OR	1.041
Std *OR*	1.047
t-value	(0.41)
Sexual activity	
No sex with partner	
OR	0.424
t-value	(−1.40)
Sqrt of freq sexual activity	
OR	1.233*
Std *OR*	1.399
t-value	(2.37)
Sqrt of times masturbated	
OR	1.092
Std *OR*	1.115
t-value	(0.96)
Observations	795

OR odds ratio, *Std OR* odds ratio for a standard deviation increase in the predictor

* $p < .05$, ** $p < .01$, *** $p < .001$ for two-tailed tests

first quartile (4 acts) to the median (8 acts) and to the third quartile (15 acts) increased the probability of feeling attractive from .41 to .71 to .75 to .78. The corresponding probabilities for white women, who as noted above had overall lower probabilities of feeling attractive, were .22, .51, .55 and .60. Clearly, having no sex during the reporting period had a strong impact on a participant's feelings of being sexual attractive. Although this impact was larger in white women, this racial difference was not significant.

The impact of BMI is of particular interest. Past literature suggests that blacks and whites have different standards for defining an ideal weight (reviewed by Roberts, Cash, Feingold, & Johnson, 2006), hence the conventional labeling of the BMI range of 20–24 as "ideal" may be more consistent with the beliefs of white than black women. However, to explore how BMI was related to a woman's perception of her sexual attractiveness, Table 7 presents the predicted probabilities of considering oneself attractive by race for the four levels of BMI, holding other variables at their mean. At all levels of BMI, black women had higher probabilities of feeling attractive, but the differences were most significant for those who were ideal weight or overweight.

A number of other potential predictors (e.g., partner's erectile problems [Q18] and his understanding [Q20]) were explored and none of them was significant.

Table 7 Race differences in assessments of "self attractiveness" by BMI

BMI	Black	White	Difference	*p*
Underweight	0.877	0.748	0.129	.014
Ideal	0.789	0.608	0.181	.001
Overweight	0.706	0.499	0.206	.001
Obese	0.617	0.402	0.216	.002

Note: $N = 795$

Sexual Happiness

The four questions relating to sexual happiness (Q23–26) had five response options. In analyzing the results, these were dichotomized into "very/extremely important" versus "moderately/somewhat/not at all important." For the entire sample, the most important of the four questions was "to feel emotionally close to your partner" (Q23) with 83.2% reporting that this was very or extremely important. This was significantly more important for white women (85.1 vs. 70.3%; $p = .002$). The next most important was "that your partner be sexually satisfied" (Q24) with 78.2% reporting that this was very or extremely important. Black and white women did not differ significantly on this variable. The third most important was "to feel comfortable talking to your partner about sex" (Q25) with 60.9% reporting that this was very or extremely important. This was significantly more important for black women (73.4 vs. 59.0%; $p = .02$). The least important of the four was "to have an orgasm" (Q26) with 29.1% overall reporting this as very or extremely important and black women reporting this more often than white women (38.4 vs. 27.7%; $p = .05$).

Discussion

The most important finding reported in this article was that black women rated their own sexuality more positively than white women, and that this variable was strongly related to their ratings of their own sexual attractiveness. The two groups did not differ in their ratings of sexual relationship. In their commentary on our earlier article from this study (Bancroft et al., 2003a), Rosen and Laumann (2003) questioned the validity of our dependent variables, own sexuality and sexual relationship, although in that context it was in relation to distress (for our response to their commentary, see Bancroft, Loftus, & Long, 2003b). The question about sexual relationship is one that most women have clearly in their mind. On the other hand, we accept that the meaning of the own sexuality question may be considered ambiguous, but we can report that neither during cognitive interviewing at the pilot stage nor during the survey itself did any women question its meaning. It at least allows the participant to discriminate between what she feels about her sexual relationship and what she feels about herself as a sexual woman. The results from this article point to own sexuality having two principal components in both white and black women: the woman's sense of her own sexual attractiveness, and her level of sexual interest. In a subsequent small qualitative study (McCabe, Tanner, & Heiman, 2010) women were presented with the same question about own sexuality as used in this study and were then asked what they thought the question was getting at and what they thought people would think about when answering it. Some of these women focused on sexual desire; others focused on sexual attraction. This raises an interesting question of the extent to which these two components are interrelated. As shown in Table 6, our measure of sexual interest was not predictive of ratings of self-attractiveness and did not differ between black and white women. As it happens, in the field of sexual science, neither of these aspects of women's sexuality is well understood. A woman's sense of being sexually attractive, as a component of her sexual well-being, has received little attention in the literature, which has focused much more on what men find sexually attractive in women. Sexual interest or desire has received much more attention, but somewhat unfocused. Only recently have researchers started to grapple with the nature of sexual desire in women and what it is that a particular woman desires. It has been proposed (Bancroft, 2009) that one aspect of sexual desire in women is a desire to be desired, which might be fundamental to women's sexuality from a reproductive perspective. Another aspect is desire for sexual pleasure, which may be more important for some women than others, and is perhaps less relevant to reproduction. The desire to be desired may be more relevant than the desire for sexual pleasure to a woman's sense of "sexual attractiveness." This possibility can only be assessed by further research.

In the present study, however, it was the woman's sense of being sexually attractive that most clearly distinguished black from white women. Let us consider more closely this finding, and its relationship to other findings in this study.

The fact that black women have more limited opportunities than white women for stable sexual relationships needs to be considered (e.g., Twenge & Crocker, 2002). However, whereas there is consistent evidence that white women are more likely to marry than black women, the ethnic difference is less marked when committed non-marital relationships are included (e.g., Raley, 1996). An inclusion criterion in this study was that a woman should be in a heterosexual relationship of at least 6 months duration. On the one hand, a potential confound is that the black women in our sample may have considered themselves more sexually attractive because they were in a relatively stable relationship. On the other hand, they may be right. Either way, we have to keep in mind that this selection criterion may have amplified the racial difference in self-assessment of sexual attractiveness.

How did the black and white women compare on our other independent variables? There were expected differences in level

of education and income, underlining the importance of controlling for these factors in our assessment of the impact of race. There was a striking difference between the groups in the importance of religion, and the relation between religion and sexuality will be looked at more closely below. Black women tended to have higher BMI scores. It is therefore relevant that, in a recent study, Roberts et al. (2006) reported that black women have more positive body images than white women, and this applies to both weight-related and non-weight-related aspects of body image. Our findings support this conclusion in relation to weight: black women described themselves as more sexually attractive than did white women for each of the four categories of body weight, although most strongly for ideal weight and overweight.

Most of the sexuality-related variables were similar in the two groups. However, black women were more likely to report impaired physical response and white women were more likely to report more positive subjective response. It is not clear what accounts for these two racial differences. There are no reasons to expect that black women are more likely to experience impaired sexual response. It is possible, however, that their own sexual response is of greater importance to their sexual well-being, and they may therefore set themselves higher standards for a satisfactory physical response. The trend towards higher subjective ratings in white women may reflect the greater importance that they attach to feeling emotionally close to their partners, as shown in the relevant "sexual happiness" question. Black women reported a higher frequency of rapid ejaculation in their partners. This is of interest as the definition of rapid ejaculation is relatively arbitrary compared to problems with erections. We cannot distinguish between rapid ejaculation as judged by the woman and by her partner, but it is feasible that this higher rate in black women reflects a greater importance they attach to their own sexual enjoyment and how this can be terminated prematurely when their partners ejaculate. This was also supported by the sexual happiness question showing a trend for black women to attach more importance to having an orgasm. There was no difference between groups in the rating of attractiveness of partner.

The strongest predictors of sexual relationship were our measure of mental health, MCS12, and the frequency of sexual activity with the partner. Masturbation frequency, as a negative predictor, started off fairly strong but was less significant by the last step, as was the case for attractiveness-partner as a positive predictor. None of these variables was different for the two racial groups.

In predicting own sexuality, MCS12 was once again strongly and positively predictive. A similarly consistent, though negative association was found in the earlier article, predicting distress about own sexuality and sexual relationship (Bancroft et al., 2003a). We thus have substantial indication of the importance of mental health to women's sexuality. As we indicated in the earlier article, we cannot readily distinguish between cause and effect. Certainly, negative mood may result in impaired sexuality and associated distress. Conversely, impaired sexuality, and perhaps particularly an impaired sexual relationship, could result in negative mood. A comparable bidirectional association could occur with sexual well-being. In order to clarify this, a careful and detailed history would be required.

The level of sexual interest was strongly predictive of own sexuality, but did not differ in this respect between black and white women. Frequency of sexual activity with one's partner was predictive in both racial groups. This was more striking in white women, but the racial difference was not significant. However, the most striking effect in this ordinal logit was the impact of sexual attractiveness-self, which not only remained strongly predictive of own sexuality, but effectively removed the racial difference in this dependent variable.

To what extent were our findings consistent with the suggestion from the earlier literature (Houston, 1981; Oggins et al., 1993a, b) that, for white women, sexuality is more relationship dependent whereas for black women more individualistic? The questions about sexual happiness are of relevance here. White women attached more importance to feeling emotionally close to their partner whereas black women attached more importance to feeling comfortable talking with their partners about sex, consistent with a greater need for them to express their own sexual wishes and needs. In addition, black women attached more importance to having an orgasm. Thus, we find limited support for this earlier suggestion.

Let us now consider our findings in relation to the previous literature on African-American and White sexuality to see what tentative conclusions we can draw about determinants of women's sexuality in those two cultural groups.

Self-Esteem

The relation between sexual attractiveness and self-esteem is of relevance. Hughes and Demo (1989) reported that many studies had shown blacks to have self-esteem equal to or greater than that of whites. They pointed out the paradox that high self-esteem in blacks was often associated with lower levels of personal efficacy, two factors that usually are highly correlated. In their own study, involving a 1980 national sample of black Americans, Hughes and Demo concluded that "personal efficacy" needed to be considered differently, in view of its vulnerability to racial discrimination. They found the strongest predictors of personal self-esteem were quality of family and friendship relations and involvement in the black religious community. More recently, Twenge and Crocker (2002) reported a meta-analysis of race differences in self-esteem. Blacks scored higher than whites on self-esteem measures, although whites scored higher than other racial minority groups. It seems likely that these results reflect cultural rather than socioeconomic influences. We did not measure self-esteem, but if we had, we might

well have found that this was a predictor of the woman's sense of sexual attractiveness.

Independence

The African-American culture in the United States encourages women to be independent. Compared to white women, they have less opportunity to rely on male partners for financial security, and, as a consequence are taught to pursue financial as well as emotional independence (e.g., Berkowitz & Padavic, 1999; Dugger, 1988). This is consistent with their valuing their sexual pleasure in its own right. These differences in socialization are reflected in popular culture; for example, magazine advertisements for white audiences portray women in roles and with characteristics of submissiveness and dependency, while ads for black audiences portray women as dominant and independent (Baker, 2005).

Religion

The black women in our sample were much more likely than white women to see religion as extremely important. The relevance of this to the racial difference in self-rating of sexual attractiveness is not as yet clear. However, Mahay et al. (2001) found that black women were more likely than white women to say that their religious beliefs had influenced their sexuality.

As considered earlier, there are indications that white women in the United States are culturally encouraged to be puritanical about sex, a consequence of the longstanding Christian pattern of seeing sex as only acceptable within marriage, with the added justification for women that, by providing sex to their husbands, they are reinforcing the marriage (e.g., Oggins et al., 1993a, b). However, African-Americans who are religious are also predominantly Christian (Protestant more than Catholic). This thus presents us with a paradox: an apparent cultural difference in the impact that Christian religious belief has on sexuality, particularly in women. As mentioned earlier, Reiss (1964) found black women to show significantly more permissiveness about premarital sex than white women. This was particularly evident among black high church attenders, who, furthermore, combined greater sexual permissiveness with greater importance of romantic love, an association that was in the opposite direction in white women (Reiss, 1967).

The consistent finding that black men and women are less likely than whites to engage in non-coital sex was also mentioned earlier. On the basis of this evidence, Mahay et al. (2001) concluded that black women were more conservative in their sexual attitudes than white women, which is somewhat inconsistent with their greater pre-marital permissiveness. There is, however, an alternative explanation: black women (and men) prefer vaginal intercourse because it is the natural form of sexual expression and linked to reproduction. In contrast, white women and men have resorted to non-coital sexual activity as a way of coping with their culturally determined and religiously defined puritanical constraints.

Whether or not this alternative is relevant, we are dealing with what appears to be a clear cultural difference between black and white American sexual norms, albeit one that has lessened somewhat in the last few decades. Given that sociocultural influences in the United States have tended to maintain these black-white differences, rather than to encourage and facilitate acculturation as happens with immigrant racial groups, this raises the question of the origins of the African American culture.

Cultural Origins

One obvious question is whether the African American culture has its origins in African culture. However, in their review of the evidence from a variety of African societies, Njikam Savage and Tchombe (1994) presented a complex and seemingly unstable picture, and certainly no predictable African pattern. Hence, it is difficult to use evidence from current African societies, which have been affected by a range of modern cultural influences, to establish the prevailing sexual mores at the times when Africans were taken from their homes and imported to the United States as slaves. It would also be surprising if their original cultures had remained unchanged following their abduction, given the various major pressures that resulted from their disadvantaged position.

According to Visotky (1969), who studied attitudes to adolescent sexuality among black men and women in a deprived area of Chicago, it was assumed that every girl would have sexual relations, whether married or not, and if this did not happen by the age of 18 or 19, then there was something wrong with her. Girls seek to please boys by having babies was another related attitude. The girl was expected to take responsibility for any offspring, although she would usually be supported by her mother in this respect. It is not clear to what extent such attitudes are still evident today. As mentioned in the introduction, much of these patterns may have reflected socioeconomic factors. At best, we can tentatively speculate about the origins of the differences in black and white women's sexuality that emerged in our study.

Conclusions

The comparison of African-American and white American women provides a relatively unique opportunity to assess the impact of different cultures on women's sexuality, without the confounding effects of acculturation. This is not only relevant to the multicultural United States, it may also help us to understand potential differences in how sexuality is conceptualized in other parts of the world.

There is already substantial evidence of a difference between black and white sexuality in adolescence, the most striking being the teenage birth rates. In this study, we assessed adult women in established sexual relationships. The differences we

found were mainly related to how black and white women see themselves sexually; in particular, how sexually attractive they feel. Such differences, we have suggested, may stem from racial differences in the sense of independence and associated self-esteem, as well as a strikingly different impact of religion on women's sexuality (i.e., sex-positive versus sex-negative), and a different significance of demonstrating one's fertility.

A next appropriate step in striving to understand these black-white differences in American women, would be to use qualitative research methods to explore how white and black women, with similar levels of religious commitment, view their sexuality. Our study has raised a number of questions that could be addressed by such research.

Acknowledgments This study was made possible by a grant from the Lilly/ICOS Joint Venture. We are grateful to Dr. Jeni Loftus for her work on an earlier version of this article.

References

Baker, C. N. (2005). Images of women's sexuality in advertisements: A content analysis of black- and white-oriented women's and men's magazines. *Sex Roles, 52*, 13–27.

Bancroft, J. (2009). *Human sexuality and its problems* (3rd ed.). Edinburgh: Churchill Livingstone/Elsevier.

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

Bancroft, J., Loftus, J., & Long, J. S. (2003b). Reply to Rosen and Laumann. *Archives of Sexual Behavior, 32*, 213–216.

Berkowitz, A., & Padavic, I. (1999). Getting a man or getting ahead: A comparison of White and Black sororities. *Journal of Contemporary Ethnography, 27*, 530–557.

Brant, R. (1990). Assessing proportionality in the proportional odds model for ordinal logistic regression. *Biometrics, 46*, 1171–1178.

Browning, C. R., & Burrington, L. A. (2006). Racial differences in sexual and fertility attitudes in an urban setting. *Journal of Marriage and Family, 68*, 236–251.

Cawood, E. H. H., & Bancroft, J. (1996). Steroid hormones, the menopause, sexuality and well-being of women. *Psychological Medicine, 26*, 925–936.

Dugger, K. (1988). Social location and gender-role attitudes: A comparison of Black and White women. *Gender & Society, 2*, 425–448.

Gebhard, P. H., & Johnson, A. B. (1979). *The Kinsey data: Marginal tabulations of the 1938–63 interviews*. Philadelphia: Saunders.

Graham, C. A., Ramos, R., Bancroft, J., Maglaya, C., & Farley, T. M. M. (1995). The effects of steroidal contraceptives on the well-being and sexuality of women: A double blind, placebo-controlled, two centre study of combined and progestogen-only methods. *Contraception, 52*, 363–369.

Haavio-Mannila, E., & Kontula, O. (1997). Correlates of increased sexual satisfaction. *Archives of Sexual Behavior, 26*, 399–419.

Hosmer, D. W., & Lemeshow, S. (2000). *Applied logistic regression*. New York: Wiley.

Houston, L. N. (1981). Romanticism and eroticism among Black and White college students. *Adolescence, 16*, 263–272.

Hughes, M., & Demo, D. H. (1989). Self-perceptions of Black Americans: Self-esteem and personal efficacy. *American Journal of Sociology, 95*, 132–159.

Kinsey, A. C., Pomeroy, W. B., & Martin, C. E. (1948). *Sexual behavior in the human male*. Philadelphia: Saunders.

Kinsey, A. C., Pomeroy, W. B., Martin, C. E., & Gebhard, P. H. (1953). *Sexual behavior in the human female*. Philadelphia: Saunders.

Korn, E. L., & Graubard, B. I. (1999). *Analysis of health surveys*. New York: Wiley.

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

Laumann, E. O., Paik, A., Glasser, D. B., Kang, J.-H., Wang, T., Levinson, B., et al. (2006). A cross-national study of subjective sexual well-being among older women and men: Findings from the Global Study of Sexual Attitudes and Behaviors. *Archives of Sexual Behavior, 35*, 145–161.

Long, J. S. (1997). *Regression models for categorical and limited dependent variables*. Thousand Oaks, CA: Sage.

Mahay, J., Laumann, E. O., & Michaels, S. (2001). Race, gender and class in sexual scripts. In E. O. Laumann & R. T. Michael (Eds.), *Sex, love and health in America* (pp. 197–238). Chicago: University of Chicago Press.

McCabe, J., Tanner, A. E., & Heiman, J. (2010). The impact of gender expectations on meanings of sex and sexuality: Results from a cognitive interview study. *Sex Roles, 62*, 252–263.

McCullagh, P. (1980). Regression models for ordinal data (with Discussion). *Journal of Royal Statistical Society, 42*, 109–142.

Nathanson, C. A. (2000). The impregnable myth of teenage pregnancy. In J. Bancroft (Ed.), *The role of theory in sex research* (pp. 241–257). Bloomington: Indiana University Press.

Njikam Savage, O. M., & Tchombe, T. M. (1994). Anthropological perspectives on sexual behaviour in Africa. *Annual Review of Sex Research, 5*, 50–72.

Oggins, J., Leber, D., & Veroff, J. (1993a). Race and gender differences in Black and White newly-weds' perceptions of sexual and marital relations. *Journal of Sex Research, 30*, 152–160.

Oggins, J., Veroff, J., & Leber, D. (1993b). Perceptions of marital interactions among Black and White newly-weds. *Journal of Personality and Social Psychology, 65*, 494–511.

Orbuch, T. L., Veroff, J., Hassan, H., & Horrocks, J. (2002). Who will divorce: A 14 year longitudinal study of black and white couples. *Journal of Social & Personal Relationships, 19*, 179–202.

Parker, R. G., Herdt, G., & Carballo, M. (1991). Sexual culture, HIV transmission and AIDS research. *Journal of Sex Research, 28*, 77–98.

Patterson, O. (1999). *Rituals of blood: Consequences of slavery in two American centuries*. New York: Basic Civitas Books.

Raley, R. K. (1996). A shortage of marriageable men? A note on the role of cohabitation in race differences in marriage. *American Sociological Review, 61*, 973–983.

Reiss, I. L. (1964). Premarital sexual permissiveness among Negroes and Whites. *American Sociological Review, 29*, 688–698.

Reiss, I. L. (1967). *The social context of premarital sexual permissiveness*. New York: Rinehart & Winston.

Richters, J., Grulich, A. E., de Visser, R. O., Smith, A. M. A., & Rissel, C. E. (2003). Sexual and emotional satisfaction in regular relationships and preferred frequency of sex among a representative sample of adults. *Australian and New Zealand Journal of Public Health, 27*, 171–179.

Roberts, A., Cash, T. F., Feingold, A., & Johnson, B. T. (2006). Are Black-White differences in females' body dissatisfaction decreasing? A meta-analytic review. *Journal of Consulting and Clinical Psychology, 74*, 1121–1131.

Rosen, R. C., & Laumann, E. O. (2003). The prevalence of sexual problems in women: How valid are comparisons across studies? Commentary on Bancroft, Loftus and Long's (2003) Distress about sex: A national survey of women in heterosexual relationships. *Archives of Sexual Behavior, 32*, 209–211.

Sanders, S. A., Graham, C. M., Bass, J., & Bancroft, J. (2001). A prospective study of the effects of oral contraceptives on sexuality and

well-being and their relationship to discontinuation. *Contraception, 64*, 51–58.

Santelli, J. S., Lindberg, L. D., Abma, J., McNeely, C. S., & Resnick, M. (2000). The association of sexual behaviors with socio-economic status, family structure, and race/ethnicity among US adolescents. *American Journal of Public Health, 90*, 1582–1588.

Spira, A., Bajos, N., & The ACSF Group. (1994). *Sexual behaviour and AIDS*. Hampshire, UK: Avebury.

Staples, R. (1981). *The Black family: Essays and studies*. Belmont, CA: Wadsworth.

Sterk-Elifson, C. (1994). Sexuality among African-American women. In A. S. Rossi (Ed.), *Sexuality across the life course* (pp. 99–126). Chicago: University of Chicago Press.

Twenge, J. M., & Crocker, J. (2002). Race and self-esteem: Meta-analyses comparing Whites, Blacks, Hispanics, Asians, and American Indians and comment on Gray-Little and Hafdahl (2000). *Psychological Bulletin, 128*, 371–408.

Visotsky, H. M. (1969). A community project for unwed pregnant adolescents. In O. Pollak & A. S. Friedman (Eds.), *Family dynamics and female sexual delinquency* (pp. 78–86). Palo Alto, CA: Science and Behavior Books.

Ware, J. E., Kosinski, M., & Keller, S. (1998). *SF-12. How to score the SF-12 physical and mental health summary scales*. Lincoln, RI: Quality Metric.

Weinberg, M. S., & Williams, C. (1988). Black sexuality: A test of two theories. *Journal of Sex Research, 25*, 197–218.

Wellings, K., Collumbien, M., Slaymaker, E., Singh, S., Hodges, Z., Patel, D., et al. (2006). Sexual behaviour in context: A global perspective. *Lancet, 368*, 1706–1728.

Wilson, W. J. (1996). *When work disappears. The world of the new urban poor*. New York: Vintage Paperback.

Winship, C., & Mare, R. D. (1984). Regression models with ordinal variables. *American Sociological Review, 49*, 512–525.

Wyatt, G. E., Peters, S. D., & Guthrie, D. (1988). Kinsey revisited, Part II: Comparisons of the sexual socialization and sexual behavior of Black women over 33 years. *Archives of Sexual Behavior, 17*, 289–332.