

Sexual Behaviors of U.S. Men by Self-Identified Sexual Orientation: Results From the 2012 National Survey of Sexual Health and Behavior

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ABSTRACT

Introduction: Although a large body of previous research has examined sexual behavior and its relation to risk in men of diverse sexual identities, most studies have relied on convenience sampling. As such, the vast majority of research on the sexual behaviors of gay and bisexual men, in particular, might not be generalizable to the general population of these men in the United States. This is of particular concern because many studies are based on samples of men recruited from relatively “high-risk” venues and environments.

Aims: To provide nationally representative baseline rates for sexual behavior in heterosexual, gay, and bisexual men in the United States and compare findings on sexual behaviors, relationships, and other variables across subgroups.

Methods: Data were obtained from the 2012 National Survey of Sexual Health and Behavior, which involved the administration of an online questionnaire to a nationally representative probability sample of women and men at least 18 years old in the United States, with oversampling of self-identified gay and bisexual men and women. Results from the male participants are included in this article.

Main Outcome Measures: Measurements include demographic characteristics, particularly sexual identity, and their relations to diverse sexual behaviors, including masturbation, mutual masturbation, oral sex, vaginal sex, and anal sex. Behaviors with male and female partners were examined.

Results: Men of all self-identified sexual identities reported engaging in a range of sexual behaviors (solo and partnered). As in previous studies, sexual identity was not always congruent for gender of lifetime and recent sexual partners.

Conclusion: Patterns of sexual behaviors and relationships vary among heterosexual, gay, and bisexual men. Several demographic characteristics, including age, were related to men’s sexual behaviors. The results from this probability study highlight the diversity in men’s sexual behaviors across sexual identities, and these data allow generalizability to the broader population of gay and bisexual men, in particular, in the United States, which is a major advancement in research focused on individuals in a sexual minority.

J Sex Med 2016;■:1–13. Copyright © 2016, International Society for Sexual Medicine. Published by Elsevier Inc. All rights reserved.

Key Words: Sexual Behavior; Heterosexual; Homosexual; Bisexual; Men; Sexual Identity

Received November 18, 2015. Accepted January 30, 2016.

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<http://dx.doi.org/10.1016/j.jsxm.2016.01.015>

INTRODUCTION

Data from the 2009 National Survey of Sexual Health and Behavior (NSSHB) showed that 4.2% of adult men in the United States self-identified as gay, 2.6% as bisexual, and 1.0% as other. Further, 1.8% of male adolescents 14 to 17 years old self-identified as gay, 1.5% as bisexual, 0.1% as other.¹ These rates are similar to other recent nationally representative studies and slightly higher than recent findings from probability samples in the United Kingdom and Europe.² Nationally representative studies of sexual behaviors in the United States are important for tracking key sexual health indicators, understanding demographic trends, and informing clinical practice.^{3,4} Given the public health significance of HIV and AIDS and the highly disproportionate burden of gay, bisexual, and other men who

have sex with men since the earliest days of the epidemic, it is remarkable that relatively little research has examined sexual health and behavior in the general population of these men in the United States. Much previous social and behavioral science research on the sexual lives of gay and bisexual men has focused directly or indirectly on sexual risk.^{5–8} In addition to a narrow focus on gay and bisexual men's sexual behavior with risk during penile-anal intercourse, the vast majority of research on gay and bisexual men's health, in general, has been conducted with non-probability convenience samples. The present study explored the sexual behaviors of a broadly representative sample with sufficient oversampling for a meaningful inclusion of sexual minorities, which is critically important because many health disparities are found in those minorities.

Sampling is a major concern for individual in sexual minorities (including behaviorally homosexual and bisexual individuals, regardless of sexual self-identity or gender identity).^{9,10} Indeed, researchers have characterized sampling as “the single most influential component of conducting research with lesbian, gay, and bisexual (LGB) populations.”¹⁰ Nearly all previous studies on gay and bisexual men's sexual behavior have been based on non-probability convenience samples. Convenience sampling can result in skewed results that will mislead other researchers, policymakers, and practitioners. Therefore, investigators wishing to study sexual minority populations must devote significant energy and resources to choosing a sampling approach and executing the sampling plan.

Technologies for probability survey research have evolved over time and are expensive.¹¹ Different issues have likely prevented most researchers from obtaining probability samples of gay and bisexual men, including cost, feasibility, and the social stigma of homosexuality and bisexuality.¹² As attitudes and norms have become more tolerant in recent decades, with major social changes such as the recognition of same-sex marriages at the national level, survey researchers can include sexual identity as a demographic characteristic (similar to gender, age, and race or ethnicity) on a scope that was not feasible in prior eras, thereby creating possibilities for constructing nationally representative sampling frames of gay and bisexual men. Recent technologic innovations have facilitated the possibility of collecting data from samples of self-identified gay and bisexual men in the United States that are probabilistic and reflective of a national-level population.

The sexual health needs of gay and bisexual men differ substantially from those of heterosexual men. Studies have consistently found that gay and especially bisexual men tend to report poorer health outcomes compared with heterosexual men, including physical, mental, psychosocial, and sexual health.^{7,9,13,14} We currently lack a refined understanding of the causes of such disparities (beyond “minority stress”) because of the lack of data, particularly nationally representative data, of gay and bisexual men. Public health researchers often rely on categories based on sexual behavior (including men who have sex with men) for research that focuses on sexual risk and adverse sexual health outcomes (eg, sexually transmitted infections and HIV).

This practice was logical in the early days of the HIV epidemic, when researchers rapidly learned that not all men who engage in sexual behavior with other men identify as “gay” or “bisexual.” However, using behavioral categories interchangeably with sexual self-identity categories obfuscates the role that sexual identity might play in relation to health outcomes.

In addition, LGB individuals are often lumped together in a monolithic category without examining differences based on identity.^{15,16} Collapsing bisexual and homosexual individuals under the common auspice of “LGB” has proved problematic in previous research because bisexual individuals are unlikely to be captured in traditional “gay-identified” venues and might face stigma from heterosexual and homosexual counterparts.^{17–21} Research on self-identified and behaviorally bisexual men and women has illuminated numerous and profound differences in physical, mental, sexual, and other health outcomes compared with exclusively homosexual and/or heterosexual men and women.²² Disparities can be found in psychosocial health issues, such as depression, anxiety, substance use, violence victimization, and suicidality; health risk behavior issues, such as unprotected sex, sex work engagement, larger number of sexual partners, frequent use of emergency contraception and pregnancy termination; and biomedical health issues, including disproportionate rates of HIV and other sexually transmitted infections; and lower health-related quality of life. Previous researchers have posited that these differences are due in part to the unique “double discrimination” experienced by bisexual individuals from straight and gay or lesbian individuals.

The NSSHB is innovative in different ways, including the gathering of very specific data on specific sexual behaviors, the logistics of specific sexual behavior, and the gender of sexual partners. Despite its strengths, and because LGB individuals comprise a relatively small percentage of the population, the initial NSSHB sample resulted in too few LGB-identified individuals for meaningful data analyses, especially for analyses in relation to demographic and other characteristics. The 2009 NSSHB also was administered only in the English language. This article, based on data from the 2012 NSSHB, aimed to provide baseline rates of sexual behavior and related factors in a nationally representative sample of self-identified heterosexual, gay, and bisexual men. Frequencies of sexual behaviors, associations with age, and relations with partnership status and gender of partners were explored separately for subsamples of heterosexual, gay, and bisexual men. The data add to previous waves of data collection from the established NSSHB by focusing specifically on similarities and differences in sexual behavior based on men's sexual orientation and identity, allowing for the examination of a wide range of sexual behaviors in populations disproportionately affected by sexually transmitted infections, HIV, and other sexual health concerns.

METHODS

The 2012 NSSHB is a population-based cross-sectional survey of adult women and men in the United States and data were collected during October and November 2012 using the

Table 1. Participant Sociodemographic Distribution by Sexual Identity Using Post-Stratification Weights

Characteristics	Sexual identity, % (n)		
	Heterosexual or straight (N = 1,384)	Homosexual or gay (N = 349)	Bisexual (N = 110)
Age (y)			
18–19	3.4 (47)	0.7 (2)	0.0 (0)
20–24	7.7 (107)	7.5 (26)	10.3 (11)
25–29	11.3 (156)	12.3 (43)	6.0 (7)
30–39	16.7 (231)	18.1 (63)	26.7 (29)
40–49	18.7 (258)	30.0 (105)	26.5 (29)
50–59	17.7 (244)	24.4 (85)	21.2 (23)
60–69	15.1 (209)	5.2 (18)	6.7 (7)
≥70	9.5 (132)	1.9 (6)	2.8 (3)
Race or ethnic group			
White, non-Hispanic	68.5 (948)	65.6 (229)	61.8 (68)
Black, non-Hispanic	10.6 (146)	4.8 (17)	1.8 (2)
Other, non-Hispanic	4.9 (67)	7.3 (25)	8.1 (9)
Hispanic	14.9 (206)	18.9 (66)	25.2 (28)
Multiracial, non-Hispanic	1.2 (17)	3.5 (12)	3.1 (3)
Geographic region			
Northeast	18.1 (250)	18.6 (65)	22.4 (25)
Midwest	22.9 (318)	17.9 (62)	11.4 (13)
South	35.8 (498)	36.4 (127)	35.2 (39)
West	23.2 (321)	27.2 (95)	31.1 (34)
Education completed			
Less than high school	12.4 (172)	2.2 (8)	1.9 (2)
High school	31.7 (439)	14.0 (49)	19.7 (22)
Some college	27.4 (379)	33.7 (117)	36.6 (40)
At least college degree	28.5 (395)	50.2 (175)	41.8 (46)
Marital status			
Married	56.9 (788)	3.2 (11)	38.1 (42)
Widowed	1.9 (26)	0.7 (3)	0.6 (6)
Divorced	9.2 (127)	5.0 (17)	8.7 (10)
Separated	2.3 (32)	0.9 (3)	0.4 (0)
Never married	21.7 (300)	57.0 (199)	44.2 (49)
Living with partner	8.1 (112)	33.2 (116)	7.9 (9)
Annual income (\$)			
<25,000	16.3 (225)	17.1 (60)	28.7 (32)
25,000–49,999	22.7 (314)	17.3 (60)	15.3 (17)
50,000–74,999	19.7 (272)	23.8 (83)	16.9 (19)
≥75,000	41.4 (573)	41.8 (146)	39.1 (43)

KnowledgePanel of GfK Research (Menlo Park, CA, USA). Research panels accessed through GfK Research are based on a national probability sample established using random digit dialing and an address-based sampling frame. Address-based sampling involves the probability sampling of a frame of residential addresses in the United States derived from the U.S. Postal Service's Delivery Sequence File, a system that contains detailed information on every mail-deliverable address in the

United States. Collectively, the sampling frame from which participants are recruited covers approximately 98% of all U.S. households. Randomly selected addresses are recruited to the research panel through a series of mailings and subsequently by telephone follow-ups to non-responders when possible. To further correct sources of sampling and non-sampling error, study samples are corrected with a post-stratification adjustment using demographic distributions from the most recent data available from the Current Population Survey, the monthly population survey conducted by the U.S. Bureau of the Census considered the standard for measuring demographic and other trends in the United States. These adjustments result in a panel base weight that was used in a probability proportional to size selection method for establishing the samples for this study.

Once the sample frame was established, all individuals within that frame received a recruitment message from GfK Research that provided a brief description of the NSSHB and invited them to participate. In total, 6,175 were included in the initial sampling frame, with 61.5% (n = 4,020) viewing the informed consent. Of those viewing the informed consent, 81.7% (n = 3,285) consented to participate, and 3,138 of those individuals (95.5%) completed the survey. Of these participants, 1,609 were men, with 69 self-identifying as gay, 22 as bisexual, 7 as asexual, and 9 as other sexual identities.

We also oversampled men who identified as sexual minorities, resulting in an additional 283 gay men, 112 bisexual men, 8 asexual men, and 10 men of other sexual identities. For the combined sample of gay and bisexual men, a different post-stratification weight was generated to maximize generalizations to gay and bisexual populations. The institutional review board at the first author's institution reviewed and approved all study protocols.

Measurements

Demographics

Participants responded to questions about their age, education, race or ethnicity, and relationship status. They also were asked, "Which of the following commonly used terms best describes your sexual orientation?" Response options were "straight or heterosexual (not gay)," "gay, lesbian, or homosexual," "bisexual," "asexual (I am not sexually attracted to others)," and "other, please describe".

Sexual Behavior

Participants were asked to indicate how recently (past 30 days, past 90 days, past year, more than a year ago, or never) they had masturbated alone ("stimulated your body for sexual pleasure, whether or not you had an orgasm"), masturbated with a partner, received oral sex from a woman, received oral sex from a man, performed oral sex on a woman, performed oral sex on a man, had vaginal intercourse, had penile-anal intercourse, and rubbed their genitals against those of a partner (also described as "wet or dry humping" and sometimes as "scissoring").

Table 2. Weighted Gender of Sexual Partner in Past 12 Months by Sexual Identity

Gender of sexual partner (12 mo)	Total sample, % (n)	Age (y), % (n)						Partnership status, % (n)	
		18–25	25–29	30–39	40–49	50–59	≥60	Not partnered	Partnered
Heterosexual or straight									
Men only	1.0 (14)	1.0 (1)	0.0 (0)	1.3 (3)	1.3 (3)	1.0 (2)	1.3 (4)	1.2 (3)	1.0 (11)
Women only	75.1 (1,034)	58.3 (89)	89.3 (139)	86.9 (201)	82.4 (211)	80.0 (194)	59.0 (200)	24.4 (61)	86.4 (970)
Women and men	0.3 (4)	0.8 (1)	0.7 (1)	0.0 (0)	0.6 (1)	0.0 (0)	0.2 (1)	0.3 (1)	0.3 (4)
Not sexually active	23.6 (324)	39.9 (61)	9.9 (16)	11.9 (27)	15.7 (40)	19.0 (46)	39.6 (134)	74.2 (187)	12.2 (137)
Homosexual or gay									
Men only	84.9 (295)	68.7 (20)	94.6 (40)	93.3 (59)	82.4 (86)	85.3 (73)	74.1 (18)	71.4 (86)	92.1 (209)
Women only	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
Women and men	2.4 (8)	23.1 (7)	0.0 (0)	1.1 (1)	0.0 (0)	0.6 (0)	2.1 (1)	6.0 (7)	0.5 (1)
Not sexually active	12.7 (44)	8.2 (2)	5.4 (2)	5.6 (3)	17.6 (18)	14.2 (12)	23.8 (6)	22.5 (27)	7.5 (17)
Bisexual									
Men only	13.4 (15)	13.0 (1)	53.7 (4)	5.6 (2)	0.0 (0)	19.5 (5)	33.8 (4)	2.6 (1)	20.8 (14)
Women only	22.2 (24)	7.6 (1)	1.8 (0)	38.8 (11)	25.5 (7)	17.1 (4)	5.7 (1)	6.7 (3)	32.8 (21)
Women and men	24.8 (27)	40.8 (5)	44.4 (3)	3.2 (1)	41.6 (12)	17.2 (4)	25.8 (3)	7.4 (3)	36.7 (24)
Not sexually active	39.7 (44)	38.6 (4)	0.0 (0)	52.4 (15)	32.9 (10)	46.1 (11)	34.8 (4)	83.2 (37)	9.7 (6)

Gender of Partner(s)

Participants were asked, “In the last 12 months, with whom have you been sexually active?” Response options were “I have only been sexually active with men,” “I have only been sexually active with women,” “I have been sexually active with both women and men,” and “I have not been sexually active with a partner.”

Analysis

All men in the sample were included in the analyses ($N = 2,022$). Before conducting the analyses, post-stratification data weights were applied to decrease variance and minimize bias from non-sampling error. Two different data weights were applied to the data based on the self-identified sexual orientation of the participants. For analyses specific to heterosexual men, a post-stratification weight generated to correct for sources of sampling and non-sampling error using demographic distributions from the most recent data available from the Current Population Survey was applied to maximize generalizations to the general population. A second data weight was designed to reflect the sociodemographic profile of the gay and bisexual population in the United States.

The use of two different weights during data analyses prohibited between-group statistical comparisons. As such, lifetime sexual behaviors by sociodemographic characteristics are presented using descriptive statistics. Logistic regression analysis was conducted to assess the relation of age (continuous) and partner status (partner vs no partner) to sexual behavior in the past year. Because of the very small numbers of asexual ($n = 15$) and other-identified ($n = 19$) men in our sample, we cannot present sexual behavior data for these men by age group or partner status in meaningful ways.

RESULTS

Participants

All results were presented using weighted data, resulting in 1,384 heterosexual men using the general population weight. Results for gay and bisexual men were presented using a second post-stratification weight, resulting in 349 homosexual men and 110 bisexual men. Most men in our sample identified as heterosexual or straight ($n = 1,384$), and 57% ($n = 788$) of these men were currently married (Table 1). Applying the LGB post-stratification weight, approximately 90% ($n = 315$) of gay men and 52% ($n = 58$) of bisexual men indicated their marital status as “never married” or “living with a partner.” A much larger proportion of bisexual men (38%, $n = 42$) were married compared with gay men (3%, $n = 11$).

Gender of Sexual Partners in the Past Year

Of the heterosexual men, 24% ($n = 324$) reported not being sexually active in the past year with another person (Table 2). Most heterosexual men reported lifetime sex with women only (75%, $n = 1,034$) and most homosexual men reported lifetime sex with men only (85%, $n = 295$). Homosexual men who reported sex with men and women in the past year were primarily young men 18 to 24 years old. Of homosexual men without a current partner, 77% reported sexual activity within the past year. Of bisexual men, 13% ($n = 15$) reported sex with men only, 22% ($n = 24$) reported sex with women only, and 25% ($n = 27$) reported sex with men and women in the past year. The largest percentage of bisexual men indicated that they were not sexually active within the past year (39.7%, $n = 44$). Recent sexual activity in younger bisexual men 18 to 29 years old was primarily with men exclusively or with men and women, whereas bisexual men 30 to 49 years old reported a significant proportion of sexual activity with women exclusively.

Table 3. Weighted Lifetime and Recency of Masturbation by Sexual Identity

Recency of masturbation	Total sample, % (n)	Age (y), % (n)						Partnership status, % (n)		
		18–25	25–29	30–39	40–49	50–59	≥60	AOR* (95% CI)	Not partnered	Partnered
Solo										
Heterosexual or straight							0.97 [‡] (0.96–0.98)		0.83 (0.59–1.16)	
Lifetime	91.5 (1,228)	88.9 (132)	95.4 (142)	92.8 (209)	92.0 (230)	92.0 (221)	89.3 (293)	88.3 (217)	92.2 (1,008)	
Past 30 d	56.9 (764)	52.6 (78)	65.4 (97)	63.8 (144)	69.3 (173)	57.5 (138)	40.5 (133)	62.6 (154)	55.6 (608)	
Past 90 d	7.5 (101)	11.0 (16)	9.9 (15)	8.1 (18)	5.0 (12)	5.8 (14)	7.7 (25)	9.0 (22)	7.2 (79)	
Past 12 mo	8.0 (108)	11.7 (17)	7.8 (12)	4.3 (10)	8.0 (20)	7.9 (19)	9.2 (30)	4.7 (12)	8.8 (96)	
>1 y ago	19.1 (255)	13.6 (20)	12.4 (18)	16.6 (37)	9.7 (24)	20.8 (50)	31.9 (105)	12.0 (30)	20.6 (226)	
Homosexual or gay							0.94 [†] (0.91–0.98)		1.28 (0.47–3.44)	
Lifetime	99.7 (340)	100.0 (29)	100.0 (43)	100.0 (63)	99.7 (97)	100.0 (85)	96.9 (24)	99.0 (113)	100.0 (228)	
Past 30 d	85.5 (292)	86.1 (25)	100.0 (43)	85.8 (54)	82.0 (80)	82.9 (70)	81.1 (20)	91.2 (104)	82.6 (188)	
Past 90 d	6.3 (21)	0.0 (0)	0.0 (0)	11.7 (7)	8.6 (8)	6.2 (5)	1.7 (0)	0.6 (1)	9.1 (21)	
Past 12 mo	4.6 (16)	13.9 (4)	0.0 (0)	2.4 (2)	5.3 (5)	4.7 (4)	4.0 (1)	4.7 (5)	4.5 (10)	
>1 y ago	3.4 (12)	0.0 (0)	0.0 (0)	0.0 (0)	3.8 (4)	6.3 (5)	10.1 (2)	2.5 (3)	3.8 (9)	
Bisexual							0.97 (0.91–1.03)		2.47 (0.91–1.03)	
Lifetime	100.0 (110)	100.0 (11)	100.0 (7)	100.0 (29)	100.0 (29)	100.0 (23)	100.0 (10)	100.0 (45)	100.0 (65)	
Past 30 d	93.6 (103)	100.0 (11)	94.6 (6)	90.7 (27)	100.0 (29)	93.4 (22)	76.7 (8)	89.7 (40)	96.3 (63)	
Past 90 d	4.7 (5)	0.0 (0)	0.0 (0)	9.3 (3)	0.0 (0)	0.8 (0)	21.4 (2)	8.6 (4)	2.0 (1)	
Past 12 mo	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	
>1 y ago	1.7 (2)	0.0 (0)	5.4 (0)	0.0 (0)	0.0 (0)	5.9 (1)	1.9 (0)	1.7 (1)	1.8 (1)	
Partnered										
Heterosexual or straight							0.97 [‡] (0.97–0.98)		4.94 [‡] (3.26–7.50)	
Lifetime	51.9 (688)	36.1 (53)	61.3 (92)	61.1 (137)	61.9 (155)	54.5 (128)	38.5 (123)	35.9 (88)	55.7 (601)	
Past 30 d	15.7 (208)	12.4 (18)	23.3 (35)	18.6 (42)	19.2 (48)	18.1 (42)	7.1 (23)	1.8 (4)	18.9 (204)	
Past 90 d	6.6 (88)	6.1 (9)	9.3 (14)	9.6 (21)	8.8 (22)	5.1 (12)	2.8 (9)	4.2 (10)	7.2 (77)	
Past 12 mo	8.7 (115)	8.4 (12)	13.9 (21)	11.4 (26)	9.8 (24)	6.2 (14)	5.5 (18)	6.8 (17)	9.1 (99)	
>1 y ago	20.9 (278)	9.1 (13)	14.8 (22)	21.5 (48)	24.2 (61)	25.2 (59)	23.1 (74)	23.1 (57)	20.5 (221)	
Homosexual or gay							0.96 [‡] (0.95–0.98)		6.09 [‡] (3.67–10.11)	
Lifetime	94.0 (309)	74.4 (21)	100.0 (36)	95.0 (59)	96.8 (90)	93.2 (79)	98.1 (24)	85.5 (91)	98.2 (218)	
Past 30 d	48.9 (161)	34.8 (10)	72.0 (26)	57.5 (35)	19.1 (46)	40.7 (35)	37.0 (9)	17.4 (19)	64.0 (142)	
Past 90 d	11.2 (37)	8.5 (2)	1.3 (0)	7.7 (5)	14.7 (14)	14.5 (12)	13.6 (3)	9.9 (11)	11.9 (26)	

(continued)

Table 3. Continued

Recency of masturbation	Total sample, % (n)	Age (y), % (n)					Partnership status, % (n)		AOR* (95% CI)	AOR* (95% CI)	
		18–25	25–29	30–39	40–49	50–59	≥60	Not partnered			Partnered
Past 12 mo	10.5 (34)	25.4 (7)	10.2 (4)	10.7 (7)	6.0 (6)	13.2 (11)	0.7 (0)	17.1 (18)	7.3 (16)		
>1 y ago	23.5 (77)	5.7 (2)	16.6 (6)	19.1 (12)	27.0 (25)	24.9 (21)	46.8 (11)	41.2 (44)	14.9 (33)		
Bisexual										0.95 [†] (0.93–0.98)	12.58 [‡] (4.78–33.11)
Lifetime	79.5 (88)	56.1 (6)	92.7 (6)	63.0 (19)	97.7 (28)	78.6 (18)	94.7 (10)	55.8 (25)	95.9 (63)		
Past 30 d	29.5 (33)	36.0 (4)	75.7 (5)	15.7 (5)	38.9 (11)	23.7 (6)	19.1 (2)	7.8 (3)	44.5 (29)		
Past 90 d	9.2 (10)	5.8 (1)	11.6 (1)	2.5 (1)	19.1 (6)	5.9 (1)	9.8 (1)	5.6 (2)	11.7 (8)		
Past 12 mo	11.6 (13)	9.1 (1)	5.4 (0)	25.8 (8)	4.7 (1)	5.1 (1)	12.3 (1)	1.3 (6)	18.8 (12)		
>1 y ago	29.2 (32)	5.3 (1)	0.0 (0)	19.0 (6)	35.0 (10)	43.9 (10)	53.4 (6)	41.1 (18)	21.0 (14)		

AOR = adjusted odds ratio.

*Logistic regression includes continuous age and partnership status (not-partnered [reference] vs partnered).

† $P < .01$.‡ $P < .001$.

Solo Masturbation

Solo masturbation was commonly reported by heterosexual men, with 92% ($n = 1,228$) reporting lifetime solo masturbation and 57% ($n = 764$) reporting recent solo masturbation in the past 30 days (Table 3). Lifetime solo masturbation was consistently high across all age groups of heterosexual men (>85%), and younger age was statistically significantly associated with solo masturbation in the past year (adjusted odds ratio = 0.97, $P < .001$). Of heterosexual men 18 to 60 years old, at least 50% reported recent solo masturbation within the past 30 days. High rates of solo masturbation were observed for gay and bisexual men, with at least 96% of lifetime solo masturbation reported across all age groups. Solo masturbation within the past 30 days also was consistently reported by at least 80% of homosexual men across all ages and by at least 90% of bisexual men younger than 60 years.

Partnered Masturbation

Partnered masturbation was less common than solo masturbation among men. Of heterosexual men, 52% ($n = 688$) reported lifetime partnered masturbation and 16% ($n = 208$) reported partnered masturbation in the past 30 days. Younger age (adjusted odds ratio = 0.97, $P < .001$) and having a current partner (adjusted odds ratio = 4.94, $P < .001$) were significantly associated with the likelihood of reporting partnered masturbation in the past year for heterosexual men. Of gay men, 94% ($n = 309$) reported lifetime partnered masturbation and 49% ($n = 161$) reported partnered masturbation in the past month. Lifetime partnered masturbation and recent partnered masturbation within the past month were reported by 80% ($n = 88$) and 30% ($n = 33$) of bisexual men, respectively.

Oral Sex With a Man

Of heterosexual men, 5% ($n = 71$) reported ever engaging in oral sex (giving or receiving) with a male partner (Table 4). Neither age nor current partner status was an independent predictor of oral sex with a man among heterosexual men. Almost all gay men reported ever engaging in oral sex with a male partner, and 62% reported recent oral sex with male partners in the past 30 days. For gay men, younger age and the presence of a current partner were significantly associated with performing and receiving oral sex from a male partner in the past year ($P < .05$). More than 90% of bisexual men reported lifetime oral sex with male partners, although most of these sexual acts occurred more than a year ago. Of bisexual men, 26% reported recent oral sex with male partners in the past month. Reporting a current partner was independently associated with oral sex with a man in the past year ($P < .01$) for bisexual men.

Oral Sex With a Woman

Of heterosexual men, 87% reported lifetime oral sex (giving or receiving) with a female partner. Furthermore, 42% of heterosexual men reported oral sex with a female partner in the past 30

Table 4. Weighted Lifetime and Recency of Oral Sex by Sexual Identity

Recency of masturbation	Total sample, % (n)	Age (y), % (n)						Partnership status, % (n)			
		18–25	25–29	30–39	40–49	50–59	≥60	AOR* (95% CI)	Not partnered	Partnered	AOR* (95% CI)
Oral sex with male partner											
Heterosexual or straight											
								0.98 (0.95–1.01)			0.83 (0.27–2.58)
Lifetime	5.4 (71)	6.2 (9)	5.0 (7)	4.9 (11)	4.0 (10)	5.9 (13)	6.5 (20)		5.8 (14)	5.4 (57)	
Past 30 d	0.4 (5)	1.3 (2)	0.0 (0)	0.8 (2)	0.1 (0)	0.1 (0)	0.3 (1)		0.7 (1)	0.3 (3)	
Past 90 d	0.6 (7)	0.4 (1)	0.0 (0)	1.7 (4)	0.0 (0)	1.2 (3)	0.0 (0)		1.0 (2)	0.4 (5)	
Past 12 mo	0.4 (5)	2.3 (3)	0.0 (0)	0.0 (0)	0.2 (0)	0.0 (0)	0.4 (1)		0.5 (1)	0.4 (4)	
>1 y ago	4.1 (53)	2.2 (3)	5.0 (7)	2.3 (5)	3.7 (9)	4.6 (10)	5.8 (18)		3.5 (9)	4.3 (45)	
Homosexual or gay											
								0.98 [†] (0.96–1.00)			4.52 [§] (2.53–8.07)
Lifetime	99.2 (339)	97.5 (28)	100.0 (43)	100.0 (63)	99.7 (97)	99.7 (85)	93.7 (23)		97.8 (111)	99.8 (228)	
Past 30 d	61.5 (210)	46.3 (13)	63.7 (27)	73.4 (46)	63.7 (62)	55.2 (47)	58.4 (14)		26.1 (30)	79.2 (181)	
Past 90 d	12.2 (42)	8.5 (2)	4.0 (2)	1.4 (1)	13.8 (13)	24.0 (20)	11.1 (3)		18.3 (21)	9.1 (21)	
Past 12 mo	13.3 (45)	37.0 (11)	26.9 (12)	14.6 (9)	7.2 (7)	6.1 (5)	7.6 (2)		32.0 (36)	4.0 (9)	
>1 y ago	12.2 (42)	5.7 (2)	5.4 (2)	10.6 (7)	14.9 (15)	14.5 (12)	16.6 (4)		21.4 (24)	7.6 (17)	
Bisexual											
								1.00 (0.97–1.02)			3.43 [‡] (1.58–7.41)
Lifetime	90.3 (98)	64.0 (7)	94.6 (6)	97.0 (29)	88.6 (26)	92.4 (21)	95.5 (10)		88.2 (40)	91.8 (58)	
Past 30 d	25.5 (28)	42.2 (4)	11.6 (1)	6.0 (2)	27.9 (8)	37.8 (9)	39.4 (4)		4.8 (2)	40.2 (26)	
Past 90 d	10.8 (12)	16.1 (2)	67.7 (4)	1.6 (0)	8.7 (3)	7.7 (2)	7.7 (1)		5.4 (2)	14.5 (9)	
Past 12 mo	10.6 (12)	0.0 (0)	13.4 (1)	29.4 (9)	4.4 (1)	0.0 (0)	6.8 (1)		3.6 (2)	15.5 (10)	
>1 y ago	43.4 (47)	5.7 (1)	1.8 (0)	59.9 (18)	47.6 (14)	47.0 (11)	41.7 (4)		74.3 (33)	21.6 (14)	
Oral sex with female partner											
Heterosexual or straight											
								0.96 [§] (0.95–0.97)			10.90 [§] (7.71–15.41)
Lifetime	86.8 (1,159)	63.7 (93)	89.4 (134)	93.9 (210)	94.1 (236)	91.4 (219)	82.1 (267)		67.3 (165)	91.2 (992)	
Past 30 d	42.1 (562)	35.8 (52)	55.3 (83)	52.8 (118)	47.6 (119)	45.3 (109)	24.9 (81)		5.3 (13)	50.3 (547)	
Past 90 d	12.2 (162)	10.9 (16)	12.9 (19)	16.5 (37)	16.6 (42)	10.4 (25)	7.3 (24)		9.2 (23)	12.8 (140)	
Past 12 mo	10.4 (139)	10.9 (16)	11.2 (17)	11.8 (26)	12.1 (30)	9.1 (22)	8.5 (28)		12.7 (31)	9.9 (108)	
>1 y ago	22.1 (296)	6.2 (9)	10.0 (15)	12.9 (29)	17.7 (44)	26.6 (64)	41.4 (135)		40.1 (98)	18.2 (198)	
Homosexual or gay											
								0.96 (0.91–1.01)			0.87 (0.20–3.73)
Lifetime	34.8 (117)	30.6 (9)	5.2 (2)	47.2 (29)	39.7 (38)	36.8 (30)	33.8 (8)		35.5 (40)	34.5 (77)	
Past 30 d	0.8 (3)	3.5 (1)	0.0 (0)	1.1 (1)	1.1 (1)	0.0 (0)	0.0 (0)		0.0 (0)	1.2 (3)	
Past 90 d	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (0)	0.0 (0)	0.0 (0)		0.3 (0)	0.0 (0)	

(continued)

Table 4. Continued

Recency of masturbation	Total sample, % (n)	Age (y), % (n)					Partnership status, % (n)		AOR* (95% CI)	AOR* (95% CI)
		18–25	25–29	30–39	40–49	50–59	≥60	Not partnered		
Past 12 mo	2.2 (7)	23.9 (7)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	6.2 (7)	0.1 (0)		
>1 y ago	31.7 (106)	3.2 (1)	5.2 (2)	46.0 (29)	38.3 (37)	36.4 (30)	29.0 (33)	33.1 (74)		
Bisexual									0.97 [†] (0.95–1.00)	7.11 [‡] (2.85–17.70)
Lifetime	92.5 (100)	63.9 (6)	100.0 (7)	93.6 (28)	100.0 (29)	94.3 (21)	84.6 (36)	97.6 (64)		
Past 30 d	28.0 (30)	8.9 (1)	24.1 (2)	29.1 (9)	52.1 (15)	15.0 (3)	0.0 (0)	46.3 (30)		
Past 90 d	5.9 (6)	10.6 (1)	5.4 (0)	3.6 (1)	2.3 (1)	7.1 (2)	2.0 (1)	8.4 (5)		
Past 12 mo	8.4 (9)	37.1 (4)	11.0 (1)	0.0 (0)	9.7 (3)	5.5 (1)	4.3 (2)	11.0 (7)		
>1 y ago	50.3 (54)	7.3 (1)	59.6 (4)	60.9 (18)	35.9 (10)	66.7 (15)	78.3 (34)	31.9 (21)		

AOR = adjusted odds ratio.

*Logistic regression includes continuous age and partnership status (not-partnered [reference] vs partnered).

† $P < .05$.‡ $P < .01$.§ $P < .001$.

days. Younger age and having a current partner were statistically significantly associated with oral sex from a woman in the past year ($P < .001$). Oral sex with women was less common among homosexual men; 35% ($n = 85$) reported ever engaging in oral sex with women, and most of these sex acts were reported more than a year ago. Of bisexual men, 93% ($n = 100$) reported ever having oral sex with a female partner. More than 50% of these sex acts also occurred more than a year ago. Younger age and current partner status were significantly associated with oral sex with female partners in the past year among bisexual men ($P < .05$).

Genital-Genital Contact

Genital-genital contact was observed in 65% ($n = 865$) of heterosexual men, with 22% ($n = 295$) occurring within the past month (Table 5). Genital rubbing was highly prevalent among gay men, with 93% ($n = 313$) reporting lifetime genital rubbing and 39% ($n = 131$) reporting genital-genital rubbing in the past month. Lifetime genital-genital rubbing was reported in 73% ($n = 80$) of bisexual men. Of bisexual men, the largest proportion of genital-genital rubbing was reported more than a year ago (30%, $n = 33$) and by those 25 to 29 and 40 to 49 years old. Young age and having a current partner were strongly associated with the report of genital-genital contact in the past year across all sexual identities ($P < .01$).

Vaginal Intercourse

Of heterosexual men, 88% ($n = 1,172$) reported ever having vaginal intercourse, and 58% ($n = 773$) reported vaginal intercourse in the past month. Younger age and having a current partner were independent predictors of vaginal intercourse in the past year ($P < .001$). Of gay men, 28% ($n = 94$) reported ever having had vaginal intercourse, and almost all of these sex acts occurred more than a year ago. Similar trends were observed across all age groups. Of bisexual men, 78 ($n = 86$) reported lifetime vaginal intercourse, with a significant percentage occurring in the past month (22%) or more than a year ago (36%). Younger bisexual men 25 to 49 years old tended to report a larger proportion of recent vaginal intercourse within the past 30 days, whereas bisexual men older than 50 years tended have had vaginal intercourse over a year ago. Current partner status also was a strong independent predictor of vaginal intercourse within the past year among bisexual men ($P < .001$).

Anal Intercourse

Lifetime receptive anal intercourse was rare in the heterosexual population (3%, $n = 37$). Insertive anal intercourse was more frequently reported than receptive anal intercourse (33%), although most of these sex acts occurred more than a year ago. Anal intercourse, insertive or receptive, was frequently reported by gay men (>65%) and bisexual men (>83%), with the highest rates observed among gay men. Compared with bisexual men, gay men reported anal intercourse in the past month, and a

significant proportion of bisexual men reported anal intercourse more than a year ago. Younger age and having a current partner were significantly associated with insertive anal intercourse consistently across all sexual identities ($P < .01$).

DISCUSSION

This study builds on the findings from an initial nationally representative probability survey of nearly 6,000 Americans 14 to 94 years old: the 2009 NSSHB.^{1,23} In the current 2012 NSSHB, we oversampled gay and bisexual men, made the survey available in English and Spanish, and expanded the depth and breadth of the detailed sexual behavior items. The aim of this article was to establish rates of recent and lifetime sexual behavior in a nationally representative sample of U.S. heterosexual, gay, and bisexual men at least 18 years old. Data were collected from English- and Spanish-speaking participants. Notably, we could explore these sexual behaviors in relation to self-identified sexual orientation, age, and gender of partner. In public health, gay and bisexual men's sexual behaviors are often reduced to focusing on engaging in anal sex; in contrast, we assessed a much wider array of sexual behaviors (and their relations to other characteristics) in a large probability sample of men in the United States.

The present findings are noteworthy because they are clarified by the use of a more representative national sample, specifically in regard to (i) frequency of recent abstinence; (ii) diversity of sexual behaviors among men with various identities (eg, some heterosexual-identified men have receptive anal sex); (iii) prevalence of oral-genital sexual behavior across sexual identities; and (iv) potential influence of partner status on sexual behavior. These data are some of the first that have explored sexual behavior to this level of detail in a probability sample of men of diverse sexual identities and offer a baseline for understanding sexual behavior within and across age groups. This is particularly true of bisexual men who are often collapsed together into combined samples of "gay and bisexual men," resulting in the obfuscation of their sexual behaviors with female partners. Previous studies by our study team of sexual behaviors in community-based samples of bisexual men have shown that vaginal intercourse is the most commonly reported recent sexual behavior (48% in the past 30 days).¹⁵ In the present study, although younger bisexual men reported high rates of vaginal intercourse within the past 30 days, bisexual men older than 50 years were more likely to report vaginal intercourse over a year ago. Bisexual men's current partner status also was predictive of recent vaginal intercourse. These findings exemplify that sexual behaviors in probability samples of bisexual men differ from those recruited from convenience sampling techniques and, as with men in the general population of heterosexual men, vary based on characteristics including age and partner status. Thus, more nationally representative data from bisexual, gay, and other sexual minority men are needed to provide representative rates of sexual behaviors of these men in the general population.

Strengths and Limitations

As with all research, this study has strengths and shortcomings. First, we used a nationally representative probability sample to identify participants, thus allowing findings to be generalized to men living in the United States at the time of the study. Second, we oversampled gay- and bisexual-identified men, providing greater opportunities to compare data within and across sexual identity categories, even within several age groups. Our focus on sexual behavior is innovative in providing detailed information on which behaviors heterosexual, gay, and bisexual men engage in sexually, alone and/or with sexual partner. As is standard in relation to demographics, sexual orientation was assessed only by participants' current self-identification. Although sexual orientation also can be viewed in terms of attraction, behavior, fantasy, and other factors (and at different points across the lifespan), our data allowed us to explore relations between self-identified sexual orientation and sexual behavior. However, the ability to explore patterns of sexual behavior among men based on sexual identity in a nationally probability sample outweighs the potential shortcomings of the ability of common identity labels to capture the diversity of human sexuality in one word.

By design, the present study was limited to those at least 18 years old who were not living in institutions or without an address. This should be noted particularly in light of the disproportionate rate of homelessness and poverty among sexual and gender minority individuals.²⁴ It also is notable that current shifts in law and policies affecting sexual and gender minority individuals, including by marital status, can cause shifts in future assessments of variables such as partnerships. Further research might explore how changing marital status might change possibilities for same-sex couples and these associations with sexual behavior.

In addition, in this study, participants' gender was classified based on self-reported male identity. GfK Research does not yet have procedures for systematically recruiting individuals who identify as a gender other than "male" or "female" in their KnowledgePanel sampling frame. Future research studies specifically designed to explore sexual behavior in individuals of diverse gender identities, including transgender and genderqueer, are warranted. It also should be noted that some transgender individuals identify themselves as "men" or "women" and do not always identify as "transgender men" or "transgender women," adding further complexity.

Conclusions

Our findings from the 2012 NSSHB demonstrate that most self-identified heterosexual, gay and bisexual adult men in the United States have engaged in sexual behavior, that men engage in a wide range of sexual behaviors, and that a range of individual characteristics can affect their sexual behavior, including age and partnerships status. Public health practitioners and clinicians can use these data as generalizable baseline rates of sexual behavior among men to guide future sexual health-promotion efforts, which will benefit from a deeper understanding of the range of

Table 5. Weighted Lifetime and Recency of Genital Contact by Sexual Identity

Recency of masturbation	Total sample, % (n)	Age (y), % (n)						Partnership status, % (n)		
		18–25	25–29	30–39	40–49	50–59	≥60	AOR* (95% CI)	Not partnered	Partnered
Genital-genital contact										
Heterosexual or straight							0.97 [§] (0.97–0.98)		6.92 [§] (4.67–10.24)	
Lifetime	65.0 (865)	45.9 (67)	77.8 (116)	69.4 (155)	68.0 (170)	65.5 (154)	62.2 (203)	45.2 (111)	69.4 (752)	
Past 30 d	22.2 (295)	18.2 (27)	38.0 (57)	31.6 (71)	20.2 (50)	21.7 (51)	12.2 (40)	3.6 (9)	26.2 (284)	
Past 90 d	10.0 (133)	6.5 (10)	11.5 (17)	12.1 (27)	16.1 (40)	7.3 (17)	6.9 (22)	2.1 (5)	11.8 (128)	
Past 12 mo	8.7 (115)	11.0 (16)	8.6 (13)	6.7 (15)	9.7 (24)	8.5 (20)	8.3 (27)	8.3 (20)	8.8 (95)	
>1 y ago	24.2 (321)	10.2 (15)	19.7 (30)	19.0 (42)	22.0 (55)	28.0 (66)	34.8 (114)	31.2 (77)	22.6 (245)	
Homosexual or gay							0.95 [§] (0.94–0.97)		4.48 [§] (2.71–7.41)	
Lifetime	93.4 (313)	96.7 (28)	82.0 (35)	96.2 (55)	97.3 (95)	92.5 (78)	90.9 (22)	90.4 (102)	95.0 (211)	
Past 30 d	39.1 (131)	33.1 (9)	47.5 (20)	65.9 (38)	38.7 (38)	22.0 (19)	30.0 (7)	16.1 (18)	50.9 (113)	
Past 90 d	18.3 (61)	10.2 (3)	4.5 (2)	6.8 (4)	27.5 (27)	26.9 (23)	11.9 (3)	16.2 (18)	19.4 (43)	
Past 12 mo	17.2 (58)	47.7 (14)	26.9 (12)	13.9 (8)	8.7 (8)	17.4 (15)	5.2 (1)	27.3 (31)	12.0 (27)	
>1 y ago	18.9 (63)	5.7 (2)	3.1 (1)	9.6 (5)	22.5 (22)	26.2 (22)	43.8 (11)	30.8 (35)	12.7 (28)	
Bisexual							0.95 [‡] (0.92–0.98)		12.91 [§] (4.63–36.02)	
Lifetime	72.8 (80)	53.8 (6)	96.3 (6)	36.0 (11)	99.1 (29)	87.3 (20)	76.6 (8)	55.8 (25)	84.6 (55)	
Past 30 d	23.0 (25)	39.9 (5)	23.2 (2)	6.8 (2)	37.7 (11)	16.2 (4)	24.8 (3)	1.1 (0)	38.2 (25)	
Past 90 d	12.9 (14)	0.0 (0)	66.5 (4)	0.0 (0)	16.4 (5)	18.6 (4)	7.6 (1)	2.2 (1)	20.4 (13)	
Past 12 mo	6.7 (7)	4.8 (1)	0.0 (0)	9.8 (3)	11.8 (3)	2.3 (1)	0.0 (0)	4.2 (2)	8.4 (5)	
>1 y ago	30.1 (33)	9.1 (1)	6.7 (0)	19.5 (6)	33.1 (10)	50.3 (12)	44.2 (5)	48.4 (22)	17.5 (11)	
Vaginal intercourse										
Heterosexual or straight							0.96 [§] (0.96–0.97)		18.70 [§] (13.07–26.77)	
Lifetime	87.9 (1,172)	61.9 (92)	86.2 (130)	94.4 (210)	89.1 (221)	94.7 (227)	90.2 (293)	67.5 (167)	92.5 (1,003)	
Past 30 d	58.0 (773)	39.0 (58)	75.4 (113)	76.5 (170)	64.4 (159)	60.5 (145)	39.3 (128)	8.5 (21)	69.2 (750)	
Past 90 d	7.3 (97)	6.6 (10)	3.3 (5)	3.5 (8)	9.9 (25)	10.8 (26)	7.3 (24)	9.2 (23)	6.8 (74)	
Past 12 mo	6.6 (88)	9.3 (14)	4.0 (6)	6.8 (15)	5.8 (14)	6.3 (15)	7.0 (24)	10.9 (27)	5.7 (61)	
>1 y ago	16.0 (213)	6.9 (10)	3.6 (5)	7.6 (17)	9.0 (22)	17.1 (41)	36.2 (117)	38.9 (96)	10.8 (117)	
Homosexual or gay							0.98 (0.93–1.04)		1.07 (0.19–5.93)	
Lifetime	28.4 (94)	26.1 (7)	4.6 (2)	36.1 (20)	30.2 (29)	32.7 (27)	33.2 (8)	27.7 (30)	28.7 (64)	
Past 30 d	0.3 (1)	3.5 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.4 (0)	0.0 (0)	0.5 (1)	
Past 90 d	0.1 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (0)	0.0 (0)	0.0 (0)	0.3 (0)	0.0 (0)	
Past 12 mo	0.3 (1)	0.7 (0)	0.0 (0)	0.0 (0)	0.9 (1)	0.0 (0)	0.4 (0)	0.1 (0)	0.5 (1)	
>1 y ago	27.6 (91)	21.9 (6)	4.6 (2)	36.1 (20)	29.0 (28)	32.7 (27)	32.4 (8)	27.3 (29)	27.8 (62)	

(continued)

Table 5. Continued

Recency of masturbation	Total sample, % (n)	Age (y), % (n)						Partnership status, % (n)			
		18–25	25–29	30–39	40–49	50–59	≥60	AOR* (95% CI)	Not partnered	Partnered	AOR* (95% CI)
Bisexual											
								0.97 [†] (0.94–1.00)			14.15 [§] (4.88–41.05)
Lifetime	78.1 (86)	42.3 (5)	100.0 (7)	57.8 (17)	100.0 (29)	95.5 (22)	60.3 (6)	56.0 (25)	93.3 (61)		
Past 30 d	22.3 (25)	0.0 (0)	29.5 (2)	18.6 (5)	42.4 (12)	16.8 (4)	8.1 (1)	6.1 (3)	33.4 (22)		
Past 90 d	13.6 (15)	7.6 (1)	0.0 (0)	23.4 (7)	18.8 (5)	4.6 (1)	6.5 (1)	0.4 (0)	22.6 (15)		
Past 12 mo	6.0 (7)	26.9 (3)	11.0 (1)	0.0 (0)	5.0 (1)	4.3 (1)	3.4 (0)	2.9 (1)	8.1 (5)		
>1 y ago	36.3 (40)	7.7 (1)	59.6 (4)	15.8 (5)	33.8 (10)	69.8 (16)	42.4 (4)	46.7 (21)	29.1 (19)		
Insertive anal intercourse											
Heterosexual or straight											
								0.97 [§] (0.96–0.98)			4.49 [§] (2.31–8.73)
Lifetime	32.7 (434)	18.0 (27)	30.3 (45)	37.3 (84)	41.6 (104)	36.9 (88)	27.4 (87)	25.2 (62)	34.3 (370)		
Past 30 d	3.6 (48)	0.0 (0)	7.2 (11)	6.0 (13)	4.5 (11)	3.0 (7)	1.7 (5)	0.2 (0)	4.4 (47)		
Past 90 d	3.5 (47)	4.8 (7)	4.6 (7)	7.1 (16)	2.7 (7)	3.3 (8)	0.7 (2)	1.9 (5)	3.9 (42)		
Past 12 mo	5.4 (71)	4.7 (7)	8.1 (12)	6.3 (14)	7.6 (19)	4.5 (11)	2.7 (9)	3.6 (9)	5.8 (62)		
>1 y ago	20.2 (268)	8.5 (13)	10.3 (15)	18.0 (40)	26.9 (67)	26.1 (62)	22.4 (71)	19.5 (48)	20.2 (218)		
Homosexual or gay											
								0.97 [§] (0.95–0.98)			2.94 [§] (1.82–4.77)
Lifetime	83.3 (284)	61.8 (18)	83.4 (36)	88.4 (56)	81.6 (80)	87.0 (74)	88.5 (21)	81.2 (92)	84.3 (192)		
Past 30 d	26.6 (91)	22.2 (6)	22.4 (10)	30.3 (19)	35.3 (34)	20.5 (17)	16.4 (4)	10.4 (12)	34.7 (79)		
Past 90 d	9.6 (33)	13.4 (4)	20.2 (9)	7.2 (5)	2.5 (2)	12.5 (11)	11.5 (3)	9.9 (11)	9.5 (22)		
Past 12 mo	16.2 (55)	20.6 (6)	26.8 (11)	23.8 (15)	11.1 (11)	10.5 (9)	13.4 (3)	23.5 (27)	12.6 (29)		
>1 y ago	30.8 (105)	5.7 (2)	14.0 (6)	27.1 (17)	32.8 (32)	43.6 (37)	47.2 (11)	37.4 (42)	27.6 (63)		
Bisexual											
								0.96 [‡] (0.93–0.99)			7.04 [§] (2.41–20.52)
Lifetime	74.8 (82)	43.8 (5)	94.6 (6)	80.8 (24)	90.0 (26)	62.7 (15)	63.7 (7)	62.5 (28)	83.3 (54)		
Past 30 d	13.9 (15)	2.5 (0)	25.0 (2)	2.9 (1)	28.3 (8)	15.4 (4)	7.4 (1)	2.3 (1)	22.0 (14)		
Past 90 d	3.7 (4)	0.0 (0)	7.3 (0)	3.2 (1)	2.0 (1)	1.7 (0)	16.2 (2)	1.1 (0)	5.5 (4)		
Past 12 mo	13.0 (14)	9.1 (1)	60.4 (4)	26.9 (8)	3.0 (1)	2.1 (0)	0.9 (0)	1.3 (1)	21.1 (14)		
>1 y ago	44.1 (49)	32.2 (4)	1.8 (0)	47.8 (14)	56.7 (17)	43.5 (10)	39.3 (4)	57.8 (26)	34.7 (23)		
Receptive anal intercourse											
Heterosexual or straight											
								0.96 (0.92–1.00)			2.51 (0.31–20.45)
Lifetime	2.8 (37)	5.8 (9)	3.6 (5)	2.5 (6)	1.1 (3)	1.9 (5)	3.2 (10)	2.4 (6)	2.9 (31)		
Past 30 d	0.2 (2)	0.0 (0)	0.0 (0)	0.8 (2)	0.0 (0)	0.0 (0)	0.2 (1)	0.0 (0)	0.2 (2)		
Past 90 d	0.6 (8)	3.4 (5)	1.7 (2)	0.0 (0)	0.0 (0)	0.3 (1)	0.0 (0)	0.7 (2)	0.6 (7)		
Past 12 mo	0.1 (1)	0.5 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (1)	0.0 (0)	0.1 (1)		
>1 y ago	1.9 (25)	1.9 (3)	1.9 (3)	1.7 (4)	1.1 (3)	1.6 (4)	2.9 (9)	1.7 (4)	2.0 (21)		
Homosexual or gay											
								0.97 [§] (0.95–0.98)			3.85 [§] (2.35–6.30)
Lifetime	90.0 (307)	63.8 (18)	98.7 (42)	97.1 (61)	92.4 (90)	88.2 (75)	83.3 (20)	85.7 (97)	92.1 (210)		

(continued)

Table 5. Continued

Recency of masturbation	Total sample, % (n)	Age (y), % (n)						Partnership status, % (n)		
		18–25	25–29	30–39	40–49	50–59	≥60	Not partnered	Partnered	AOR* (95% CI)
Past 30 d	33.5 (114)	13.4 (4)	35.6 (15)	55.4 (35)	37.1 (36)	20.3 (17)	28.8 (7)	7.0 (8)	46.7 (106)	
Past 90 d	6.4 (22)	12.7 (4)	8.7 (4)	2.4 (2)	7.1 (7)	5.7 (5)	4.2 (1)	5.8 (7)	6.7 (15)	
Past 12 mo	16.7 (57)	32.0 (9)	34.4 (15)	17.4 (11)	11.5 (11)	11.3 (10)	5.2 (1)	26.3 (30)	11.9 (27)	
>1 y ago	33.4 (114)	5.7 (2)	20.0 (9)	21.9 (14)	36.7 (36)	50.8 (43)	45.2 (11)	46.7 (53)	26.8 (61)	6.55 [†] (2.12–20.26)
Bisexual										0.99 (0.96–1.02)
Lifetime	65.7 (72)	16.8 (2)	73.5 (5)	79.0 (23)	80.4 (23)	52.2 (12)	65.9 (7)	54.7 (25)	73.4 (48)	
Past 30 d	5.5 (6)	0.0 (0)	0.0 (0)	6.0 (2)	7.4 (2)	5.9 (1)	7.2 (1)	0.9 (0)	8.7 (6)	
Past 90 d	4.8 (5)	1.0 (0)	17.7 (1)	0.0 (0)	2.0 (1)	14.0 (3)	1.9 (0)	1.3 (1)	7.3 (5)	
Past 12 mo	15.1 (17)	9.1 (1)	55.8 (4)	6.1 (2)	23.6 (7)	5.3 (1)	19.9 (2)	0.0 (0)	25.5 (17)	
>1 y ago	40.3 (44)	6.8 (1)	0.0 (0)	66.9 (20)	47.4 (14)	27.1 (6)	36.9 (4)	52.4 (24)	31.9 (21)	

AOR = adjusted odds ratio.

*Logistic regression includes continuous age and partnership status (not partnered [reference] vs partnered).

[†]*P* < .05.#*P* < .01.\$*P* < .001.

behaviors men in the general population engage in compared with the large number of studies based on convenience samples of men who are often recruited from relatively “high-risk” environments. Overall, the results from this study highlight the diversity in men’s sexual behaviors and experiences, within and across the sexual identity categories of heterosexual, gay, and bisexual and the need for more refined studies of sexual behavior in diverse probability samples of men.

ACKNOWLEDGMENT

The authors would like to thank Dr Mark L. Hatzenbuehler, Associate Professor at the Columbia University Mailman School of Public Health, for his insights and expertise on revisions for this paper.

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Conflict of Interest: The authors report no conflicts of interest.

Funding: This study was funded by a grant from Church & Dwight, Co, Inc.

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