

# Sexuality and Physical Contact in National Social Life, Health, and Aging Project Wave 2

Adena M. Galinsky,<sup>1</sup> Martha K. McClintock,<sup>2</sup> and Linda J. Waite<sup>3</sup>

<sup>1</sup>Center on Demography and Economics of Aging,

<sup>2</sup>Departments of Comparative Human Development and Psychology and Institute for Mind and Biology, and

<sup>3</sup>Department of Sociology, University of Chicago, Illinois.

**Introduction.** Wave 2 of the National Social Life, Health, and Aging Project (NSHAP) includes new measures of sexual interest and behavior, as well as new measures of the context of sexual experience and the frequency and appeal of physical contact. This is the first time many of these constructs have been measured in a nationally representative sample.

**Method.** We describe the new measures and compare the distributions of each across gender and age groups, in some cases by partnership status.

**Results.** Two components of sexuality decrease with age among both men and women: frequency of finding an unknown person sexually attractive and receptivity to a partner's sexual overtures. In contrast, the inclination to make one's self sexually attractive to others was a more complicated function of partner status, gender, and age: partnered women and unpartnered men made the most effort, with the more effortful gender's effort decreasing with age. Both men and women find nonsexual physical contact appealing but sexual physical contact is more appealing to men than women. Finally, two fifths of men and women report dissatisfaction with their partner's frequency of caring behaviors that make later sexual interactions pleasurable, and a fifth of women and a quarter of men who had vaginal sex in the past year report dissatisfaction with amount of foreplay.

**Discussion.** These data offer the opportunity to characterize sexual motivation in older adulthood more precisely and richly and to examine how the context of sexual experience and the nonsexual aspects of physical intimacy correlate with sexual behavior, enjoyment, and problems.

**Key Words:** Caring touch—Physical contact—Sex behavior—Sexual interest—Sexuality.

THE National Social Life, Health, and Aging Project (NSHAP) 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, fielded in 2005–06, contained detailed measures of sexuality in addition to measures of health and functioning. Continued measurement of sexuality and intimacy, including additions and enhancements to the Wave I measures, was central to Wave 2.

We define sexuality broadly as the dynamic outcome of physical capacity, motivation, attitudes, opportunity for partnership, and sexual conduct (Bullivant *et al.*, 2004; Lindau, Laumann, Levinson, & Waite, 2003). This definition encompasses all sexual orientations. Intimacy describes a quality or condition of a dyadic relationship involving close personal familiarity and feelings of warmth, closeness, and common or shared fate. 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.

We also view individual sexual expression as an essential component of both physical and mental health. Physical health and disease directly affect a person's capacity for

sexual expression. In turn, we hypothesize that sexual activity, broadly defined, may ameliorate loss of function that can occur with age and the progression of disease (Galinsky & Waite, 2014). Likewise, loss of sexuality is the hallmark of some mental states, such as depression, and in turn satisfying sexual relationships can buffer the effects of everyday stressors. Some components of sexuality and sexual expression may be more important than others in each of these mechanisms.

The first wave of NSHAP provided evidence that sexual interest persists into later adulthood among a substantial percentage of both men and women (Waite, Laumann, Das, & Schumm, 2009). Nonetheless, more than a quarter of older men and between two fifths and one half of older women report that they lacked interest in sex for several months or more in the past year (Waite *et al.*, 2009). However, many of the Wave 1 sexuality measures, including those on lack of interest in sex, were only asked of those with a current (or recent) partner. In Wave 2, all sexuality questions except those that directly referred to a sexual or romantic partner were asked of all respondents, substantially expanding the population for which we can assess sexuality.

This article will focus on measures of sexuality and physical contact that are new in NSHAP Wave 2. In "Sexuality: Measures of Partnerships, Practices, Attitudes, and

Problems in the National Social Life, Health, and Aging Study” [Waite and coworkers \(2009\)](#) discuss Wave 1 measures of sexuality, many of which were repeated in Wave 2. Here, we first present the theory and rationale motivating the decision to add the new items and to reconceptualize some of the original ones, then describe the measures, and finally present distributions across gender and age groups.

### THE NEUROENDOCRINE PERSPECTIVE ON SEXUALITY

The neuroendocrine perspective on sexuality can be summarized in a five-component model whose development has been largely based on nonhuman research ([Beach, 1976](#); [Kalat, 2007](#); [McClintock, 2009](#); [McClintock & Adler, 1978](#), [Sisk & Foster, 2004](#)). These components of sexuality are sensorimotor, valence or salience, attractiveness, receptivity, and solicitation or proceptivity. This model focuses on neurological and hormonal mechanisms that lead to behavioral and motivational changes during development and are defined here following the order in which they first appear over the human life course. With reproductive maturity, all become so tightly coordinated that it is hard to imagine one without the other. We know, however, that they are distinct, not just by their different developmental time courses but by the fact that they are mediated by different neuroendocrine mechanisms. It is our hypothesis that during aging, these components become uncoupled again because they age at different rates.

The “sensorimotor” component has its foundation in prenatal and neonatal spinal reflexes, such as erections both penile and clitoral. Through iterative interactions between the nervous and hormonal systems, culminating in gonadal and behavioral maturity, these sexual spinal reflexes become coordinated with sexual motivation and with the capacity to perceive and respond to sexual signals ([McClintock, 2009](#); [Sisk & Foster, 2004](#)).

The ability to detect “sexual valence or salience” of sensory stimuli develops in the late juvenile period, around the age of 10, prior to gonadal maturity ([Herdt & McClintock, 2000](#); [McClintock, 2009](#)). This kind of sexual perception, not yet coupled with sexual behavior, refers to feelings of desire or fantasies about another person, known or imagined, that is associated with psychophysiological (but not necessarily genital) arousal, a “first crush.” Sexual stimuli are processed differently from other emotional stimuli and there is some evidence that they are processed in different parts of the brain, or at least with different levels of involvement, by the two genders ([Geer & Manguno, 1997](#); [Karama \*et al.\*, 2002](#)).

The inclination to increase one’s sexual “attractiveness” to other people is another aspect of sexual motivation (also termed attractivity). While sexual displays are often a dramatic characteristic of animals that reproduce sexually, humans in particular employ a wide range of behaviors to increase their sexual attractiveness, either to a potential

sexual partner or in general. Planning and executing these behavior strategies involves the cerebral cortex, including the prefrontal cortex and is modulated by hormone levels ([Grammer, Renninger, & Fischer, 2004](#); [Kalat, 2007](#); [McClintock, 2009](#); [Moore, 1985, 2010](#)).

“Receptivity” is the willingness to have sex, or, in some formulations, the capacity to become aroused when encountering certain stimuli (in this case, it is also known as arousability) ([Cooke, Breedlove, & Jordan, 2003](#); [Meisel & Sachs, 1994](#); [Tolman & Diamond, 2001](#)). In rodents, estrogen regulates female receptivity by acting in the arcuate nucleus of the hypothalamus ([Cooke \*et al.\*, 2003](#); [McClintock, 2009](#); [Micevych & Dewing, 2011](#); [Pfaff, 1968, 1997](#)).

“Proceptivity,” also known as solicitation, is the urge to seek out sexual partners and initiate sexual activity ([Beach, 1976](#); [Diamond, 2003](#); [McClintock, 2009](#); [McClintock & Adler, 1978](#)). The neurological and hormonal basis for this component has been studied in both rats and humans and has different neuroendocrine mechanisms than receptivity ([Coria-Avila & Pfaus, 2007](#); [Lopez, Hay, & Conklin, 2009](#)). In females, progesterone is key, in addition to estradiol, acting on the preoptic nucleus ([Micevych & Dewing, 2011](#); [Sakuma, 1995](#)).

### CONTEXT OF SEXUALITY AND SEXUAL EXPERIENCE

This neuroendocrine model acquires new levels of nuance and complexity when considered through the lens of the sociological and psychological conceptualization of sexual motivation. These literatures tend to consider sexual interest and motivation in terms of desire and arousal and situate it in a nested framework of contexts, from dyadic relationships, to communities, to cultures. Such a perspective on sexual motivation shares much with the Interactive Biopsychosocial Model of Health, which posits that health is a function of biophysical and psychocognitive dynamics between individuals over time ([Lindau \*et al.\*, 2003](#)).

These literatures suggest that sexuality and enjoyment may be highly influenced by the situational and relationship context. The behaviors that often precede sexual encounters, and the frequency of more affectionate, nonpenetrative behavior within sexual encounters may affect an individual’s receptivity, proceptivity, and enjoyment of sexual encounters in general and penetrative sexual activities in particular ([Basson, 2001](#); [Galinsky, 2012](#); [Parish \*et al.\*, 2007](#); [Sims & Meana, 2010](#)).

### SEXUAL SATISFACTION

Sexual satisfaction concerns the evaluation of one’s sexual experiences and sexual relationship (if any) as a whole. It is related to, but distinct from, sexual distress and more general relationship satisfaction ([Byers, 2005](#); [Sprecher & Cate, 2004](#); [Stephenson & Meston, 2010](#)). Sexual satisfaction is the product of sexual interest, sexual behavior, non-sexual dyadic behavior, and relationship characteristics, as

well as the match between sexual interest and sexual behavior, and is linked to both psychological and physical health (Galinsky, 2012; Haavio-Mannila & Kontula, 1997; Waite & Joyner, 2001).

### PHYSICAL CONTACT

Physical contact is rarely examined at the population level, but biopsychological research suggests that it deserves greater scrutiny, particularly among older adults. Most partnered older adults in the United States share physical contact with their partner, and a majority of all older adults have touched some other person or a pet in the past month (Waite *et al.*, 2009). Such contact stimulates the release of social peptides, such as oxytocin, which may enhance social connections and ameliorate stressors. However, there are gender and age differences; the likelihood of engaging in activities involving physical contact decreases with age. This is a concern, since physical contact with close others may place a key role in physical and mental health and relationship maintenance, in part by reducing reactivity to stress (Gallace & Spence, 2010; Loe, 2012; Thoits, 2011). Such contact, however, is not universally appealing, either individually or culturally. Therefore, we hypothesize that the link between physical contact and health and relationship quality may be moderated by the degree to which individuals do find such contact appealing.

We developed an expanded set of measures of sexuality and sexual context, derived primarily from the neuroendocrine model of sexuality but also from the psychological literature. These are discussed next.

### METHOD

As discussed by Jaszczak and colleagues (2014), the W2 data collection consisted of a Computer-Assisted Personal Interview (CAPI) administered in the home and a Leave-Behind Questionnaire (LBQ) that respondents were to complete and mail back. Those with cohabiting spouses and partners received one version of the LBQ while those without received a different version. The response rate for the LBQ overall was 87% of those who completed the CAPI. Also as discussed in Jaszczak and coworkers (2014), W2 included full interviews with cohabiting spouses and cohabiting partners of most W1 respondents; some respondents were randomly selected to be excluded from the spouse/cohabiting partner recruitment to assess the effect on their responses of knowing that their partner would be asked the same questions. Of the total W2 sample ( $N = 3,377$ ), 73.7% ( $n = 2,487$ ) had a spouse or cohabiting partner. Of these, two had a same sex spouse or cohabiting partner. Thus, NSHAP data have inadequate analytic power for addressing homosexual sexuality.

In the next section, we discuss the sexuality-related questions new to W2. The wording of each question is presented in Table 1, beginning with the five components of

the Neuroendocrine Model of Sexuality, followed by the context of sexual experience, sexual satisfaction, and finally on the appeal of physical contact and its frequency. These items were selected based on the results of a pretest, balancing the desire to cover all five components with available time in the questionnaire. This article does not discuss the sexuality measures that were in Wave 1, and only those that also appear in Wave 2 are shown in Table 2.

References to an “intimate partner” in the Method and Results sections refer to a spouse, cohabiting partner, or a romantic, intimate, or sexual partner. All other references to a partner in the Method and Results sections refer only to the spouse or cohabiting partner.

#### *The Neuroendocrine Model of Sexuality*

The *Sensorimotor component*, encompassing sexual behavior and what is commonly called sexual function, was already well represented in the sexuality measures in NSHAP Wave 1 (see Table 1). Most of these items were retained in Wave 2, providing a core set of measures for longitudinal analyses. A new item was added to this sensory motor component to capture sexual activity that does not require the ability to have intercourse. It asks: (1) “When you had sex with your partner in the last 12 months, how often did your partner touch your genitals with (his/her) hands? Was it always, usually, sometimes, rarely or never?” As shown in Table 1, this item appears in the in-person questionnaire and was intended to be asked of those who currently had a sexual partner or who had had one in the last 5 years. Among those who were asked the question, 1,495 provided answers.

As there were no measures related to *Sexual Salience/Valence* in NSHAP Wave 1, a measure of this component was developed and included in Wave 2: (2) “How often do you find someone you don’t know such as people in movies, television, books, or strangers on the street physically attractive?” Answer options were more than once a day, every day, several times a week, once a week, less than once a week, or never. It was asked of everyone; 3,266 gave valid responses.

There were also no measures related to the *Sexual Attractiveness component* in NSHAP Wave 1; two were added to Wave 2 with respondents answering one of two versions. Those with spouses or cohabiting partners were asked (3) “In the past month, how much effort have you made to make yourself look attractive for your partner?” Answer options were: A great deal of effort, a lot of effort, a moderate amount of effort, some effort, and no effort. Those without spouses or cohabiting partners were asked (4) “In the past month, how much effort have you made to make yourself look attractive for someone you find attractive?” Answer options were the same. These questions were designed specifically for NSHAP to measure the attractiveness component. They appear in the LBQ. Among those

Table 1. NSHAP Wave 2 Sexuality-Related Questions

New in W2 or in Both W1 and W2	Questions (all were asked of all respondents unless noted otherwise in the Special Rule column)	Mode	Special Rule
	<b>Neuroendocrine model of sexuality: five components</b>		
	<b>Sensori-motor</b>		
Both	During the last 12 months ( <i>If not current partner</i> : During your relationship), about how often did you have sex with [current/recent partner]? ( <i>Sensori-motor</i> ) (W1: ofsex_1; ofsex_2. W2: ofsex2)	CAPI	a
New	(1) When you had sex with [current/recent partner] in the last 12 months, how often did your partner touch your genitals with (his/her) hands? ( <i>Sensori-motor</i> ) (tchhandprt)	CAPI	b
Both	When you had sex with [current/recent partner] in the last 12 months, how often did (he/she) perform oral sex on you? Was it ... (PROMPT: By oral sex we mean stimulating the genitals with the mouth, that is, your partner licking or kissing your genitals.) ( <i>Sensori-motor</i> ) (W1: oralsex_1; oralsex_2. W2: oralsex)	CAPI	b
Both	When you had sex with [current/recent partner] in the last 12 months, how often did your activities include vaginal intercourse? (PROMPT: By vaginal intercourse, we mean when a man's penis is inside a woman's vagina.) ( <i>Sensori-motor</i> ) (W1: visex_1; visex_2. W2: visex)	CAPI	b,c
Both	In the last 12 months, how often did you feel sexually aroused ("turned on") during sexual activity with [current/recent partner]? ( <i>Sensori-motor</i> ) (W1: aroused_1; aroused_2. W2: aroused)	CAPI	b
Both	In the last 12 months, how often did you have a sensation of pulsating or tingling in your vagina/genital area during sexual activity with [current/recent partner] ( <i>women only</i> ) ( <i>Sensori-motor</i> ) (W1: tingling_1; tingling_2. W2: tingling)	CAPI	b, d
Both	Sexual difficulties: Introduction: Sometimes people go through periods in which they are not interested in sex or are having trouble with sexual gratification. We have just a few questions about whether during the last 12 months there has ever been a period of several months or more when you... lacked interest in having sex? ( <i>Proceptive/Sensori-motor</i> ) (W1: lacksex_1; lacksex_2. W2: lacksex) were unable to climax (experience an orgasm)? ( <i>Sensori-motor</i> ) (W1: noclimax_1; noclimax_2. W2: noclimax) came to a climax (experienced orgasm) too quickly? ( <i>Sensori-motor</i> ) (W1: climaxq_1; climaxq_2. W2: climaxq) experienced physical pain during intercourse? ( <i>Sensori-motor</i> ) (W1: sexpain_1; sexpain_2. W2: sexpain) did not find sex pleasurable (even if it was not painful)? ( <i>Sensori-motor</i> ) (W1: sexnopl_1; sexnopl_2. W2: sexnopl) felt anxious just before having sex about your ability to perform sexually? ( <i>Sensori-motor</i> ) (W1: anxbscx_1; anxbscx_2. W2: anxbscx) had trouble getting or maintaining an erection? ( <i>men only</i> ) ( <i>Sensori-motor</i> ) (W1: noerect_1; noerect_2. W2: noerect) had trouble lubricating? ( <i>women only</i> ) ( <i>Sensori-motor</i> ) (W1: lubrcite_1; lubrcite_2. W2: lubrcite) If respondent said yes to one or more items: How much did this/these problems bother you? (W1: See Wave 1 documentation for variable list. W2: probbother)	CAPI	c
Both	If respondent said yes to one or more items: During the past 12 months, have you ever avoided sex because of the problem(s) you mentioned? (W1: avoidsex_1; avoidsex_2. W2: avoidsex)	CAPI	d
Both	If respondent said yes to one or more items: Have you ever talked with [current partner] about the problem(s) you mentioned? (W1: spalkpr_1; spalkpr_2. W2: spalkprt)	CAPI	f
New	<b>Salience/Valence</b> (2) How often do you find someone you don't know such as people in movies, television, books, or strangers on the street physically attractive? ( <i>Salience/Valence</i> ) (dknowattract )	CAPI	f, g
New	<b>Attractivity</b> (3 and 4) In the past month, how much effort have you made to make yourself look attractive to (3) your partner? (4, if no partner) someone you find attractive? ( <i>Attraction</i> ) (effort_prtnr; effort_oth)	LBQ	h,i

(Table 1 continues)



Table 1 (continued)

New in W2 or in Both W1 and W2	Questions (all were asked of all respondents unless noted otherwise in the Special Rule column)	Mode	Special Rule
	<b>Receptivity</b>		
New	<b>(5) When your partner wants to have sex with you, how often do you agree? (Receptive) (agreesex)</b>	CAPI	<sup>e</sup>
Both	In the past 12 months, how often did you have sex primarily because you felt obligated or that it was your duty?~ (Receptive) (W1: sex_oblig. W2: sex_oblig)	LBQ	
Both	<b>Proceptivity/Solicitation</b>		
Both	During the past 12 months, would you say you had sex: Much more often than you would like, somewhat more often than you would like, about as often as you would like, somewhat less often than you would like, much less often than you would like? (Proceptive/Receptive) (W1: oftsexok_1; oftsexok_2. W2: oftsexok2)	CAPi to LBQ	
Both	About how often do you think about sex? (Proceptive) (W1 and W2: thinksex)	CAPi and LBQ to CAPI	
Both	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 that sex is? (Proceptive) (W1: seximprt. W2: seximprt)	CAPi and LBQ to LBQ	
Both	Masturbation is a very common practice. By masturbation, we mean stimulating your genitals (sex organs) for sexual pleasure, not with a sexual partner. On average, in the past 12 months how often did you masturbate? (Proceptive) (W1: mastbate W2: mstbate)	SAQ	
Both	During the last 12 months, has there ever been a period of several months or more when you lacked interest in having sex? (Proceptive) (This item appears with the sexual difficulties items) (W1: lacksex_1; lacksex_1. W2: lacksex)	CAPI	
Both	You mentioned before that you last had sex in (month/year). What are the reasons you haven't had sexual activity since then? Choose all that apply. You are not interested (Proceptive) (W1: whynosex_1. W2: whynosex2_1/2/2h/3/4/9/15)	CAPi and LBQ to CAPI	<sup>j</sup>
	<b>Context of sexual experience</b>		
New	<b>(6) For some people, their sexual enjoyment is affected by non-sexual things that their partner does before having sex, such as helping out, compliments or sharing activities. For others it is not important at all. Given how important such things are for your enjoyment of sex, how often did they happen during the past 12 months? (sex_nonselx)</b>	LBQ	<sup>h</sup>
New	<b>(7) During the past 12 months, when you had sex, was the amount of time you and your partner spent kissing, hugging, and touching before having vaginal intercourse:(presexstch)</b>	LBQ	<sup>h</sup>
	<b>Sexual satisfaction</b>		
New	<b>(8) To what extent do you feel your sex life is lacking in quality? (sex_ualty)</b>	LBQ	
Both	How physically pleasurable did/do you find your relationship with (him/her) to be? (W1: pleasure_1; pleasure_2. W2: pleasure)	CAPI	<sup>a</sup>
Both	How emotionally satisfying did/do you find your relationship with (him/her) to be? (W1: emtsatfy_1; emtsatfy_2. W2: emtsatfy)	CAPI	<sup>a</sup>
	<b>Physical contact</b>		
	<b>Appeal Introduction: "Some people like being physically touched by people they are close to, while others do not. How appealing or pleasant do you find the following ways of being touched?"</b>		
New	<b>(9) Being touched lightly, such as someone putting a hand on your arm (touched)</b>	LBQ	
New	<b>(10) Hugging (hugging)</b>	LBQ	
New	<b>(11) Cuddling (cuddle)</b>	LBQ	
New	<b>(12) Sexual Touching (sexstuch)</b>	LBQ	
	<b>Frequency</b>		
New	<b>(13) How often have you and your partner shared caring touch, such as a hug, sitting or lying cuddled up, a neck rub or holding hands? (touch_prtnr)</b>	LBQ	<sup>h</sup>
New	<b>(14) [Other than your partner] H/how often have you and a person, such as a friend, grandchild, or another adult, shared caring touch, such as a greeting hug, a touch on the arm, or a neck rub? (touch_oth)</b>	LBQ	
New	<b>(15) How often have you pet, stroked, touched, or slept next to a cat, dog, or other pet? (touchpet2)</b>	LBQ	
Both	In the past month, how often did you sleep in the same bed with your spouse or romantic partner? (W1: samebed. W2: samebed2)	LBQ	<sup>h</sup>

(Table 1 continues)

Table 1 (continued)

New in W2 or in Both W1 and W2	Questions (all were asked of all respondents unless noted otherwise in the Special Rule column)	Mode	Special Rule
<b>Sexual history</b>			
Both	Relationship type (W1 & W2: marital)	CAPI	
Both	Lifetime number of male/female sex partners (W1: MENSEX; WOMENSEX; W2: mensex; womensex)	SAQ	
<b>New</b>	<b>Age at puberty, prepubertal sexual contact, age at first sex, wantedness of first sex (puage; firstsex; firstsex_exp)</b>	CAPI	
	<p><i>Notes.</i> Items referred to in the text are numbered and bolded for ease of reference. If the mode is described as CAPI to LBQ, it means that the question was in CAPI in Wave 1 and was in the LBQ in Wave 2. If the mode is described as CAPI and LBQ to CAPI, it means that the question was in both CAPI and the LBQ in Wave 1 (respondents were randomized to receive it in one or the other) and it was in CAPI in Wave 2. If the mode is described as CAPI and LBQ to LBQ, it means that the question was in both CAPI and LBQ in Wave 1 (respondents were randomized to receive it in one or the other) and it was in the LBQ in Wave 2. SAQ = Self Administered Questionnaire.</p>		
	<p><sup>a</sup>The ofsex2, pleasure, and emilsatfy questions were only asked of those who provided a name for their most recent sexual partner.</p>		
	<p><sup>b</sup>The ichhandprt, oralsex, visex, aroused, and tingling questions were only asked of those who did not answer "none at all" to ofsex2 and had an intimate partner (i.e., were either married/living with a partner [maritlst = 1 and maritalst = 2] or reported a romantic/intimate/sexual partner [spartner = 1]).</p>		
	<p><sup>c</sup>The visex question was not asked of those whose partner was the same sex as the respondent.</p>		
	<p><sup>d</sup>The tingling and lubrete questions were only asked of women.</p>		
	<p><sup>e</sup>The noerect question was only asked of men.</p>		
	<p><sup>f</sup>The probbother, avoidsex, and sptalkptr questions were only asked of those who answered yes to one or more of lacksex, noclimax, clmaxqk, sexpain, sexnopl, anxbsex, noerect, or lubrete.</p>		
	<p><sup>g</sup>The spialkptr and agreeesex questions were only asked of those with an intimate partner (i.e., who were either married/living with a partner [maritlst = 1 and maritalst = 2] or reported a romantic/intimate/sexual partner [spartner = 1]).</p>		
	<p><sup>h</sup>The effort_ptrnr, sex_nosex, presexth, touch_ptrnr, and samebed2 questions were only asked of those who received the partner version of the LBQ.</p>		
	<p><sup>i</sup>The effort_oth question was only asked of those who received the no-partner version of the LBQ.</p>		
	<p><sup>j</sup>The whynosex2_ question was only asked of those who had not had sex in the past 3 months. Note that in addition to "I was not interested," another answer option provided for all respondents who had not had sex in the past 3 months was "Other." Other answer options provided only for respondents with an intimate partner (i.e. those who were either married/living with a partner [maritlst = 1 and maritalst = 2] or reported a romantic/intimate/sexual partner [spartner = 1]) were "Your partner is not interested," "Physical health problems or physical limitations you have," and "Physical health problems or physical limitations your partner has." Other answer options provided only for respondents without an intimate partner were "You have not met the right person," and "Your religious beliefs do not allow sex outside of marriage." Respondents could choose more than one option.</p>		

Table 2. Distributions of NSHAP Sexuality Questions, New in Wave 2

WAVE 2 age eligible participants	Mode	Men				Women				Total		
		62-69	70-79	80-90	%	62-69	70-79	80-90	%	62-90	%	
		%	%	%		%	%	%				
(1) When you had sex with [current/recent partner] in the last 12 months, how often did your partner touch your genitals with (his/her) hands?	CAPI											
Never		2.3	4.9	9	1.7	5.4	6	3.7				
Rarely		4.4	7.1	9.8	4	7.2	11	5.8				
Sometimes		20.5	23.9	23.7	18.3	22	17.3	20.9				
Usually		29.7	26.2	23.1	26.5	21.8	25.1	26.6				
Always		43.1	38	34.3	49.5	43.6	40.6	43				
Mean		3.1	2.9	2.6	3.2	2.9	2.8	3.0				
Number of observations		383	309	104	313	197	59	1,365				
(2) How often do you find someone you do not know such as people in movies, television, books, or strangers on the street physically attractive?	CAPI											
Never		9.4	14.3	32.2	22.4	34	50	24.3				
Less than once a week		23.2	24.6	23.5	44.5	36.2	27.1	31.2				
Once a week		19.3	18.2	18.7	14	12.6	8.3	15.4				
Several times a week		24.4	23.3	12.3	11.2	8.8	7.4	15.3				
Every day		19.8	14.7	10.4	6	7.1	6.7	11.1				
More than once a day		3.9	4.9	2.9	1.9	1.3	0.4	2.7				
Mean		2.3	2.1	1.5	1.4	1.2	0.9	1.7				
Number of observations		550	584	324	634	619	379	3,090				
(3) In the past month, how much effort have you made to make yourself look attractive for your partner?	LBQ											
No effort		7.2	6.9	5	3	4.5	4.9	5.4				
Some effort		20.2	17	18.7	7.9	10.5	12.7	14.6				
A moderate amount of effort		47.9	54.2	54.5	41.4	44.4	47.8	47.7				
A lot of effort		18.6	18.4	18.1	32.4	28.2	25.2	23.6				
A great deal of effort		6.2	3.4	3.6	15.2	12.4	9.4	8.6				
Mean		2.0	1.9	2.0	2.5	2.3	2.2	2.2				
Number of observations		415	423	194	416	325	113	1,886				
(4) In the past month, how much effort have you made to make yourself look attractive for someone you find attractive?	LBQ											
No effort		13.2	20	35	42	41.4	47.8	36.9				
Some effort		26.5	32.8	18.3	16.4	17	19.4	20.3				
A moderate amount of effort		33.6	29.6	30.7	29.6	23.7	21.5	26.9				
A lot of effort		21.7	12.4	10.3	7.1	11.5	7.9	10.8				
A great deal of effort		5	5.3	5.8	5	6.5	3.3	5.1				
Mean		1.8	1.5	1.3	1.2	1.2	1.0	1.3				
Number of observations		64	99	87	150	219	196	815				
(5) When your partner wants to have sex with you, how often do you agree?	CAPI											
Never		4.4	9.1	12.7	5.6	10	12.9	7.6				
Rarely		2.5	1.6	1.8	1.8	3.5	2.7	2.2				
Sometimes		6.9	4.1	5	14.1	13.9	6.5	8.9				

(Table 2 continues)

Table 2 (continued)

WAVE 2 age eligible participants	Men			Women			Total	
	62-69	70-79	80-90	62-69	70-79	80-90	62-90	
	%	%	%	%	%	%	%	%
Usually	20.4	16.8	12.6	33.5	22.3	23	22.5	
Always	60.2	52.8	43.4	33.5	29.6	28.7	45	
If volunteered: My partner has not wanted to have sex with me in the past 12 months	5.6	15.7	24.3	11.5	20.7	26.2	13.8	
Mean	3.4	3.2	3.0	3.0	2.7	2.7	3.1	
Number of observations	483	480	222	471	353	130	2,139	
(6) For some people, their sexual enjoyment is affected by nonsexual things that their partner does before having sex, such as helping out, compliments or sharing activities. For others it is not important at all. Given how important such things are for your enjoyment of sex, how often did they happen during the past 12 months?								
Much less often than you would like	20.8	26.9	30.2	20.4	24.7	42.3	24	
Somewhat less often than you would like	16.5	15.5	22.3	18.7	16.2	6.8	16.9	
About as often as you would like	57.6	54.6	41.4	56.7	56.9	50.9	55.2	
Somewhat more often than you would like	4	1.5	4.4	2.7	1.8	0	2.8	
Much more often than you would like	1.1	1.4	1.8	1.5	0.4	0	1.2	
Mean	2.5	2.4	2.3	2.5	2.4	2.1	2.4	
Number of observations	387	371	143	368	237	63	1,569	
(7) During the past 12 months, when you had sex, was the amount of time you and your partner spent kissing, hugging, and touching before having vaginal intercourse:								
Much less often than you would like	10.4	8.3	5.5	4.3	3.7	0	6.7	
Somewhat less often than you would like	9.7	5	6	10.9	5.2	1.2	7.7	
About as often as you would like	53.4	47.3	33.7	48.5	43.9	25.7	46.8	
Somewhat more often than you would like	1.6	1	0.4	3	0	0	1.4	
Much more often than you would like	1.2	1	0.5	0.6	0.7	0	0.8	
I have not had vaginal intercourse in the past 12 months	23.7	37.4	53.9	32.7	46.4	73	36.5	
Mean	2.7	2.7	2.7	2.8	2.8	3.0	2.7	
Number of observations	389	377	155	380	262	88	1,651	
(8) To what extent do you feel your sex life is lacking in quality?								
Not at all lacking in quality	35.9	35	34.9	40.9	50.6	57.2	40.6	
Slightly lacking in quality	26.5	23.2	21.2	22.1	17.6	9.8	21.9	
Moderately lacking in quality	17.2	15.1	17.3	16.2	9.9	7.8	14.8	
Extremely lacking in quality	20.3	26.8	26.5	20.8	22	25.2	22.8	
Mean	1.2	1.3	1.4	1.2	1.0	1.0	1.2	
Number of observations	449	454	205	464	372	154	2,098	
(9) How appealing or pleasant do you find the following ways of being touched? Being touched lightly, such as someone putting a hand on your arm.								
Not at all appealing	2.2	2.5	5.8	3.6	3.1	3.5	3.2	
Not appealing	12.4	10.9	12	6.7	9.1	14.4	10.4	

(Table 2 continues)



Table 2 (continued)

WAVE 2 age eligible participants	Men				Women				Total	
	62-69		70-79		62-69		70-79		62-90	
	%		%		%		%		%	
Somewhat appealing	50.6	48.6	52.8	44.4	49.1	49.3	48.6			
Very appealing	34.9	38	29.4	45.2	38.7	32.8	37.8			
Mean	3.2	3.2	3.1	3.3	3.2	3.1	3.2			
Number of observations	482	521	282	571	553	319	2,728			
(10) How appealing or pleasant do you find the following ways of being touched? Hugging.										
Not at all appealing	1.6	1.7	4.3	0.8	2.5	3.7	2			
Not appealing	6.6	7.5	7.8	4.4	4.4	9.5	6.2			
Somewhat appealing	48.4	45.8	45.8	34.6	45.2	47	43.7			
Very appealing	43.5	45.1	42.1	60.2	48	39.8	48			
Mean	3.3	3.3	3.3	3.5	3.4	3.2	3.4			
Number of observations	483	523	282	573	553	321	2,735			
(11) How appealing or pleasant do you find the following ways of being touched? Cuddling.										
Not at all appealing	1.9	3.5	9.1	3.8	7.6	15.5	5.8			
Not appealing	16.9	17.5	25.9	14.8	22.5	39.1	20.7			
Somewhat appealing	39.8	38.5	42.4	36.7	39.9	30.3	38.1			
Very appealing	41.4	40.5	22.6	44.7	29.9	15.2	35.4			
Mean	3.2	3.2	2.8	3.2	2.9	2.5	3.0			
Number of observations	478	518	275	569	547	315	2,702			
(12) How appealing or pleasant do you find the following ways of being touched? Sexual Touching.										
Not at all appealing	6.6	10	19	15.6	32.5	58.7	20.7			
Not appealing	7.1	18.6	23.3	19	22.1	19.1	17.4			
Somewhat appealing	33.4	28.3	34.2	36.9	28.8	14.3	30.5			
Very appealing	52.9	43.1	23.5	28.5	16.6	7.9	31.4			
Mean	3.3	3.0	2.6	2.8	2.3	1.7	2.7			
Number of observations	468	508	269	548	530	302	2,625			
(13) How often have you and your partner shared caring touch, such as a hug, sitting or lying cuddled up, a neck rub or holding hands?										
Never	3	2.8	3.1	5.6	8.9	8.8	4.8			
About once a month or less	12	10.9	7.6	9.8	10.8	11.6	10.6			
About once a week	12.4	9.7	11.2	7.8	13	8	10.5			
Several times a week	21.2	20.7	18.8	16.6	11	17.2	18.1			
About once a day	14.1	20	17.9	16.4	17.9	14.2	16.7			
A few times a day	22.8	22.5	29.3	25.7	26.8	27.9	24.9			
Many times a day	14.4	13.3	12	18.1	11.5	12.3	14.3			
Mean	3.6	3.7	3.8	3.8	3.4	3.5	3.6			
Number of observations	414	419	193	414	321	105	1,866			

(Table 2 continues)

Table 2 (continued)

WAVE 2 age eligible participants	Men		Women		Total	
	62-69 %	70-79 %	62-69 %	70-79 %	62-90 %	80-90 %
(14) Other than your partner, how often have you and a person, such as a friend, grandchild or another adult, shared a caring touch, such as a greeting hug, a touch on the arm, or a neck rub?						
Never	4.5	10.7	2.2	2.6	5.1	5.9
About once a month or less	30.8	26.2	13	15.9	21.8	21.5
About once a week	23.8	18.3	20.9	26.5	23.7	29.9
Several times a week	22.7	24.1	34	27.7	26.7	25.4
About once a day	9.7	7.3	11	8.2	8.8	9.1
A few times a day	5	8.8	7.4	10.3	7.3	4.8
Many times a day	3.6	4.6	11.6	8.7	6.5	3.5
Mean	2.3	2.4	3.1	2.9	2.6	2.4
Number of observations	478	520	572	559	2,725	311
(15) How often have you pet, stroked, touched, or slept next to a cat, dog, or other pet?						
Never	34.4	44.5	34.8	41.4	41.2	51.3
About once a month or less	9	13.6	11.4	8.6	10.3	9.1
About once a week	5.4	3	4.1	5.8	4.5	4.1
Several times a week	4.6	5.7	5.2	4.1	4.9	4.2
About once a day	11.1	6.3	5.9	5.7	7.3	7.8
A few times a day	17.5	9.9	12.1	9.1	11.7	9.5
Many times a day	17.9	17	26.6	25.4	20.1	14
Mean	2.7	2.1	2.8	2.5	2.4	1.9
Number of observations	481	524	565	555	2,722	315
CAPI						
LBQ						

Note: CAPI = Computer-Assisted Personal Interview; LBQ = Leave-Behind Questionnaire; NSHAP = National Social Life, Health, and Aging Project.

who returned the LBQ, the partner version of the item was completed by 2,027, and the nonpartner version by 820.

The *Sexual Receptivity* component was measured with two items, one of which is new in Wave 2: (5) “When your partner wants to have sex with you, how often do you agree?” Answer options were: always, usually, sometimes, rarely, never, and (if volunteered) my partner has not wanted to have sex with me in the past 12 months. This item appears in the in-person questionnaire and was asked of respondents with intimate partners (spouses, cohabiting partners, or romantic, intimate, or sexual partners), of whom 2,316 respondents provided answers.

The *Sexual Proceptivity* component was measured with a number of items all of which appeared in Wave 1. Reconceptualized as a coherent set to measure actively seeking sexual activity, they, along with the sensorimotor component can be used for longitudinal analyses.

### *The Context of Sexual Experience*

Sexual context was measured with two items, both of which were new in Wave 2 and specifically written for NSHAP. The first is (6) “For some people, their sexual enjoyment is affected by nonsexual things that their partner does before having sex, such as helping out, compliments, or sharing activities. For others it is not important at all. Given how important such things are for your enjoyment of sex, how often did they happen during the past 12 months: Much more often than you would like, Somewhat more often than you would like, About as often as you would like, Somewhat less often than you would like, Much less often than you would like” The question was answered by 1,697 respondents. The second sexual context question was: (7) “During the past 12 months, when you had sex, was the amount of time you and your partner spent kissing, hugging, and touching before having vaginal intercourse.” Answer options were the same as for the first sexual context question with the extra final response category “I have not had vaginal intercourse in the past 12 months” (note that the answer options were printed incorrectly, so that the word “often” was included in all options for this question as well. The options for this question were intended to read “much more than you wanted,” “somewhat more than you wanted,” “about as much as you wanted,” “somewhat less than you wanted,” “much less than you wanted”). The number of observations for this question is 1,785. These questions appeared in the Partner version of the LBQ.

### *Sexual Satisfaction*

There is one new sexual satisfaction question, adapted from the Index of Sexual Satisfaction (ISS) developed by Hudson, Harrison, and Crosscup (1981) to assess sexual discord in romantic dyads. The question is: (8) “To what extent do you feel your sex life is lacking in quality?” And the answer options were: extremely lacking in quality,

moderately lacking in quality, slightly lacking in quality, and not at all lacking in quality. This question was asked of everyone in the LBQ and was answered by 2,234.

### *Physical Contact*

The appeal of physical contact was measured with four items that were written for NSHAP Wave 2. They were introduced with the following: “Some people like being physically touched by people they are close to, while others do not. How appealing or pleasant do you find the following ways of being touched?” (9) Being touched lightly, such as someone putting a hand on your arm? ( $N = 2,877$ ); (10) Hugging? ( $N = 2,883$ ); (11) Cuddling? ( $N = 2,851$ ); (12) Sexual touching? ( $N = 2,772$ ). Answer options were: very appealing, somewhat appealing, not appealing, and not at all appealing. These were asked of everyone in the LBQ.

The frequency of physical contact was measured with four items, three of which are new to NSHAP Wave 2. In addition to a question about sleeping in the same bed with your spouse or romantic partner, which also appeared in Wave 1 and is discussed in Lauderdale *et al* (2014), Wave 2 asks three new frequency of physical contact questions. The first is, (13) “In the last 12 months, how often have you and your partner shared caring touch, such as a hug, sitting or lying cuddled up, a neck rub or holding hands?” Answers were provided by 2,009 respondents. The second is (14) “In the last 12 months, [Other than your partner] H/how often have you and a person, such as a friend, grandchild, or another adult, shared caring touch, such as a greeting hug, a touch on the arm, or a neck rub?” (discussed in Kim & Waite, 2014). The third is (15) “How often have you petted, stroked, touched, or slept next to a cat, dog, or other pet?” The answer options to all three questions were: Many times a day, a few times a day, about once a day, several times a week, about once a week, about once a month, and never. The first was only in the Partner version of the LBQ, while the second and third were asked of everyone in the LBQ (though the introductory clause for the second one only appeared in the Partner LBQ). The question about caring touch with those other than a partner was answered by 2,872 respondents and the question about contact with a pet was answered by 2,870.

We compare the distributions of each measure by gender and age group, and in some cases by partner status (“partnered” refers to those with a spouse or cohabiting partner) or intimate partner status (“intimate partner” refers to a spouse, cohabiting partner, or a romantic, intimate, or sexual partner), using chi-squared tests, regressions, and logistic regressions, with significance set at  $p < .05$ . The results shown in Table 2 and discussed in the text are based on analyses of only those respondents who would have been age eligible in Wave 1 (i.e., aged 62–90 in Wave 2, including two participants who were 91 as an artifact of interview scheduling). All differences reported in the text are statistically significant. Data are publicly available (NSHAP Wave 1: Waite, Linda J., Edward

O. Laumann, Wendy Levinson, Stacy Tessler Lindau, and Colm A. O'Muirheartaigh. National Social Life, Health, and Aging Project (NSHAP): Wave 1. ICPSR20541-v6. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2014-04-30. doi:10.3886/ICPSR20541.v6. NSHAP Wave 2: Waite, Linda J., Kathleen Cagney, William Dale, Elbert Huang, Edward O. Laumann, Martha K. McClintock, Colm A. O'Muirheartaigh, L. Phillip Schumm, and Benjamin Cornwell. National Social Life, Health, and Aging Project (NSHAP): Wave 2 and Partner Data Collection. ICPSR34921-v1. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2014-04-29. doi:10.3886/ICPSR34921.v1.

## RESULTS

The distributions of the new Wave 2 sexuality measures are shown in the first panel of Table 2. We discuss them in the order in which they appear. Note that unless stated otherwise, the results presented are for all respondents who answered the question, regardless of their level of sexual activity (if any).

The new measure of the *Sensorimotor* component asked about how often their sexual partner touches their genitals when they have sex. The mean frequency of engaging in this activity does not differ between men and women, though men are less likely than women to say their partner always does this.

There are significant sex differences in the measure of *Sexual Salience/Valence* (frequency of finding someone else sexually attractive); men are more likely to endorse the more frequent options while women are more likely to endorse the less frequent options. The proportion of men who say that every day they find someone they do not know attractive declines between the youngest and oldest age groups, whereas for women, it is essentially constant but at a low level. However, for both men and women, the mean frequency decreases between the youngest and oldest age groups, and the percentage who say they never find someone they do not know attractive increases with age.

For the *Sexual Attractivity* items (amount of effort made to look attractive to a partner among those with partners or to someone you find attractive among those without partners), among those with partners, men are more likely to endorse the no, some and moderate effort options, while women are more likely to endorse the "a lot" and the "a great deal" options. In marked contrast, among those without partners, women are more likely to endorse the "no effort" option and men are more likely to endorse the "a lot" option. Men without partners put more effort to making themselves look attractive to someone they find attractive, compared to women without partners, but men with partners put less effort into making themselves look attractive to their partners compared to women with partners. In both cases, the mean effort made to look attractive decreases between the youngest and oldest among the gender group

making the greater effort (women with partners and men without partners), but there is no age difference in the gender group putting in less effort in either partnership group.

For the new *Sexual Receptivity* item, which asks how often the respondent agrees when his or her partner (referring to the intimate partner) wants to have sex, the mean frequency of agreeing among those whose intimate partner wanted to have sex was higher for men than for women but not strikingly so. This is because men and women were equally likely to say that they never or rarely agreed to have sex when their partner wanted to. Women were more likely to say that their partner has not wanted to have sex with them in the last 12 months. Note that very few older adults with an intimate partner say they rarely agree to sex. However, at higher frequencies of agreeing, sex differences are evident. Women were more likely to say they sometimes or usually agreed while men were more likely to say they always agreed. This gender difference in usually and always agreeing persists through the oldest age. Among those whose intimate partner wanted to have sex, the mean level of agreeing declines between the youngest and oldest age groups among men, but this difference is not significant among women. However, among both men and women, never agreeing to sex increases with age.

We turn now to the measures of *sexual context*. The first question in this section had a somewhat complicated structure, first stating that for some people, their enjoyment of sex was affected by nonsexual things their partner does before sex, such as helping out, compliments, or sharing activities. Then the question asked, given how much these things matter to you, how satisfied were you with how much your partner did them. The modal answer is about as often as the person would like (a little over half endorsed that option), though a substantial share—between about a third and about half depending on the gender-age group—say their partner did not do this enough. Overall, two fifths of both men and women say their partner did not do this enough. Virtually no men or women say that their partner did this too much or much too much. Women aged 80–90 also appear to be particularly dissatisfied, as 42% say their partner does nice things before sex much less often than they would like. Note also that this group of women is much more likely than younger women to say that they never agree when their partner wants to have sex. Something of this same pattern appears for the oldest men, with 30% saying that their partner does nice things before sex much less often than they would like, and another 22% saying that their partner does them somewhat less often than they would like. And 13% of these oldest men say they never agree to sex when their partner wants to.

When and if these older couples proceed to sex, the next question asks about their satisfaction with the amount of kissing, hugging, and touching before they have vaginal intercourse. Again, virtually no men or women say they spend too much time. And at the oldest ages, 54% of men

and 73% of women say that this is not relevant because they have not had vaginal intercourse in the past year. Most of the rest say the amount of foreplay is about right. These initial results are a bit misleading, however. If we restrict the analysis to those who had vaginal sex in the past year (i.e., those who did not respond “I have not had vaginal intercourse in the past year;” the group to whom this question is meaningful and salient), 20% of women and 25% of men say that the amount of foreplay was less than they would have liked.

The new question on sexual satisfaction asks the extent to which the person feels his or her sex life is lacking in quality. This question was asked of all respondents. When the entire sample is considered, we see that women are more likely to say their sex life is not at all lacking in quality, while men are more likely to say it is slightly or moderately lacking. However, this gender difference is limited to those without intimate partners and is not seen among those who have intimate partners (not shown). Among those with intimate partners, men and women are just as likely to say their sex lives are either lacking or not lacking in quality. However, among those without an intimate partner, women are much more likely to say that their sex life is not at all lacking in quality while men are more likely to be dissatisfied with the quality of their sex lives; many women without intimate partners do not feel the lack of a sex life, whereas many older men without intimate partners do.

The next section of [Table 2](#) presents new questions on *physical contact*. The questions on the appeal of various types of physical contact can be divided between the sexual touching item and all the others. One pattern is seen in the distribution of items related to the appeal of light touching, hugging, and cuddling ([Table 2](#)), asked of all respondents. Most men and most women say that this type of touching is either very appealing or somewhat appealing, with women on average more positive than men on light touching and hugging among those ages 62–69 and men on average more positive than women on cuddling in the two older groups.

A different pattern is seen for sexual touching. For this measure, men are more likely than women to say sexual touching is very appealing while women are more likely than men to say that sexual touching is not or not at all appealing. Among both men and women, those with intimate partners are more likely than those without intimate partners to say that sexual touching is very appealing and less likely to say it is not or not at all appealing (not shown). It may be the case that the meaning of the question is very different for partnered respondents than for those with no current intimate partner. The questions refer to the partner for one and to some nonexistent or unspecified person for others.

The next series of questions asks about the frequency with which the respondent experiences three different types of physical contact: caring touch with their partner; caring touch with someone other than a partner, such as a friend or a grandchild; and physical contact with a cat, dog, or other pet. More than half of older adult men and women report caring touch with their cohabiting partner daily (many

times a day, a few times a day, or about once a day) and this seems to vary little by age. Caring touch with others is much less frequent, with less than a third of both men and women reporting this experience once a day or more, though women are more likely than men to report engaging in this kind of touch that frequently in all but the oldest age group. Physical contact with a pet is quite frequent for some older adults—likely those with pets—and rare for others.

## DISCUSSION

The second wave of NSHAP includes a number of items developed to measure specific components of sexual motivation and interest. The results from this wave show the variability in sexual interest and motivation that is hidden when one only examines this construct with a single broad question. The components manifest different patterns of aging and gender differences, indicating that they are indeed separable, consistent with having different underlying neuroendocrine mechanisms. For most components, women reported lower levels than did men. However, the gender difference in attractiveness among people with a spouse or cohabiting partner was the opposite of that among those without, indicating that this component is particularly sensitive to social context. Partnered women made greater efforts than did men, whereas men made the greater effort among those without partners.

The questions in Wave 2 on physical contact offer answer categories with more fine grain at the high end of the scale, thereby providing more detail than was available for similar questions in Wave 1. The literature on physical contact suggests that it is the higher frequency of physical contact that is most associated with the reduction in stress and increases in relaxation and health ([Light, Grewen, & Amico, 2005](#); [Pittman, 2011](#)), and in this wave it is possible to identify those who are engaging in such higher levels.

The questions on sexual context may help explain previous findings on sexual interest and motivation in Wave 1. The high levels of lack of interest in sex reported in Wave 1 (nearly 30% of men and almost half of all women; [Waite et al., 2009](#)) are perhaps not surprising given that about two fifths of both men and women report that their partners are not doing enough of the nonsexual things that make later sexual interactions pleasurable, and about a fifth of sexually active men and women report that they wish they had more foreplay. It may be that the high levels of other sexual problems reported in both waves are also linked to these factors.

The questions on sexual motivation are original questions and have not been validated or evaluated for clarity, respondent comprehension, or the willingness of respondents to answer them. These are important considerations for any survey question but especially so for those that deal with sexual attitudes and behavior. In addition, while there are advantages to the decision made in Wave 2 to ask all respondents all sexuality and physical contact questions (and only limit to partnered respondents those questions that



directly referred to a sexual or romantic partner), nonpartnered respondents may have had difficulty or been reluctant to answer the questions. Furthermore, 12 of the 15 new questions were asked in a booklet that was left with the respondent to be completed later. This LBQ was not completed by about 13% of those who completed the main interview. We suggest that analysts using the questions on sexual motivation and interest in the LBQ look specifically at the pattern of nonresponse to these questions and model the traits of the LBQ nonrespondents to correct estimates of national prevalence and clarify generalizability of their analyses. We also suggest that analysts examine the determinants, such as demographic factors and sexual activity in the past year, of nonresponse for the sexuality measures in the CAPI as well. Gender norms related to sexual expression may also contribute to nonresponse bias for some of these items (for more information on analytic approaches to handling missing data in NSHAP Wave 2, see [Hawley et al., 2014](#)).

An important next step in understanding the components of sexuality at older ages involves validating the questions written especially for NSHAP Wave 2. Comparison of responses with those of questions better understood would be a place to start, with analysis comparing these items with those also in Wave 1. Analysis of the questions designed to measure the dimensions of the neuroendocrine model must be done. This could involve factor analysis of the questions, with construction of scales and subscales, though such an analysis would be most appropriate for the two components with more than two measures (Sensorimotor and Proceptivity).

Although the second wave of NSHAP added a number of carefully chosen and crafted questions on sexuality, it also included many asked in the first wave. These provide many opportunities for longitudinal analysis of sexual behavior, attitudes, and function for individuals. The addition of a third wave in 2015/16 will extend the possibilities for longitudinal analysis for individuals and offer new opportunities for analysis of sexuality in aging dyads. In addition, sexual behavior, attitudes, and function can be used as both predictors and outcomes of social and health processes over time. For example, some chronic diseases and/or the medications for them affect sexual function or motivation. And sexual behavior seems to mediate the effect of poor physical health on marital quality ([Galinsky & Waite, 2014](#)).

Questions on sexual behavior, attitudes, and function show gender differences and differences by age. There is every reason to expect these to vary by cohort as well. These age, period, and cohort differences can be addressed only to a limited extent with the first two waves of NSHAP, but the addition of a third wave, which will include the Baby Boom cohort, will expand these possibilities.

#### *Special Consideration for Analysts*

Because the sociological and psychological literatures suggest that sexual receptivity, proceptivity, and enjoyment

may be highly influenced by the situational and relationship context ([Basson, 2001](#); [Galinsky, 2012](#); [Sims & Meana, 2010](#); [Tolman & Diamond, 2001](#)), we suggest that analysts consider the measures of these components in combination with the measures of adequacy of sexual touching and the importance of nonsexual partnered behaviors to sexual enjoyment.

Furthermore, the sociological and developmental psychology literatures suggest that sexual salience and proceptivity may be highly influenced by social norms, gender ideology, mental health, and the emotional quality of the sexual relationship. For example, adults in the United States and Europe who came of age after or during the sexual revolution of the 1960s are more likely to report masturbating ([Das, 2007](#); [Kontula & Haavio-Mannila, 2003](#); [Laumann, Gagnon, Michael, & Michaels, 1994](#)), a hypothesis that can be tested further using forthcoming Wave 3 data. Also, an understanding of the availability of appropriate, desired physical, and relational sexual stimuli may be necessary in order to appropriately measure sexual salience. For example, visual stimuli are more sexually salient and arousing to men, while narrative and emotionally charged stimuli are more sexually salient and arousing to women ([Laan, Everaerd, van Bellen, & Hanewald, 1994](#); [Rupp & Wallen, 2008](#)). We therefore suggest that analysts consider the measures of sexual salience and proceptivity in combination with the measures of sexual relationship quality and social context.

#### **CONCLUSIONS**

This is the first time that all five components of the neuroendocrine model of sexuality have been measured in a nationally representative survey. Sexual motivation is most often measured as a unitary construct in much (particularly medical) sexual health research. These data offer the opportunity to more precisely, accurately, and richly characterize sexual motivation in older adulthood. Rather than creating simple scales or indexes, we encourage analysts to explore how different combinations of these components of sexuality are distributed in the population and how different combinations differently predict psychological and relationship well-being and ill-health.

It is also the first time that measures of sexual context and the frequency and appeal of physical contact have been measured in the same nationally representative survey as more standard measures of sexual activities and difficulties. These data provide analysts with the opportunity to examine how the context of sexual experience and the nonsexual aspects of physical intimacy correlate with sexual enjoyment and problems.

Finally, this data set offers the unprecedented opportunity to examine the association of physical contact with biomarkers of stress and relaxation and to build models

exploring the relationships among these measures and measures of relationship quality and sexual enjoyment.

The neuroendocrine perspective on sexual interest and motivation, the more contextual approach to sexual experience, and the focus on nonsexual physical contact are all relevant to stages of the life course besides older adulthood. The sexuality framework and measurement approach used in NSHAP Wave 2 could enrich research on many types of intimate relationships across the lifespan.

Theoretical perspectives on sexuality point to a number of separate components, which may play different roles for men and women and may play different roles as people age. Wave 2 of NSHAP includes a number of questions designed to measure specific components in older adults. Distinguishing the components is the first step in a refined analysis of reciprocal interaction between sexuality and health. These new questions, combined with information on both partners and rich data on the health, psychological and social world in which these partnerships are situated, provide many opportunities for enriching our understanding of sexuality among older men and women.

#### KEY POINTS

- New items capture:
  - Key components of the neuroendocrine model of sexuality:
    - Sensorimotor
    - Valence or salience
    - Attractivity
    - Receptivity
    - Proceptivity or solicitation
  - Sexual satisfaction.
  - The context of sexual experience.
  - The appeal and frequency of different types of physical contact.
- The measures of the salience/valence and receptivity components decrease with age. The inclination to make one's self sexually attractive to others varies by partner status and gender—among those with partners it is stronger in women than in men but among those without partners it is stronger in men than in women.
- Two fifths of men and women report dissatisfaction with their partner's frequency of caring behaviors that make later sexual interactions pleasurable, and a fifth of women and a quarter of men who had vaginal sex in the past year report dissatisfaction with amount of foreplay.
- The appeal of sexual physical contact is higher in men than in women, whereas the appeal of nonsexual physical contact is high among both men and women.
- Physical contact is frequent among those with partners and pets, whereas it is rare among those without.

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#### CORRESPONDENCE

Correspondence should be addressed to Adena Galinsky, PhD, Center on Demography and Economics of Aging, University of Chicago, 1155 East 60th St, Chicago, IL 60637. E-mail: [agalinsk@jhsph.edu](mailto:agalinsk@jhsph.edu).

#### REFERENCES

- Basson, R. (2001). Human sex-response cycles. *Journal of Sex and Marital Therapy*, 27, 33–43. doi:10.1080/00926230152035831
- Beach, F. A. (1976). Sexual attractiveness, proceptivity, and receptivity in Female mammals. *Hormones and Behavior*, 7, 105–138. doi:10.1016/0018-506X(76)90008-8
- Bullivant, S. B., Selligren, S. A., Stern, K., Spencer, N. A., Jacob, S., Mennella, J. A., & McClintock, M. K. (2004). Women's sexual experience during the menstrual cycle: Identification of the sexual phase by noninvasive measurement of luteinizing hormone. *Journal of Sex Research*, 41, 82–93. doi:10.1080/00224490409552216
- Byers, E. S. (2005). Relationship satisfaction and sexual satisfaction: A longitudinal study of individuals in long-term relationships. *Journal of Sex Research* 42, 113–118. doi:10.1080/00224490509552264
- Cooke, B. M., Breedlove, S. M., & Jordan, C. L. (2003). Both estrogen receptors and androgen receptors contribute to testosterone-induced changes in the morphology of the medial amygdala and sexual arousal in male rats. *Hormones and Behavior*, 43, 336–346. doi:10.1016/S0018-506X(02)00047-8
- Coria-Avila, G. A., & Pfaus, J. G. (2007). Neuronal activation by stimuli that predict sexual reward in female rats. *Neuroscience*, 148, 623–632. doi:10.1016/j.neuroscience.2007.05.052
- Das, A. (2007). Masturbation in the United States. *Journal of Sex and Marital Therapy*, 33, 301–317. doi:10.1080/00926230701385514
- Diamond, L. M. (2003). What does sexual orientation orient? A biobehavioral model distinguishing romantic love and sexual desire. *Psychological Review*, 110, 173–192. doi:10.1037/0033-295x.110.1.173
- Galinsky, A. (2012). Sexual touching and difficulties with sexual arousal and orgasm among U.S. older adults. *Archives of Sexual Behavior* 41, 875–890. doi:10.1007/s10508-011-9873-7
- Galinsky, A., & Waite, L. (2014). Sexual activity and psychological health as mediators of the relationship between physical health and marital quality. *Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, doi:10.1093/geronb/gbt165.
- Gallace, A., & Spence, C. (2010). The science of interpersonal touch: An overview. *Neuroscience and Biobehavioral Reviews*, 34, 246–259. doi:10.1016/j.neubiorev.2008.10.004
- Geer, J. H., & Manguno, G. M. (1997). Gender differences in cognitive processes in sexuality. *Annual Review of Sex Research*, 9, 90–124. doi:10.1080/10532528.1996.10559910
- Grammer, K., Renninger, L., & Fischer, B. (2004). Disco clothing, female sexual motivation, and relationship status: Is she dressed to impress? *Journal of Sex Research*, 41, 66–74. doi:10.1080/00224490409552214
- Haavio-Mannila, E., & Kontula, O. (1997). Correlates of increased sexual satisfaction. *Archives of Sexual Behavior*, 26, 399–419. doi:10.1023/A:1024591318836
- Hawley, L. C., Kocherginsky, M., Wong, J., Kim, J., & Cagney, K. A. (2014). Missing data in Wave 2 of NSHAP: Prevalence, predictors,

- and recommended treatment. *Journals of Gerontology, Series B. Psychological Sciences and Social Sciences*. doi:10.1093/geronb/gbu044
- Herd, G., & McClintock, M. K. (2000). The magical age of 10. *Sexual Behavior*, 29, 587–606. doi:10.1023/A:1002006521067
- Hudson, W. W., Harrison, D. F., & Crosscup, P. C. (1981). A short-form scale to measure sexual discord in dyadic relationships. *The Journal of Sex Research*, 17, 157–174. doi:10.1080/00224498109551110
- Jaszczak, A., O'Doherty, K., Colicchia, M., Satorius, J., McPhillips, J., Czaplewski, M., ... Smith, S. (2014). Continuity and innovation in the data collection protocols of the second wave of the National Social Life, Health, and Aging Project. *Journals of Gerontology, Series B. Psychological Sciences and Social Sciences*. doi:10.1093/geronb/gbu031
- Kalat, J. W. (2007). *Biological psychology*. Belmont, CA: Thomson/Wadsworth.
- Karama, S., Lecours, A. R., Leroux, J. M., Bourgouin, P., Beaudoin, G., Joubert, S., & Beaugard, M. (2002). Areas of brain activation in males and females during viewing of erotic film excerpts. *Human Brain Mapping*, 16, 1–13. doi:10.1002/hbm.10014
- Kontula, O., & Haavio-Mannila, E. (2003). Masturbation in a generational perspective. *Journal of Psychology and Human Sexuality*, 14, 49–83. doi:10.1002/hbm.10014
- Kim, J., & Waite, L. J. (2014). Relationship quality and shared activity of marital and cohabiting dyads in the National Social Life, Health and Aging Project, Wave 2. *Journals of Gerontology, Series B. Psychological Sciences and Social Sciences*. Forthcoming.
- Laan, E., Everaerd, W., van Bellen, G., & Hanewald, G. (1994). Womens sexual and emotional responses to male-produced and female-produced erotica. *Archives of Sexual Behavior*, 23, 153–169. doi:10.1007/BF01542096
- Laumann, E. O., Gagnon, J. H., Michael, R. T., & Michaels, S. (1994). *The social organization of sexuality: Sexual practices in the United States*. Chicago, IL: University of Chicago Press.
- Lauderdale, D. S., Schumm, L. P., Kurina, L. M., McClintock, M. K., Thisted, R. A., Chen, J., & Waite, L. J. (2014). Assessment of sleep in the National Social Life, Health and Aging Project. *Journals of Gerontology, Series B. Psychological Sciences and Social Sciences*. Forthcoming.
- Light, K., Grewen, K., & Amico, J. (2005). More frequent partner hugs and higher oxytocin levels are linked to lower blood pressure and heart rate in premenopausal women. *Biological Psychology*, 69, 5–21. doi:10.1016/j.biopsycho.2004.11.002
- Lindau, S. T., Laumann, E. O., Levinson, W., & Waite, L. J. (2003). Synthesis of scientific disciplines in pursuit of health: The interactive biopsychosocial model. *Perspectives in Biology and Medicine*, 46, S74–S86. doi:10.1353/pbm.2003.0069
- Loe, M. (2012). Pleasure in old age. In L. M. Carpenter & J. DeLamater (Eds.), *Sex for life: From virginity to viagra, how sexuality changes throughout our lives* (pp. 278–298). New York: NYU Press.
- Lopez, H. H., Hay, A. C., & Conklin, P. H. (2009). Attractive men induce testosterone and cortisol release in women. *Hormones and Behavior*, 56, 84–92. doi:10.1016/j.yhbeh.2009.03.004
- Micevych, P. E., & Dewing, P. (2011). Membrane-initiated estradiol signaling regulating sexual receptivity. *Front Endocrinol (Lausanne)*, 2, 26. doi:10.3389/fendo.2011.00026
- McClintock, M. K. (2009). Sexual development: Desire and behavior. In R. A. Shweder, T. R. Bidell, A. C. Dailey, S. D. Dixon, P. J. Miller, & J. Modell (Eds.), *The child: An encyclopedia companion* (p. 891–895). Chicago, IL: University of Chicago Press.
- McClintock, M. K., & Adler, N. T. (1978). The role of the female during copulation in the wild and domestic Norway rat (*Rattus norvegicus*). *Behaviour*, 58, 67–96. doi:10.1163/156853978X00260
- Meisel, R. L., & Sachs, B. D. (1994). The physiology of male sexual behavior. In E. Knobil, J. G. S. Neill, G. S. Greenwald, C. L. Markert, & D. W. Pfaff (Eds.), *The physiology of reproduction* (pp. 3–107, Vol. 2). New York: Raven Press. doi:10.1016/b978-012532104-4/50003-2
- Moore, M. (1985). Nonverbal courtship patterns in women: Context and consequences. *Ethology and Sociobiology*, 6, 237–247. doi:10.1016/0162-3095(85)90016-0
- Moore, M. M. (2010). Human nonverbal courtship behavior: A brief historical review. *Journal of Sex Research*, 47, 171–180. doi:10.1080/00224490903402520
- Parish, W. L., Luo, Y., Stolzenberg, R., Laumann, E. O., Farrer, G., & Pan, S. (2007). Sexual practices and sexual satisfaction: A population based study of Chinese urban adults. *Archives of Sexual Behavior*, 36, 5–20. doi:10.1007/s10508-006-9082-y
- Pfaff, D. W. (1968). Autoradiographic localization of radioactivity in rat brain after injection of tritiated sex hormones. *Science*, 161, 1355. doi:10.1126/science.161.3848.1355
- Pfaff, D. W. (1997). Hormones, genes, and behavior. *Proceedings of the National Academy of Sciences of the United States of America*, 94, 14213–14216. doi:10.1073/pnas.94.26.14213
- Pittman, D. Q. (2011). A neuro-endocrine-immune symphony. *Journal of Neuroendocrinology*, 23, 1296–1297. doi:10.1111/j.1365-2826.2011.02176.x
- Rupp, H. A., & Wallen, K. (2008). Sex differences in response to visual sexual stimuli: A review. *Archives of Sexual Behavior*, 37, 206–218. doi:10.1007/s10508-007-9217-9
- Sakuma, Y. (1995). Differential control of proceptive and receptive components of female rat sexual behavior by the preoptic area. *Japanese Journal of Physiology*, 45, 211–228. doi:10.2170/jjphysiol.45.211
- Sims, K. E., & Meana, M. (2010). Why did passion wane? A qualitative study of married women's attributions for declines in sexual desire. *Journal of Sex and Marital Therapy*, 36, 360–380. doi:10.1080/0092623X.2010.498727
- Sisk, C. L., & Foster, D. L. (2004). The neural basis of puberty and adolescence. *Nature Neuroscience*, 7, 1040–1047. doi:10.1038/nn1326
- Sprecher, S., & Cate, R. M. (2004). Sexual satisfaction and sexual expression as predictors of relationship satisfaction and stability. In J. H. Harvey, A. Wenzel, S. Sprecher, J. H. Harvey, A. Wenzel, & S. Sprecher (Eds.), *The handbook of sexuality in close relationships* (pp. 235–256). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.
- Stephenson, K. R., & Meston, C. M. (2010). Differentiating components of sexual well-being in women: Are sexual satisfaction and sexual distress independent constructs? *Journal of Sexual Medicine*, 7, 2458–2468. doi:10.1111/j.1743-6109.2010.01836.x
- Thoits, P. A. (2011). Mechanisms linking social ties and support to physical and mental health. *Journal of Health and Social Behavior*, 52, 145–161. doi:10.1177/0022146510395592
- Tolman, D. L., & Diamond, L. M. (2001). Desegregating sexuality research: Cultural and biological perspectives on gender and desire. *Annual Review of Sex Research*, 12, 33–74. doi:10.1080/10532528.2001.10559793
- Waite, L. J., & Joyner, K. (2001). Emotional and physical pleasure in sexual unions: Time horizon, sexual behavior and sexual exclusivity. *Journal of Marriage and The Family*, 63, 247–264. doi:10.1111/j.1741-3737.2001.00247.x
- Waite, L. J., Laumann, E. O., Das, A., & Schumm, L. P. (2009). "Sexuality: Measures of partnerships, practices, attitudes, and problems in the National Social Life, Health, and Aging Study. *The Journals of Gerontology Series B-Psychological Sciences and Social Sciences*, 64, 156–166.