

# Sexuality: Measures of Partnerships, Practices, Attitudes, and Problems in the National Social Life, Health, and Aging Study

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**Objectives.** The National Social Life, Health, and Aging Project (NSHAP) was designed to examine the relationship between sexual behavior, sexual problems, and health among older women and men. We describe measures of sexual partnerships, sexual practices, sexual problems, attitudes toward sex, and nonsexual intimacy in the first wave of NSHAP.

**Methods.** We compare measures of sexuality for those 57–85 years old, by age, separately for men and women. We construct scales of sexual mores, sexual interest, and relationship satisfaction and discuss properties of each scale.

**Results.** Sexuality among older adults tends to vary with age and gender. At all ages in this study, men are more likely than women to have a partner, more likely to be sexually active with that partner, and tend to have more positive and permissive attitudes toward sex. The proportions in a sexual partnership, behavior, problems, and attitudes all differ substantially by age. And these age patterns often differ for men and women.

**Discussion.** Data obtained in the NSHAP can be used to construct key measures of sexuality among older adults; to examine sexuality itself; and to explore the link between sexuality, health, well-being, and other dimensions of the lives of older adults.

**Key Words:** Sexual function—Sexual practices—Sexuality.

The National Social Life, Health, and Aging Project (NSHAP) is based on the premise that health is produced in an intimate dyad embedded in a larger social network of kin and close associates within a cultural context. The study was designed to test the overarching hypothesis that individuals with strong, functioning sexual and intimate relationships will have better trajectories of health and well-being than those whose relationships function less well or who lack such relationships. Wave I of NSHAP provides the baseline from which we measure sexuality, health, and functioning. Thus, measurement of sexuality and intimacy was central to the study.

This paper outlines the variety of measures of sexuality and intimacy available in NSHAP, including sexual activities, sexual problems, attitudes toward sex and sexuality, satisfaction with sex, characteristics of the sexual partners and the quality of the partnership, and nonsexual intimacy. We develop a series of measures of each of these dimensions, provide descriptive statistics on each measure, evaluate their strength and weaknesses, and describe differences by age and gender.

For each of these measures, we describe the questions asked of NSHAP respondents to elicit pertinent information, present tabulations of the measure by age and gender, and describe results of tests of the linearity and nonlinearity of the relationship between the measure and age, separately for men and women.

## *Sexual Partnerships*

We broadly define *sexuality* as the dynamic outcome of physical capacity, motivation, attitudes, opportunity for partnership, and sexual conduct (Bullivant et al., 2004; Lindau, Laumann, Levinson, & Waite, 2003; Spencer, Feldman, Clark, & Weisstein, 2004). As such, it represents an essential nexus for the interaction among social life; culturally determined beliefs and practices; psychological processes; and the biological mechanisms of aging, health, and disease. Sexual activity and functioning are determined by the interaction of each partner's sexual capacity, motivation, conduct, and attitudes and are further shaped by the quality and condition of the dyadic relationship itself.

For older adults in the generations represented in NSHAP, marriage provides the social and emotional context for the vast majority of all sexual activity. Marriage also provides opportunity for intimacy and affects physical and emotional satisfaction with sex (Waite & Joyner, 2001). At younger ages, virtually all married men and women are sexually active, and married people show substantially higher rates of sexual activity than the unmarried (Laumann, Gagnon, Michael, & Michaels, 1994). Marriage is an important predictor of physical and mental health for both men and women and also seems to affect financial well-being (Bennett, 2005; Ellis, 2008; Horwitz & White, 1991; Horwitz, White, & Howell-White, 1996; Hu & Goldman, 1990; Ross, 1995; Ross, Mirowsky, & Goldstein, 1990; Waite, 1995; Waite & Gallagher, 2000).

### *Other Partnerships*

To allow for the possibility that some older adults may be involved in a romantic relationship that does not involve sex, respondents were initially asked about their current marital status; those who answered something other than “married” or “living with a partner” were then asked, “Do you currently have a romantic, intimate, or sexual partner?” The spouse, cohabiting partner, or other (noncohabiting) romantic/intimate partner identified in this way was designated as the *current partner*, and many of the subsequent questions focused explicitly on this relationship.

A complete marital history was obtained from all respondents in the same manner used by the 1992 Health and Retirement Survey; this included the start and end dates (month and year) of every marriage and the way in which each previous marriage ended (i.e., divorce, widowhood, or separation). A complete cohabiting history was also obtained using questions designed specifically for NSHAP. For each marriage, respondents were asked whether they had lived with their spouse prior to getting married and, if so, the month and year in which they started living together. For marriages that ended in divorce or separation, respondents were also asked for the month and year in which they stopped living together. In addition, respondents were also asked to enumerate all previous nonmarital, cohabiting relationships and, for each, to indicate the month and year in which they started and stopped living together.

Although some surveys have obtained a complete sexual partner history (e.g., National Health and Social Life Survey [NHSLS; Laumann et al., 1994], Chicago Health and Social Life Survey [CHSLS; Laumann, Ellingson, Mahay, & Paik, 2004]), there was not sufficient time during the NSHAP interview to do this. Instead, NSHAP adapted the approach used in the NHSLS and the CHSLS to focus on respondents’ sexual relationships during the past 5 years. This included the current spouse, cohabiting partner, or romantic/intimate partner and either one or two of the next most recent spouses or cohabiting partners within the past 5 years for a maximum of two partners overall. In addition, up to three additional next most recent sexual partners within the past 5 years were also included. Thus, the designated current partner, the most recent spouse or cohabiting partner (if one exists within the past 5 years), and the three most recent sexual partners within the past 5 years were always included. For each partnership, respondents were asked the month and year of both first (except for marriages and cohabiting partnerships that began more than 5 years ago) and most recent sex, the gender and age (relative to the respondent) of the partner, and whether the respondent expects to have sex with the partner again.

Because NSHAP limited the number of sexual partners for which information on the timing of sex was collected, the data set is not well suited for computing the total number of sexual partners within a fixed period of time (it should be noted, however, that given the relatively low rate of partner

acquisition among older adults, the limited 5 year history is effectively complete for the large majority of respondents). However, it is possible to calculate the total number of sexual partners in the past 5 years for all respondents (subject only to missing data), and a self-administered questionnaire given to all respondents asked separately for the lifetime number of male and female sexual partners.

Table 1 illustrates how the NSHAP data set may be used to estimate the prevalence of various types of partnerships over different periods of time. The likelihood of having a current partner decreases with age, due primarily to a drop in the percentage married (Lindau et al., 2007). In addition, in each age group, men are more likely to have a current partner than are women, with the largest difference in the oldest age group. This difference reflects the higher mortality rate among men and the age differential between spouses. The rate of acquisition of new partners is relatively low, with roughly 3% of men and less than 1% of women reporting multiple partners during the previous year. For both men and women, the percentage reporting more than two lifetime heterosexual partnerships decreases with age; the low rate of new partner acquisition suggests that this is at least in part a cohort effect (Laumann et al., 1994). By contrast, the percentages reporting at least one same-sex partnership over the lifetime—4% of men and 5% of women overall—are similar across the age groups. Finally, the percentage of both men and women who ever cohabited steadily increases in each younger age group, reflecting a well-documented increase in the likelihood of cohabitation over time (Raley, 2000).

### *Sexual Activity and Sexual Behaviors*

Respondents who reported that they had engaged in partnered sex in the past 12 months were asked a series of questions about the frequency of sex with their husband or wife, cohabiting partner, or other partner; how often sex included vaginal intercourse; how often during vaginal intercourse they used a condom; how often they participated in oral sex; and how often sex included hugging, kissing, or other ways of sexual touching. These questions were taken directly from the National Health and Social Life Study (Laumann et al., 1994)

Table 2 shows the prevalence of sexual activity and sexual behaviors, by age, for men and women. At ages 57–64 years, the youngest ages in our sample, 84% of men and 62% of women report having had sex with a partner in the past year. By the oldest ages in our sample, 75–85 years, a minority—38% of men and 17% of women—are sexually active by this definition. We also examined the linear—and, in separate analysis not shown, nonlinear—relationship of sexual activity with age for men and women. The results suggest a smooth decline in likelihood of partnered sex with age for women and men, both those with and those without partners, with only a negative linear age effect significant (at  $p < .001$ ).

Table 1. Current, Preceding Year, and Lifetime Prevalence of Various Types of Partnerships, by Age and Gender

	Women (n = 1,550)				Men (n = 1,455)			
	Percentage <sup>a</sup>			Trend test <sup>b</sup>	Percentage <sup>a</sup>			Trend test <sup>b</sup>
	Age 57–64	Age 65–74	Age 75–85		Age 57–64	Age 65–74	Age 75–85	
Has a current partner <sup>c</sup>	74.1 (1.9)	61.6 (2.4)	40.5 (2.1)	<0.001	89.1 (1.9)	84.8 (1.7)	78.4 (2.6)	<0.001
Married <sup>d</sup>	66.7 (2.3)	56.4 (2.4)	37.2 (2.4)	<0.001	82.3 (2.2)	76.6 (2.0)	71.2 (3.0)	0.001
Cohabiting <sup>d</sup>	3.7 (1.2)	1.7 (0.8)	1.3 (0.7)	0.065	1.9 (0.7)	2.6 (0.8)	0.8 (0.4)	0.473
Other romantic/intimate partner <sup>d</sup>	3.6 (0.8)	3.5 (1.0)	2.0 (0.7)	0.082	4.9 (0.9)	5.6 (1.0)	6.4 (1.5)	0.264
Multiple sex partners last year <sup>c</sup>	0.1 (0.1)	0.8 (0.4)	0 <sup>f</sup>	0.125	3.4 (0.8)	3.0 (0.8)	1.6 (0.6)	0.258
Lifetime male sex partners <sup>g</sup>								
>0	92.3 (1.7)	88.8 (1.7)	85.2 (1.8)	0.006	3.3 (0.8)	4.7 (1.2)	2.4 (0.9)	0.714
>2	46.8 (2.7)	36.4 (2.6)	20.0 (2.4)	<0.001	1.2 (0.5)	2.8 (0.9)	0.9 (0.5)	0.913
Lifetime female sex partners <sup>h</sup>								
>0	4.4 (1.0)	7.0 (1.8)	3.4 (0.9)	0.191	96.0 (1.1)	94.9 (1.2)	91.7 (1.7)	0.008
>2	2.7 (0.9)	2.1 (0.9)	0.5 (0.3)	0.023	71.6 (2.7)	66.4 (2.8)	53.6 (3.7)	<0.001
Ever cohabited <sup>i</sup>	35.2 (2.2)	20.9 (2.2)	9.8 (1.3)	<0.001	40.5 (3.6)	30.4 (2.3)	18.2 (2.1)	<0.001

Notes: <sup>a</sup>All estimates are weighted to account for differential probabilities of selection and differential nonresponse. Design-based standard errors are given in parentheses.

<sup>b</sup>*p* Value for a Wald test (using design-based *SE*) of the age coefficient for logistic regression on age (in years).

<sup>c</sup>Not necessarily a sexual partner; includes those with a current spouse; cohabiting partner; or “other romantic, intimate, or sexual partner.”

<sup>d</sup>Mutually exclusive categories.

<sup>e</sup>Excludes 80 men and 58 women for whom incomplete data prevented calculation of this variable.

<sup>f</sup>Zero female respondents 75–85 years old reported having two or more sexual partners in the last year.

<sup>g</sup>Asked via a self-administered questionnaire; excludes 130 men and 179 women who responded “Don’t know,” refused to answer, or for whom data were otherwise missing.

<sup>h</sup>Asked via a self-administered questionnaire; excludes 250 men and 119 women who responded “Don’t know,” refused to answer, or for whom data were otherwise missing.

<sup>i</sup>Excludes 2 men and 4 women for whom incomplete data prevented calculation of this variable.

Although fewer adults are sexually active at older than at younger ages, those who remain sexually active report having partnered sex fairly often and these rates remain remarkably constant through ages 65–75 years and fall only modestly at the oldest ages, when about a quarter of the sexually active men and women said that they have sex once or twice a week or more. Also, although the trend tests for this variable in Table 2 demonstrate a highly significant linear decline among men and a moderately significant decline among women, at least among the latter, our supplemental analysis suggests a nonlinear decline—with a positive quadratic age effect ( $p < .10$ ) suggesting a plateauing of frequent sex with age.

A very high proportion of NSHAP respondents, like younger respondents in the 1992 National Health and Social Life Study (Laumann et al., 1994), report that they usually or always have vaginal intercourse when they have sex. Among the youngest respondents in our sample, 87% of women and 91% of men say that vaginal sex is usually or always part of sexual activity. For the oldest respondents, vaginal intercourse seems to be included in their activities somewhat less often, with 75% of women, aged 75–85 years, and 84% of men this age saying that they usually or always have vaginal intercourse during sex. Our trend tests suggest that a woman’s age is not significantly associated with her likelihood of vaginal sex. Among men, in contrast, supplemental analysis indicates that the effect may be cur-

vilinear, with a positive quadratic effect ( $p < .05$ ) suggesting that men’s likelihood of vaginal intercourse during sex does not fall below a “baseline,” even among the oldest old. By contrast, the frequency with which men and women engage in hugging, kissing, or other sexual touching, which we label “foreplay,” is virtually identical at all ages. Specifically, likelihood of foreplay is not correlated with a woman’s age in any specification, whereas for men, we find only a weakly significant ( $p < .10$ ) linear decline. In fact, foreplay and vaginal intercourse seem to constitute the two activities necessary for respondents to label what they did as “sex.” And vaginal intercourse seems to become more optional with age.

Table 2 shows the frequency with which men and women report that they ever participated in oral sex—whether giving or receiving—in the preceding year. Oral sex is a less common activity during partnered sex than either foreplay or vaginal intercourse, with 62% of men and 53% of women aged 57–64 years reporting that they had any oral sex, compared with 28% of men and 36% of women aged 75–85 years. These frequencies are consistent with those from the NHLS for men and women in their 50s (Laumann et al., 1994, Table 3.6). One could speculate that perhaps older adults substitute oral sex for vaginal intercourse at older ages, as a result of changes in functionality or poor health, but Table 2 shows that this is not the case because of the proportion of both men and women reporting that oral sex is

Table 2. Prevalence of Selected Sexual Practices in Preceding Year, by Age and Gender

	Women				Men			
	Percentage <sup>a</sup>			Trend test <sup>b</sup>	Percentage <sup>a</sup>			Trend test <sup>b</sup>
	Age 57–64	Age 65–74	Age 75–85		Age 57–64	Age 65–74	Age 75–85	
Any sex in preceding year								
Full sample	61.6 (2.4)	39.5 (2.4)	16.7 (2.1)	<0.001	83.7 (3.0)	67.0 (2.5)	38.5 (2.5)	<0.001, 0.12** (0.03)
Subsample with partners <sup>c</sup>	80.7 (2.4)	62.8 (2.9)	41.4 (4.8)	<0.001	90.5 (2.4)	74.7 (2.3)	47.3 (3.0)	<0.001
Sex frequency in preceding year <sup>d</sup>								
Two/three times a month or more	62.6 (3.6)	65.4 (4.4)	54.1 (6.2)	0.126	67.5 (3.3)	65.4 (3.2)	54.2 (5.0)	0.094
Once/twice a week or more	34.4 (3.6)	30.9 (3.8)	23.6 (6.2)	0.052	39.7 (2.3)	31.2 (2.9)	22.9 (3.6)	0.001
Vaginal sex usually/always <sup>d</sup>	86.8 (2.3)	85.4 (3.0)	74.4 (6.9)	0.112	91.1 (1.4)	78.5 (2.7)	83.5 (3.4)	<0.001
Foreplay usually/always <sup>d</sup>	88.8 (1.7)	88.5 (2.4)	88.7 (5.9)	0.959	94.3 (1.2)	90.2 (2.1)	92.2 (2.3)	0.067
Any oral sex <sup>d,e</sup>	52.7 (3.8)	46.5 (4.4)	35.6 (6.2)	0.024	62.2 (3.2)	48.2 (2.6)	28.3 (5.3)	<0.001
Used a condom usually/always <sup>f</sup>	2.1 (0.7)	4.8 (1.8)	2.8 (1.9)	0.262	4.3 (1.1)	3.5 (0.8)	0.8 (0.6)	0.124
Masturbated in preceding year	31.6 (2.6)	21.9 (2.1)	16.4 (2.3)	<0.001	63.4 (3.2)	53.0 (2.5)	27.9 (2.2)	<0.001

Notes: <sup>a</sup>All estimates are weighted to account for differential probabilities of selection and differential nonresponse. Design-based standard errors are given in parentheses.

<sup>b</sup>*p* Value for a Wald test (using design-based *SE*) of the age coefficient for logistic regression on age (in years).

<sup>c</sup>Sample restricted to those reporting a spouse, cohabiting, or romantic partner in preceding year.

<sup>d</sup>Asked only of participants reporting any sex in preceding year.

<sup>e</sup>Indicates ever giving or receiving oral sex in preceding year.

<sup>f</sup>Indicates condom use during vaginal sex. Asked only if participant reported any vaginal sex in preceding year.

lower at older than at younger ages. Additionally, our trend tests also support a smooth linear decline in likelihood of oral sex among both women ( $p < .05$ ) and men ( $p < .001$ ). It appears that at the oldest ages sexual activity consists entirely of kissing, hugging, and sexual touching more often than it does at younger ages.

These differences by age in inclusion of oral sex in sexual activities could result from cohort differences in patterns of sexual behavior established at younger ages and carried over into old age. The youngest NSHAP respondents are part of the Baby Boom and experienced the sexual revolution. The oldest respondents were teenagers during the 1940s, a period of more conservative sexual mores (Joyner & Laumann, 2001). The age differences we observe could also result from changes in sexual repertoires that occur with age, perhaps as a result of changes in health and functioning.

We can think of frequency of masturbation as indexing a person's underlying level of sexual interest. Table 2 shows differences between age groups in the prevalence of masturbation that track differences between these same groups in the prevalence of oral sex, especially for men. These differences are consistent with previous studies on younger age groups in both the United States (Das, 2007) and other countries (Das; Dekker & Schmidt, 2002; Kontula & Haavio-Mannila, 1995), which suggest that masturbation among the elderly participant does not compensate for a lack of "real" sex, with 63% of men aged

57–64 years (those with the most partnered sex) reporting any masturbation in the preceding year, compared with 28% of men aged 75–85 years (those with the least sex). For women, the comparable figures are 32% and 16%.

In addition, especially among women, the sharp break in masturbation prevalence between those who were aged 57–64 years in 2005 (and thus came of age during or after the sexual revolution of the 1960s) and older groups seems indicative more of a cohort than age effect, consistent with previous studies on both the United States (Das, 2007; Laumann et al., 1994; Laumann & Youm, 2001) and Europe (Kontula & Haavio-Mannila, 2002), which have also noted this break for the same cohort at younger ages. This conclusion is also supported by our supplemental analysis, which finds a weak but positive quadratic effect for women and a weak negative quadratic effect among men (both significant at  $p < .10$ ), suggesting a smooth decline following an initial "hump" around age 60. Additionally, the NSHAP prevalence for this youngest group is markedly higher than among women in a similar age range in the 1992 NHLS (Laumann et al.), who came of age well before the sexual revolution, also suggesting that cohort rather than biological age is the underlying factor. It is possible, however, that this last discrepancy is due to a period effect (Hobcraft, Menken, & Preston, 1982) such that women's masturbation likelihood was lower in 1992 than in 2005, at least among the elderly women.

*Sexual Attitudes*

Attitudes toward sex are both a product and a cause of social and sexual experiences, choices, and behaviors. These attitudes also depend on demographic characteristics such as race/ethnicity, education, and gender (Laumann et al., 1994, 2004). NSHAP respondents were asked about their attitudes toward sex and sexuality in general and their attitudes about sex in their current or most recent partnership. They were asked about the importance of sex in their own lives and for maintaining a relationship. Both the questions on attitudes toward extramarital sex and those on values and beliefs were included in a leave-behind self-administered instrument only. The items on importance of sex were modularized and included in the leave-behind questionnaire only for respondents not on paths in which these items were asked during the interview.

*Attitudes toward sex outside marriage.*—Respondents were asked, “Below is a list of statements. For each one, please choose if you think this is always wrong, almost always wrong, wrong only sometimes, or not wrong at all. All of these statements refer to adults. A married person having sexual relations with someone other than their marriage partner? What if the spouse is in advanced stages of dementia such as Alzheimer’s or other mental disease? What about if the spouse has a serious, long-term physical illness and cannot have sex?”

*Values and beliefs.*—Next, respondents were told, “For the next set of statements, choose whether you strongly

agree, agree, disagree or strongly disagree. These are just general statements; they are not about your specific relationship. I would not have sex with someone unless I was in love with them. My religious beliefs have shaped and guided my sexual behavior. Satisfactory sexual relations are essential to the maintenance of a relationship. The ability to have sex decreases as a person grows older.”

*Importance of sex.*—Respondents were asked, “For some people sex is a very important part of their lives and for others it is not very important at all. How important a part of your life would you say sex is? Extremely important, very important, moderately important, somewhat important, not at all important. How often do you think about sex? Less than once a month, one to a few times a month, one to a few times a week, every day, or several times a day?” We include in this category the question on beliefs about the importance of satisfactory sexual relations for the maintenance of a relationship. Respondents were also asked, “In the past 12 months, how often did you have sex because you felt obligated or it was your duty?” with response categories from always to never.

Table 3 shows the attitudes toward sex by age and gender, which show two general patterns, with some exceptions. First, men are typically more positive about sex and sexual expression than women regardless of the circumstances. And, second, attitudes tend to be more conservative among older than among younger people. The likelihood that both women and—to a lesser extent—men

Table 3. Prevalence of Selected Sexual Attitudes, by Age and Gender

	Women				Men			
	Percentage <sup>a</sup>				Percentage <sup>a</sup>			
	Age 57–64	Age 65–74	Age 75–85	Trend test <sup>b</sup>	Age 57–64	Age 65–74	Age 75–85	Trend test <sup>b</sup>
Married person having sex with someone other than partner								
Always wrong	80.4 (2.5)	83.8 (2.2)	89.8 (1.5)	<0.001	75.1 (2.4)	80.0 (2.3)	80.8 (2.5)	0.075
Always wrong even if partner in advanced stages of dementia	69.5 (3.1)	67.5 (3.3)	75.7 (2.2)	0.039	61.4 (2.9)	64.7 (2.6)	67.6 (2.9)	0.046
Always wrong even if partner physically ill and cannot have sex	70.8 (3.1)	66.5 (2.9)	73.2 (2.5)	0.425	61.9 (2.6)	64.3 (2.6)	70.4 (2.9)	0.019
Values and beliefs <sup>c</sup>								
Will not have sex unless in love with partner	86.3 (2.0)	83.7 (2.2)	87.0 (1.5)	0.844	57.4 (2.6)	67.8 (2.7)	76.1 (2.7)	<0.001
Religious beliefs have shaped/guided sexual behavior	74.4 (2.3)	75.5 (2.6)	82.4 (2.6)	0.016	57.9 (3.0)	65.8 (2.4)	67.3 (3.2)	0.007
Satisfactory sex essential to maintaining relationship	71.6 (2.2)	67.0 (2.6)	73.6 (2.5)	0.804	76.4 (2.3)	79.1 (2.3)	71.7 (3.2)	0.520
Sexual ability decreases with age	68.1 (2.6)	72.0 (2.6)	78.5 (2.7)	0.001	71.1 (2.6)	82.9 (2.2)	88.8 (2.5)	<0.001
<i>Importance of sex</i>								
Sex not important part of life <sup>d</sup>	24.0 (2.3)	34.9 (2.8)	52.3 (2.8)	<0.001	6.2 (1.4)	14.1 (1.8)	25.9 (2.1)	<0.001
Sexual ideations <1/month	35.3 (2.7)	51.9 (2.7)	68.9 (2.6)	<0.001	8.3 (1.7)	13.0 (1.7)	27.3 (2.7)	<0.001
Any sex out of obligation, preceding year								
Full sample	35.1 (2.8)	24.7 (2.1)	11.5 (1.9)	<0.001	29.7 (3.6)	22.6 (2.0)	16.5 (2.1)	0.008
Subsample with partners	45.5 (3.2)	36.0 (2.9)	25.3 (4.0)	<0.001	31.6 (3.7)	24.3 (2.3)	19.9 (2.5)	0.032

Notes:<sup>a</sup>All estimates are weighted to account for differential probabilities of selection and differential nonresponse. Design-based standard errors are given in parentheses.

<sup>b</sup>p Value for a Wald test (using design-based SE) of the age coefficient for logistic regression on age (in years).

<sup>c</sup>Based on participant “agree(ing)” or “strongly agree(ing)” with statement.

<sup>d</sup>Based on response of “not at all important” when asked how important a part of participant’s life sex was.

consider extramarital sex “always wrong” tends to increase with age, whereas the likelihood that women agree or strongly agree that they would not have sex unless they were in love is similar at all ages but increases with age for men. Women’s likelihood of agreeing that their religious beliefs guide their sexual behavior also increases smoothly with age—in contrast to their belief in the necessity of sex for relationship maintenance, which declines and then plateaus, as suggested by a positive quadratic age effect ( $p < .05$ ) in our supplemental analysis. Among men, we only find a possible curvilinear pattern ( $p < .10$ ) for religious beliefs guiding sex, with likelihood of endorsing this item rising but then leveling off with age. Additionally, for both genders ( $p < .001$ ), we find that agreement with the statement that ability to have sex decreases as a person grows older increases smoothly with age.

Finally, both women and men become increasingly likely with age to agree that sex is “not at all important,” a pattern we also see for infrequent sex thoughts for women. For men, however, our supplemental analysis indicates that the frequency with which they report thinking about sex falls and then plateaus—or in other words—that there is a “baseline” for men’s sexual interest, even among the oldest old. Among men and women, both those with partners and those with no partner, reports of any obligatory sex decline linearly with age.

#### *Sexual Attitude Scales*

Exploratory factor analysis of these *sexual attitudes* items suggested two distinct, theoretically plausible underlying constructs. We used simple summary indexes, consisting only of standardized versions of items loading highly on each factor, to capture these constructs.

*Sexual Mores Scale.*—The first scale, which we term *Sexual Mores*, combined the three “sex outside marriage” indicators (with these three items reverse-coded, to be substantively consistent with the construct), not having sex unless in love, and religious beliefs guiding sexual behavior. This index had a Cronbach’s alpha coefficient of .76, with item-rest correlations also high (.41–.65), suggesting good internal consistency (Cronbach, 1951). Scale reliability was similarly high when the index was operationalized separately for women ( $\alpha = .73$ ) and men ( $\alpha = .76$ ), suggesting stability in this attitudinal trait across genders. With a weighted mean of 0.01, the scale for the full sample ran from  $-3.39$  to  $1.01$ , with high values indicating more conservative views. Based on a matrix of pairwise polychoric correlations, we also created factor scores (also running from more liberal to less liberal) for this construct through the regression method, for a single factor with high loadings (between .53 and .91) for all five items. With a weighted mean of 0.02, the scores ran from  $-2.95$  to  $0.73$ .

*Sexual Interest Scale.*—The second summary index, which we term *Sexual Interest*, comprised importance of sex and frequency of sex thoughts, with an  $\alpha$  of .76 for the full sample, .75 for women, and .69 for men, again suggesting high scale reliability and stability across genders. For the full sample, this scale ran from  $-1.53$  to  $2.16$  (with high values denoting more sexual interest) and had a weighted mean of 0.05. Both the *Sexual Mores Scale* and the *Sexual Interest Scale* are available in the publicly available NSHAP data set.

#### *Sexual Problems*

NSHAP asked in some detail about sexual problems the respondent had experienced for several months or more over the past year and about the problems experienced by the spouse or other sexual partner (Laumann, Das, & Waite, in press). Respondents were also asked whether they avoided sex because of these problems. These questions were taken directly from the NHLS (Laumann et al., 1994) with slight modifications. If the respondent reported a problem, we asked the extent to which he or she was bothered by this, following a suggestion in Basson and coworkers (2000). These questions were asked only of respondents who reported having had some partnered sex in the past year. Those who reported no sexual activity over this period were asked the reasons that they did not. These questions came from the CHSL (Laumann et al., 2004). Items on reasons for not having had sex were modularized, with respondents assigned to paths in which these questions were not asked in the interview receiving a self-administered leave-behind questionnaire including these items. Table 4 shows prevalence of sexual problems by gender and age. Table 5 presents primary reasons for not having sex by gender and age, separately for those with partners (top panel) and those without partners (bottom panel).

Consistent with previous community studies on elderly individuals (Blanker et al., 2001; Feldman, Goldstein, Hatzichristou, Crane, & McKinlay, 1994), the most common sexual problem among men is erectile difficulty, reported by 31% of those aged 57–65 years and by about 44% of older men. As per our supplemental analysis, likelihood of experiencing erectile problems appears to level off with age—as evidenced by a significant ( $p < .05$ ) and negative quadratic effect. The next most common sexual problems, premature climax and lack of interest in sex, are reported by just under 30% of the youngest men. Premature climax is less common among the oldest men, but lack of interest in sex is equally prevalent among men of all ages. (For these last two problems, age is not a significant correlate.) For women, the most common sexual problem is lack of interest in sex, which is not significantly correlated with age and is reported by 38%–49% of women. Both failure to lubricate and inability to climax are also common, with 33%–44% of women reporting either of these problems. As with men’s

Table 4. Prevalence of Selected Sexual Problems in Preceding Year, by Age and Gender

	Women				Men			
	Percentage <sup>a</sup>			Trend test <sup>b</sup>	Percentage <sup>a</sup>			Trend test <sup>b</sup>
	Age 57–64	Age 65–74	Age 75–85		Age 57–64	Age 65–74	Age 75–85	
Lack of sexual interest	44.2 (3.7)	38.4 (4.4)	49.3 (6.2)	0.403	28.2 (3.5)	28.6 (2.9)	24.2 (3.9)	0.920
Erectile problems					30.7 (2.7)	44.6 (2.9)	43.5 (4.5)	<0.001
Vaginal lubrication problems	35.9 (3.2)	43.2 (4.2)	43.6 (7.8)	0.125				
Premature climax	9.2 (1.5)	6.9 (2.1)	8.5 (3.7)	0.874	29.6 (3.0)	28.1 (2.4)	21.3 (4.0)	0.406
Inability to climax	34.0 (3.0)	32.8 (3.9)	38.2 (7.2)	0.129	16.2 (2.1)	22.7 (2.6)	33.2 (4.1)	<0.001
Pain during intercourse	17.8 (2.2)	18.6 (3.9)	11.8 (3.7)	0.450	3.0 (0.9)	3.2 (1.0)	1.0 (0.7)	0.125
Lack of pleasure in sex	24.0 (3.0)	22.0 (3.5)	24.9 (5.0)	0.909	3.8 (0.7)	7.0 (1.7)	5.1 (1.9)	0.075
Performance anxiety	10.4 (2.1)	12.5 (3.2)	9.9 (4.1)	0.850	25.1 (2.0)	28.9 (3.0)	29.3 (4.7)	0.094
Avoided sex due to problems <sup>c</sup>	34.3 (4.7)	30.5 (4.5)	22.7 (6.6)	0.114	22.1 (2.4)	30.1 (3.4)	25.7 (5.4)	0.256

Notes: These questions were asked only of participants reporting sex in the preceding year.

<sup>a</sup>All estimates are weighted to account for differential probabilities of selection and differential nonresponse. Design-based standard errors are given in parentheses.

<sup>b</sup>*p* Value for a Wald test (using design-based *SE*) of the age coefficient for logistic regression on age (in years).

<sup>c</sup>Asked only of participants reporting at least one sexual problem.

erectile problems, women's difficulties with lubrication appear to level off with age, as suggested by a weakly significant ( $p < .10$ ) and negative quadratic effect, indicating perhaps a "ceiling"—whether biological or sociological—in each case. In contrast, inorgasmia seems to increase steeply only among the oldest women, with a *positive* quadratic age effect significant (at  $p < .10$ ). About a quarter of sexually active women report a lack of pleasure in sex, with this problem uncorrelated with age.

Those who reported at least one sexual problem were asked if they ever avoided sex because of the problem. Between 23% and 34% of sexually active women say that they had avoided sex; comparable figures for men are 22%–30%, with age not a significant correlate in either case.

One of the most noteworthy features of reports of sexual problems is their relative similarity across age groups. For women, we see few differences between age groups in the

prevalence of any of the sexual problems we asked about or in the proportion who avoided sex because of the problems. Women may cease sexual activity because of health or other problems as they age, but if they continue to be sexually active they appear not to be much more likely to have problems with sexual function at older than at younger ages. We see a somewhat more mixed picture for men; both erectile problems and inability to climax are more common at older than at younger ages, but premature climax is *less* common among the oldest men than among those who are younger. And men aged 65–74 years are more likely than younger men to lack pleasure in sex and to have avoided sex because of problems, but the oldest men are not. All other sexual problems are about as prevalent among sexually active men of all ages. Thus, sexually active older men seem to function at much the same level as sexually active younger men, with a few exceptions, not all of which favor younger men.

Table 5. Prevalence of Primary Reasons for Not Having Sex, by Age and Gender

	Women				Men			
	Percentage <sup>a</sup>			Trend test <sup>b</sup>	Percentage <sup>a</sup>			Trend test <sup>b</sup>
	Age 57–64	Age 65–74	Age 75–85		Age 57–64	Age 65–74	Age 75–85	
Sample with partners								
Not interested	23.8 (5.0)	25.0 (4.6)	24.9 (4.4)	0.799	13.5 (3.7)	11.7 (2.8)	19.1 (3.7)	0.174
Partner not interested	19.2 (4.2)	19.8 (4.5)	15.8 (4.1)	0.384	29.5 (8.5)	10.3 (2.5)	16.8 (3.6)	0.127
Health problems/limitations	16.8 (4.0)	16.7 (3.9)	24.8 (4.7)	0.310	40.3 (7.3)	56.6 (4.3)	61.4 (5.5)	0.018
Partner's health problems/limitations	63.2 (6.3)	63.4 (6.9)	64.8(6.3)	0.815	20.1 (5.8)	31.3 (4.7)	22.7 (5.0)	0.920
Sample without partners								
Not interested	43.0 (5.1)	47.0 (4.3)	60.3 (3.4)	0.002	18.3 (8.5)	22.0 (5.7)	32.1 (5.6)	0.221
Have not met the right person	47.0 (5.8)	35.9 (5.4)	28.8 (4.4)	0.021	23.8 (8.6)	52.1 (9.0)	24.6 (5.5)	0.879
Religious beliefs prohibit sex outside marriage	20.3 (4.8)	22.6 (3.3)	14.6 (1.8)	0.134	12.3 (6.2)	10.1 (4.4)	12.1 (4.0)	0.745
Have not had an opportunity	15.5 (3.5)	20.3 (3.8)	7.7 (1.5)	0.016	28.1 (6.3)	16.7 (5.1)	17.3 (5.0)	0.414

Notes: These questions were asked only for participants reporting no sex in the preceding 3 months.

<sup>a</sup>All estimates are weighted to account for differential probabilities of selection and differential nonresponse. Design-based standard errors are given in parentheses.

<sup>b</sup>*p* Value for a Wald test (using design-based *SE*) of the age coefficient for logistic regression on age (in years).

### Reasons for Not Having Sex

As noted previously, respondents who reported no sexual activity over the preceding 3 months were asked the reasons. At least among those with a partner, reasons for sexual inactivity seem largely uncorrelated with age—although in our supplemental analysis, we notice positive quadratic effects (i.e., a plateau after an initial decline) for women’s lack of sexual interest and, complementarily, men’s reports of their partners’ lack of interest, and the inverse age pattern (a rise followed by a leveling off) for men’s reports of their partners’ poor physical health ( $p < .10$  in each case). Additionally, men’s reports of their own poor physical health leading to sexual inactivity increase linearly with age ( $p < .05$ ). In other words, for partnered women and men, when age does influence sexual inactivity at all, it is through declining physical vitality—whether one’s own or a partner’s—rather than declining interest.

In contrast, among women lacking a partner, we find a linear rise in lack of interest ( $p < .01$ ), coupled with linear declines in lack of opportunity and not having met the right person ( $p < .05$  for both), given as reasons for sexual inactivity. Among unpartnered men, in contrast, there is only a negative quadratic age effect ( $p < .01$ ) for not having met the right person. In other words, a woman’s lack of a partner seems to influence a lowering of her sexual interest itself, consistent with speculations about a greater “plasticity” of women’s erotic drive (Baumeister, 2004, 2000), whereas a man’s similar lack of an intimate partner does not lower his interest in finding one.

### Nonsexual Intimacy

Many older adults lack a partner with whom to have sex. This is especially the case for older women. Nonsexual interactions with others, however, have a demonstrable effect on elderly individuals’ mortality and morbidity (Rasulo, Christensen, & Tomassini, 2005). We discuss measures of nonsexual intimate contact developed specifically for NSHAP. Respondents were asked, “In the last 12 months,

how often have you engaged in the following activities?: Petting or touching a dog, cat or other pet? Greeting someone with an embrace, kiss or pat on the back? Playing or cuddling with a grandchild or other child? Hugging, kissing, caressing or other close physical contact with partner (skipped if no partner)? Hugging, kissing, caressing or other close physical contact with another adult?” Close physical contact with others, then, is used as an indicator of nonsexual intimacy. These questions were modularized and included either in the self-administered leave-behind questionnaire or during the interview, depending on the path to which the respondent was assigned.

Table 6 shows the prevalence of nonsexual intimacy by age and gender for each of these measures. The most common type of close physical contact for both men and women is greeting someone with a hug or kiss; a very sizeable majority report this activity once a month or more, although fewer of the oldest women report this type of intimacy than younger women. Specifically, our trend tests suggest that this activity becomes linearly less likely as women grow older ( $p = .001$ ) but has no age pattern among men. Touching a pet and playing or cuddling with a grandchild or another child are also both quite common, especially among younger respondents, and less so among the oldest respondents—with women’s and men’s reports of touching pets and women’s cuddling of children all declining smoothly with age ( $p < .001$  in each case). Fewer adults have pets at older ages, apparently, and the grandchildren of respondents in their 70s and 80s are probably more often teenagers or older and therefore may be less inclined to be cuddled. Close physical contact with another adult not a partner declines linearly with age for women ( $p < .01$ ), but not for men, perhaps because fewer men report this activity at any age. We see a pattern of differentials in nonsexual intimacy that mirrors differentials in sexual activity; 90% or more of women and men with a partner hug or hold that partner fairly often, with this likelihood declining only mildly with age ( $p < .05$ ). But the proportion of all men and women who

Table 6. Prevalence of Nonsexual Intimacy Indicators in Preceding Year, by Age and Gender

	Women				Men			
	Percentage <sup>a</sup>				Percentage <sup>a</sup>			
	Age 57–64	Age 65–74	Age 75–85	Trend test <sup>b</sup>	Age 57–64	Age 65–74	Age 75–85	Trend test <sup>b</sup>
Touched a pet $\geq 1$ /month	71.1 (2.4)	65.1 (3.0)	57.0 (2.3)	<0.001	77.7 (2.2)	69.0 (2.6)	60.1 (2.7)	<0.001
Greeted someone with embrace, kiss, or pat on the back $\geq 1$ /month	94.7 (1.1)	93.1 (1.2)	86.5 (1.5)	0.001	83.3 (2.2)	84.4 (1.9)	83.6 (2.7)	0.993
Played or cuddled with a grandchild or other child $\geq 1$ /month	77.5 (2.1)	69.4 (2.5)	53.8 (2.8)	<0.001	60.4 (3.6)	60.3 (2.8)	54.9 (3.6)	0.125
Hugged/held partner $\geq 1$ /month								
Full sample	69.8 (2.0)	53.8 (2.4)	35.7 (2.3)	<0.001	84.6 (2.4)	79.0 (1.9)	69.1 (2.8)	<0.001
Subsample with partners <sup>c</sup>	95.8 (0.9)	89.7 (2.1)	90.0 (3.0)	0.001	95.6 (1.1)	94.3 (1.1)	90.4 (2.3)	0.025
Hugged/held another adult $\geq 1$ /month	64.8 (2.8)	60.0 (2.3)	54.1 (2.7)	0.007	46.7 (3.5)	47.9 (2.9)	45.1 (3.3)	0.501

Notes:<sup>a</sup>All estimates are weighted to account for differential probabilities of selection and differential nonresponse. Design-based standard errors are given in parentheses.

<sup>b</sup>  $p$  Value for a Wald test (using design-based  $SE$ ) of the age coefficient for logistic regression on age (in years).

<sup>c</sup> Sample restricted to those reporting a spouse, cohabiting, or romantic partner in preceding year.



hug or hold a partner falls substantially with age for men and dramatically with age among women ( $p < .001$  for both) as a result of the decline in the share of those with partners, especially for women. It is worrisome that at the same ages during which older adults, especially women, have reduced access to spouses or other partners they also seem to have reduced access to these forms of nonsexual intimacy. The age differences among women are especially pronounced. These patterns may reflect differences across cohorts in the types of intimacy with which people feel comfortable; they may also reflect changes in expressions of intimacy over the life course.

It would be convenient both analytically and conceptually to create a single measure of nonsexual intimacy. However, the items in Table 6 do not form a single scale, and we were unsuccessful in attempts to create subscales.

### Relationship Quality

Sexual expression is both a component and a consequence of the satisfaction that the partners feel with the relationship. Respondents were asked the extent to which they like to spend time with their partner. They were also asked how often: they can open up to him or her about worries, they can rely on the partner, the partner makes too many demands, or the partner criticizes. Respondents were also asked to rate the quality of their relationships and how emotionally and physically satisfying they find their relationship with their partner to be. Respondents were also asked about satisfaction with the frequency of sex with the partner. We develop and evaluate measures of relationship quality in NSHAP, shown in Table 7.

Most women and men say that they can often open up to their partner about worries and can rely on the partner. No more than about 1 in 10 thinks the partner often makes too

many demands or often criticizes. Few people evaluate their most recent relationship as unhappy, not emotionally satisfying, not physically satisfying, or involving more sex than the person would like. With the exception of being able to open up to the partner among men ( $p < .05$ ) and reliance upon the partner among women ( $p < .10$ ), both of which decline smoothly as a person gets older, none of these indicators seem to be patterned by age.

*Relationship Satisfaction Scale.*—As with sexual attitudes, we investigated the scaling potential of these items, with exploratory factor analysis suggesting a theoretically plausible latent construct comprising happiness in the relationship as well as emotional and physical satisfaction in the relationship. We created a summary index for standardized values of these three items, which we term *Relationship Satisfaction*. Cronbach's alpha for this scale was .80 (.82 for women and .74 for men), suggesting high scale reliability. With a weighted mean of 0.03, this scale ran from  $-3.18$  to 0.98, with high values indicating more satisfaction. The *Relationship Satisfaction Scale* is included in the publicly available data set.

### DISCUSSION

Partnered sex requires two people who are willing and able to participate. As men and women age, their spouses or other partners tend to age too, altering the dyad within which sexuality is expressed. The NSHAP can be used to construct key measures of sexuality among older adults. In addition, NSHAP data contain detailed measures of the relationship context in which this behavior may occur. The data contain a good deal of information about current marital, cohabiting and romantic relationships, and link sexual behavior to a specific relationship. NSHAP contains information on

Table 7. Prevalence of Relationship Quality Indicators, by Age and Gender

	Women				Men			
	Percentage <sup>a</sup>				Percentage <sup>a</sup>			
	Age 57–64	Age 65–74	Age 75–85	Trend test <sup>b</sup>	Age 57–64	Age 65–74	Age 75–85	Trend test <sup>b</sup>
<b>Current relationship<sup>c</sup></b>								
Likes to spend time together with partner	51.3 (3.5)	40.3 (3.8)	47.7 (4.6)	0.241	51.6 (3.2)	50.2 (3.1)	59.1 (2.9)	0.130
Can often open up to partner about worries	75.0 (2.6)	80.0 (2.6)	69.4 (3.1)	0.159	80.5 (2.2)	78.1 (2.3)	70.7 (3.2)	0.021
Can rely on partner often	85.6 (1.8)	83.5 (2.5)	79.4 (3.2)	0.088	89.4 (2.6)	89.4 (1.9)	87.7 (2.2)	0.321
Partner makes too many demands often	7.9 (1.6)	11.6 (2.9)	12.2 (2.9)	0.463	9.6 (1.6)	11.0 (1.7)	11.7 (2.6)	0.380
Partner criticizes often	5.3 (1.4)	6.4 (1.7)	7.0 (2.0)	0.759	10.0 (2.4)	10.8 (1.9)	11.7 (2.1)	0.625
<b>Most recent relationship</b>								
Relationship unhappy	5.2 (0.9)	7.8 (1.4)	5.4 (1.0)	0.315	3.1 (1.1)	2.4 (0.8)	2.6 (0.9)	0.916
Not emotionally satisfying <sup>d</sup>	13.1 (1.7)	11.3 (1.2)	10.4 (1.9)	0.333	4.2 (1.0)	5.2 (1.1)	3.9 (1.1)	0.800
Not physically satisfying <sup>d</sup>	11.0 (1.6)	12.6 (1.7)	11.1 (1.7)	0.934	3.5 (1.1)	5.3 (1.2)	4.9 (1.2)	0.273
Sex frequency more often than participant would like <sup>e</sup>	10.0 (1.8)	12.0 (1.9)	11.8 (1.8)	0.244	4.1 (1.1)	3.1 (0.8)	3.1 (0.9)	0.678

Notes: <sup>a</sup>All estimates are weighted to account for differential probabilities of selection and differential nonresponse. Design-based standard errors are given in parentheses.

<sup>b</sup> $p$  Value for a Wald test (using design-based  $SE$ ) of the age coefficient for logistic regression on age (in years).

<sup>c</sup>Sample restricted to those married, cohabiting, or with intimate partner in preceding year.

<sup>d</sup>Based on responses of "slightly" or "not at all" when asked how satisfying relationship is/was.

<sup>e</sup>Based on responses of "somewhat" or "much more often" than he or she would like.

sexual problems experienced by the respondents. Although we do not report these data here, respondents were asked the same questions about sexual problems that their spouse or partner was experiencing as about their own. Respondents also rated their own physical and emotional health and that of their spouse or partner. And they provided ratings of their relationship across a range of dimensions. The rich and detailed information on *both* partners allows researchers to contextualize sexuality at older ages within relationships, as do respondents' evaluations of the relationship itself.

Dimensions of sexuality lie at the heart of the NSHAP data. But the data also contain detailed, innovative, and rich measures of physical health, physiological functioning, emotional well-being, social networks, illness, and disease. These measures are discussed in detail elsewhere in this volume. Together, data on sexuality and on many factors linked to sexual behavior, sexual partnerships, sexual attitudes, and sexual problems allow researchers to examine sexuality itself and to explore the link between sexuality, health, well-being, and other dimensions of the lives of older adults.

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