Sociodemographic and behavioural predictors of lifetime number of sexual partners: findings from the English Longitudinal Study of Ageing

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Word Count: 2500

Abstract

Background: No current data are available on correlates of lifetime sexual partners at older ages. This study aimed to explore correlates of the lifetime number of sexual partners in a sample of older adults.

Method: Data were from 3,054 men and 3,867 women aged ≥50 years participating in the English Longitudinal Study of Ageing. Participants reported their lifetime number of sexual partners and a range of socio-demographic characteristics and health behaviours. Multivariable multinomial logistic regression was used to examine correlates of lifetime number of sexual partners, with analyses performed separately for men and women and weighted for non-response.

Results: Younger age, being separated/divorced or single/never married, being a current or former smoker, and drinking alcohol regularly or frequently were independently associated with a higher number of sexual partners in both men and women. Homosexuality in men and bisexuality in women were also associated with a higher number of sexual partners. White ethnicity, regular moderate and vigorous physical activity, and the absence of limiting long-standing illness were independently associated with a higher number of sexual partners in women only, and being in the highest and lowest quintiles of wealth was independently associated with a higher number of sexual partners in men only.

Conclusion: A higher lifetime number of sexual partners is associated with a number of sociodemographic and behavioural factors. An understanding of who is more likely to have had more sexual partners may help health practitioners to identify individuals who are at greatest risk of sexually transmitted infection and their associated health complications across the life course. Moreover, findings from the present study could also benefit younger adults through the identification of correlates to allow for targeted interventions to educate those with the highest number of sexual partners of the associated risks and the practice of safe sex.

Key words: number of sexual partners; predictors; older adults.

Key messages

- The number of sexual partners a person has in their lifetime is an important predictor of sexually transmitted infection and their associated health risks.

- Until now, no current data are available on correlates of lifetime sexual partners at older ages.

- We found in a large representative sample of older English adults that a higher lifetime number of sexual partners is associated with a number of sociodemographic and behavioural factors.

- An understanding of who is more likely to have had more sexual partners may help health practitioners to identify individuals who are at greatest risk of sexually transmitted infection and their associated health complications across the life course.

Background

The number of sexual partners a person has in their lifetime is an important correlate of sexually transmitted infections (STIs) and their associated health risks (1–5). With the exception of HIV and AIDS, the general population is largely unaware of the substantial impact STIs can have on morbidity and mortality (6). For example, a number of sexually transmitted pathogens are known to cause cancer. Sexually acquired human papillomavirus (HPV) plays a causal role in around 70% of cervical, vaginal and anal cancers, 30-40% of vulval, penile and oropharyngeal cancers and has been causally linked to non-melanoma skin cancer and cancer of the conjunctiva (7). Hepatitis B virus causes hepatocellular carcinoma, one of the most common forms of cancer (8). Other STIs associated with cancers include Epstein-Barr virus, linked to nasopharyngeal carcinoma and lymphoma; human herpes virus type 8, linked to Kaposi's sarcoma (9); and human T-cell lymphotrophic virus type I (HTLV-I), linked to adult T-cell leukemia and lymphoma (10). STIs also increase the risk of infertility (11) and are associated with acute complications for pregnant women and their infants, such as miscarriage, prematurity, stillbirth and newborn blindness (12,13). STIs are the leading cause of loss of healthy life years in developing countries (13), and account for a substantial number of adverse health events and deaths globally. For example, in 1998, around 20 million adverse health events and almost 30,000 deaths in the US were directly attributable to STIs (14).

The significant health consequences associated with STIs, and the high costs to society in terms of health care expenditure (15), underscore the importance of identifying those at risk of STI and implementing effective prevention strategies. There is a relatively large literature base on the correlates of number of sexual partners in adolescents. For example, the Youth Risk Behavior Surveillance System in the US has observed significant associations with sex and ethnicity, with male students (20.9%) more likely than female students (14.4%), and black students (35.6%) more likely than white and Hispanic students (14.2% and 17.6%, respectively), to have had four or more sexual partners during their lifetime (16). Another US-based study found that common correlates of number of sexual partners among black females include alcohol, tobacco, marijuana use, and dating violence; and white females had similar correlates with the addition of physical fighting (17). Among white males, alcohol, tobacco, marijuana use, physical fighting, carrying weapons, and dating violence were strong correlates of number of sexual partners; and black males had similar correlates with the addition of binge alcohol use (17).

While these findings provide important information for the development of interventions to reduce risky sexual behaviour at younger ages, factors that predict the number of life time sexual partners in adolescence may differ from those associated with a higher number of life time sexual partners in

older adults. It is possible that individuals with a relatively high number of sexual partners in adolescence may have an average or below-average number by the time they reach old age, as others "catch up" over time; for example, by remaining single and continuing to date while others settle down and stay with a single partner. To our knowledge, no current data are available on correlates of lifetime sexual partners at older ages. This information is needed as older adults are at greatest risk of developing cancer (18) and many cancers that are common in older adults have been shown to be associated with STIs (e.g. liver, anus, penile, sarcoma, prostate). Moreover, HIV diagnosis in later life is associated with shorter survival periods (19). In addition, a focus on older people, who have had increased opportunity for sexual experience on the basis of having had more time during which they have or could have been sexually active, would offer greater insight into factors predictive of a higher number of sexual partners that may aid in the identification of those at greatest risk of STIs across the life course.

This study therefore aimed to explore correlates of the lifetime number of sexual partners in a sample of older adults (≥50 years). We examined associations between self-reported lifetime number of sexual partners and a range of sociodemographic and behavioural variables.

Method

Study population

Data were from the English Longitudinal Study of Ageing (ELSA), a population-representative longitudinal panel study of men and women aged ≥50 years living in England (20). The study started in 2002, with participants recruited from an annual cross-sectional survey of households and followed up every two years. Data are collected via computer assisted personal interview (CAPI) conducted face to face in the participant's home or residence, with additional self-completion questionnaires returned to the research office by post after the CAPI. The Sexual Relationships and Activities Questionnaire (SRA-Q) was administered as a self-completion measure in Wave 6 (2012/13) and was returned by 7,079 (67%) participants. Of these, 6,921 reported their lifetime number of sexual partners and formed the final analytical sample. All participants gave full informed consent to participate in the study, and ethical approval was obtained from the London Multi-Centre Research Ethics Committee.

Measures

Number of sexual partners was assessed as part of the Sexual Relationships and Activities Questionnaire (SRA-Q) (21), which participants completed in private and returned in a sealed envelope. Participants were asked to indicate the number of sexual partners (vaginal/oral/anal sex) they had had in their lifetime (0, 1, 2-4, 5-9, 10-19, 20 or more). Due to low numbers of participants reporting have had 0 or in excess of 20 partners, we combined these with proximal categories, leaving four groups for analysis: 0-1, 2-4, 5-9 and ≥10 sexual partners.

Demographic information collected included age, sex, ethnicity (white vs. non-white) and partnership status (married/cohabiting, separated/divorced, widowed, or single/never married). Socio-economic status was based on household non-pension wealth (which has been identified as particularly relevant to health outcomes in this age group (22)), categorised into quintiles across all wave 6 ELSA participants.

Sexual orientation was assessed with the question: "*Which statement best describes your sexual desires over your lifetime? Please include being interested in sex, fantasising about sex or wanting to have sex*". Response options were 1) entirely for women, 2) mostly for women, but some desires for men, 3) equally for women and men, 4) mostly for men, but some desires for women, 5) entirely for men, and 6) no sexual desires in lifetime. We categorised participants with desires entirely for a different sex as heterosexual, entirely for the same sex as homosexual and those endorsing response options 2, 3 or 4 as bisexual. We coded the sexual orientation of those reporting no sexual desires as missing.

Health-related variables included self-reported smoking status (current smoker, former smoker or never smoker) and frequency of alcohol intake, categorised as never/rarely (never – once or twice a year), regularly (once every two months – twice a week), or frequently (3 days a week – almost every day) (21). Physical activity was assessed with three items that asked participants how often they took part in vigorous, moderate and low-intensity activities (more than once a week, once a week, 1-3 times a month, hardly ever/never) (23), and further categorised into three groups, as previously described (24): inactive (no moderate/vigorous activity on a weekly basis); moderate activity at least once a week; and vigorous activity at least once a week. Limiting long-standing illness was self-reported in response to two questions: (i) "*Do you have any long-standing illness, disability, or infirmity? By long-standing I mean anything that has troubled you over a period of time or that is likely to affect you over a period of time.*" If yes, (ii) "*Does this illness or disability limit your activities*

in any way?" Declaration of a long-standing illness and any form of limitation classified the participant as having a limiting long-standing illness.

Patient and public involvement

Patients and public were not involved in the design of any aspect of this observational study.

Statistical analysis

Analyses were performed using IBM SPSS Statistics 22. Data were weighted to correct for sampling probabilities and for differential non-response and to calibrate back to the 2011 National Census population distributions for age and sex. The weights accounted for the differential probability of being included in wave 6 of ELSA and for non-response to the SRA-Q. Details can be found at http://doc.ukdataservice.ac.uk/doc/5050/mrdoc/pdf/5050_elsa_w6_technical_report_v1.pdf.

Bivariate associations between lifetime number of sexual partners and predictors were assessed using one-way analyses of variance (ANOVAs) for continuous variables and chi-square tests for categorical variables. We then used multivariable multinomial logistic regression to analyse independent associations between lifetime number of sexual partners and predictors, with all variables entered into the same model. Separate analyses were carried out on men and women.

We performed a sensitivity analysis in which multivariable models were repeated excluding participants who reported having had no sexual partners, to assess the extent to which their inclusion in the group with 1 sexual partner affected the results.

Results

Among men, 29.8% reported having had 0-1 sexual partners in their lifetime, 30.5% had had between 2 and 4 partners, 19.8% had had between 5 and 9 partners, and 19.9% had had 10 or more partners. Among women, the respective figures were 38.5% (0-1), 37.4% (2-4), 15.6% (5-9) and 8.5% (≥10).

Bivariate associations between lifetime number of sexual partners and correlates are summarised in Table 1. In both men and women, lifetime number of sexual partners was significantly associated with age, partner status, sexual orientation, wealth, smoking status, alcohol intake and physical

activity. Those who had had more sexual partners tended to be younger than those who reported few sexual partners ($p<0.001$). Those who were separated/divorced or single/never married were more likely to report a higher number of sexual partners than those who were married/cohabiting or widowed ($p<0.001$). Those who were bisexual or homosexual tended to have a higher number of sexual partners than those who were heterosexual ($p<0.001$). Those in the lowest and highest quintiles of wealth reported more sexual partners than those in the middle quintiles ($p<0.001$ in men, $p=0.006$ in women). Current and former smokers reported a higher number of sexual partners than never smokers ($p<0.001$), and regular/frequent alcohol drinkers reported a higher number of sexual partners than those who were teetotal or rarely drank alcohol ($p<0.001$). Regular moderate/vigorous physical activity in women and regular vigorous physical activity in men was associated with a higher number of sexual partners ($p<0.001$). In women, but not in men, there was also a significant association with ethnicity, with white women reporting a higher number of sexual partners than those from ethnic minority groups ($p<0.001$). In men, but not in women, there was a significant association with limiting long-standing illness, with men without an illness more likely to report having more than one partner ($p=0.037$).

Multivariable models confirmed that in both men (Table 2) and women (Table 3), younger age, being separated/divorced or single/never married, being a current (and to a lesser extent former) smoker, and drinking alcohol regularly or frequently were independently associated with a higher lifetime number of sexual partners. Homosexuality in men and bisexuality in women were also independently associated with a higher number of sexual partners. In addition, white ethnicity and regular moderate and vigorous physical activity were independently associated with a higher number of sexual partners in women only, and being in the highest and lowest quintiles of wealth was independently associated with a higher number of sexual partners in men only. After adjustment, the absence of limiting long-standing illness was associated with a higher number of sexual partners in women, but not in men.

There were no notable differences in the results when men ($n=38$) and women ($n=28$) who reported no sexual partners were excluded (Supplementary Tables 1 and 2, respectively).

Discussion

Using data from a large, representative sample of older adults living in England, the present study has identified behavioural and sociodemographic factors that are associated with a greater number

of lifetime sexual partners. Men were more likely than women to report a higher number of lifetime sexual partners: 39.7% of men and 24.1% of women reported having had at least 5 sexual partners in their lifetime, and 19.9% of men and 8.5% of women had had 10 or more partners. Despite differences in the absolute number of partners, there were a number of similarities in the factors that predicted lifetime number of sexual partners in men and women. Being younger, separated/divorced or single/never married, being a current or former smoker, and drinking alcohol regularly or frequently were independently associated with a higher number of lifetime sexual partners in both sexes. Sex-specific predictors were also observed. In men but not women, being gay and being in the highest and lowest quintiles of wealth were associated with a higher number of previous sexual partners. In women but not men, being bisexual, absence of limiting long-standing illness, of white ethnicity and participating in regular vigorous physical activity were associated with a greater number of previous sexual partners.

The finding that men have a higher number of lifetime sexual partners than women is consistent with previous research in adolescents (26). This may be driven by men's higher testosterone levels leading to increased feelings of sexual desire (27), and/or the "sexual double standard" that sees more favourable societal attitudes towards promiscuity in males than females (28). It may also be at least partly attributable to social desirability bias, with men more likely than women to overreport the number of sexual partners they have had (29). The finding that among the over 50s, younger age was associated with a higher number of lifetime sexual partners is interesting, and likely reflects changes in attitudes and opinions towards sexuality and changes in rates of divorce and separation (30) between generations, even those relatively close in age. Little has been published on older adults' attitudes towards sexuality and further work in this area is required. Perhaps unsurprisingly, those participants who were not married (separated/divorced or single/never married) reported a higher number of sexual partners. This is likely owing to greater opportunity to engage in sexual activity with multiple sexual partners throughout life, although the frequency of sexual activity in this population compared with those who are married is lower (data not shown).

In both sexes, smoking and alcohol use were associated with a higher number of lifetime sexual partners. Alcohol use has previously been shown to be associated with a greater number of lifetime sexual partners and a greater chance of HIV transmission (31,32). Having a greater tendency for risk taking has been shown to be associated with smoking and alcohol consumption (33,34), and it is plausible that those who have a tendency to take risks are also likely to have a higher number of lifetime sexual partners. Moreover, alcohol consumption/being drunk affects decision making processes and may increase chances of unplanned sexual encounters.

Homosexuality predicted a higher number of lifetime sexual partners in men only. The literature is mixed on this topic, with some studies indicating that gay men have a higher number of sexual partners compared to heterosexual and some studies observing a similar prevalence (35). The inconsistency in the data on the number of sexual partners of gay men probably reflects flaws in the sampling techniques of earlier studies (e.g., recruiting subjects in gay bars) and their completion before the HIV epidemic (35). However, the present study does suggest that gay men do have a greater number of sexual partners in their lifetime. This is of clinical importance, given that gay men are a key population with a high prevalence of HIV (35). A greater number of sexual partners is known to increase the risk of HIV transmission.

In the present study, being in the highest and lowest quintiles of wealth was associated with a higher number of previous sexual partners in men but not in women. Socio-economic status is an established predictor of divorce, with higher divorce rates among those from the lowest and highest socio-economic groups (36). This ties in with the finding that those who are not married have a higher number of sexual partners.

Women from white ethnic backgrounds reported a higher number of lifetime sexual partners than those from other ethnicities. A plausible explanation is differences in cultural norms between the ethnicities. For example, a large proportion of Asians and only a small proportion of whites residing in the UK follow Islam (37). For those who follow Islam, sexual intercourse between unmarried men and women is forbidden and thus this population is likely to have a low number of lifetime sexual partners. It is not clear why an association with ethnicity was only observed in women; further research is required to explore this in greater detail. Another factor that was found to predict number of sexual partners in women only was vigorous physical activity. Women who reported engaging in vigorous physical activity at least weekly were more likely to report a higher number of lifetime sexual partners than those who were less active. Vigorous physical activity is usually achieved via participating in sport (38). Sport participation has been shown to track across the lifespan (39) and may provide a setting for social interaction, thus increasing the potential to meet a greater number of potential sexual partners. However, further research is required to confirm or refute this hypothesis. Moreover, physical activity has been shown to lower levels of depression (39) and depression has been shown to be associated with lower levels of sexual problems. (40) Absence of limiting long standing illness was associated with a higher number of sexual partners in women. Women who do not have such illnesses may have had greater opportunity across the lifespan for greater social interaction (e.g. via sports participation, those with limiting long standing illness are less likely to participate in sport) and increasing one's opportunity to meet a greater number of

sexual partners. Finally, women who were bisexual had a higher number of lifetime sexual partners than those who were heterosexual. A plausible explanation for this finding is elusive and further research is needed.

This is the first study to identify sociodemographic and behavioural correlates of the number of lifetime sexual partners in an older sample. Strengths of the study include the large, representative sample and data on a wide range of potential correlates. However, findings from the present study must be interpreted in light of its limitations. All measures were self-reported which may have introduced reporting or recall bias. However, the item on number of sexual partners was included in a paper-based questionnaire rather than in the face-to-face interview, and it was made clear to participants that survey responses would remain anonymous. The sample was almost exclusively white so findings may not generalise to other ethnic groups in which attitudes towards sex may differ. While the measure of smoking took into account historical behaviour by including a category for ex-smokers, data on alcohol intake and physical activity only reflected participants' current behaviour. The predictive power of these variables in determining number of sexual partners over the life course may therefore have been over- or underestimated. Longitudinal cohort studies that collect measures of these behaviours throughout the life course could assess prospective relationships by asking participants to report their lifetime number of sexual partners in future waves of data collection. Finally, the current data was not able to ascertain for each participant when during the life span the period at which the greatest number of sexual partners were acquired. For some participants it is possible that they only had a very high number of sexual partners when adolescents, others middle age, and for some old age. Further research is now needed to investigate the relationship between the time at which one acquires the greatest number of sexual partners and health outcomes in later life.

In conclusion, the present study has identified a number of sociodemographic and behavioural correlates of lifetime sexual partners. This information may help health practitioners to identify individuals who are at greatest risk of STIs and their associated health complications across the life course. Moreover, findings from the present study could also benefit younger adults through the identification of correlates to allow for targeted interventions to educate those with the highest number of sexual partners of the associated risks and the practice of safe sex.

Contributors

SEJ and LS conceived the idea. SEJ carried out statistical analyses. SEJ and LS interpreted the findings. SEJ and LS drafted the manuscript. All authors provided extensive comments on the manuscript. All authors approved the final manuscript before submission.

Patient consent

Not required.

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Table 1 Bivariate associations between lifetime number of sexual partners and predictors in men and women

		Men						Women				
	n^1	0-1 (*n*=911)	2-4 (*n*=932)	5-9 (*n*=604)	≥10 (*n*=607)	*p*	*n*	0-1 (*n*=1488)	2-4 (*n*=1448)	5-9 (*n*=604)	≥10 (*n*=327)	*p*
Age (mean [SD] years)	3196	68.46 (9.89)	65.44 (9.43)	62.50 (8.57)	60.72 (8.03)	<0.001	3548	69.25 (9.87)	64.36 (8.93)	59.77 (7.41)	65.36 (9.68)	<0.001
Partner status												
Married/cohabiting	2111	32.9	31.1	18.9	17.1	<0.001	1868	44.8	34.5	14.7	6.0	<0.001
Separated/divorced	328	4.3	18.6	29.3	47.9	-	500	10.0	45.8	28.2	16.0	-
Widowed	195	38.5	38.5	13.3	9.7	-	600	57.7	32.7	6.7	3.0	-
Single/never married	249	17.7	19.3	19.7	43.4	-	189	35.4	24.9	18.0	21.7	-
Sexual orientation												
Heterosexual	2701	28.8	29.9	20.0	21.1	<0.001	2831	40.7	37.1	15.5	6.8	<0.001
Bisexual	110	20.0	25.5	20.9	33.6	-	187	21.9	25.7	23.5	28.9	-
Homosexual	44	4.5	6.8	4.5	84.1	-	14	14.3	35.7	35.7	14.3	-
Ethnicity												
White	2695	28.4	29.2	19.6	22.8	0.131	3025	40.4	35.7	15.7	8.1	<0.001
Non-white	188	33.0	28.7	22.3	16.0	-	129	61.2	27.9	8.5	2.3	-
Wealth quintile												
1 (poorest)	493	21.1	22.5	19.5	36.9	<0.001	642	38.6	35.7	16.0	9.7	0.006
2	539	34.0	28.4	19.1	18.6	-	636	41.5	36.5	14.0	8.0	-
3	556	32.0	35.3	17.6	15.1	-	649	44.4	37.0	12.0	6.6	-
4	639	30.2	32.2	20.8	16.7	-	599	44.4	33.4	16.9	5.3	-
5 (richest)	617	25.8	27.6	22.2	24.5	-	573	38.6	33.5	18.5	9.4	-
Smoking status												
Never smoker	2175	31.9	32.8	18.1	17.2	<0.001	2480	46.1	35.1	13.3	5.4	<0.001
Former smoker	294	19.4	16.7	25.5	38.4		254	21.3	33.1	28.0	17.7	
Current smoker	414	18.6	18.8	24.6	37.9	-	421	24.5	38.5	20.4	16.6	-
Alcohol intake¹												
Never/rarely	449	36.3	30.3	16.3	17.1	<0.001	946	51.5	33.4	8.8	6.3	<0.001
Regularly	1160	30.0	30.0	19.2	20.8	-	1327	39.0	36.5	17.6	6.9	-
Frequently	1176	24.0	27.9	22.2	25.9	-	804	33.0	35.4	20.4	11.2	-
Physical activity												
Inactive	585	32.5	25.8	16.4	25.3	<0.001	844	53.1	29.5	11.3	6.2	<0.001

Moderately active at least once a week	1242	31.4	29.1	19.9	19.6	-	1483	39.9	37.8	14.6	8.3	-
Vigorously active at least once a week	1059	23.4	31.1	21.5	24.0	-	828	32.6	37.0	21.4	9.1	-
Limiting long-standing illness												
No	1965	27.4	30.6	20.0	21.9	0.037	2007	39.7	36.3	16.1	7.9	0.114
Yes	918	31.4	26.0	19.4	23.2	-	1146	43.9	33.8	14.3	8.0	-

[1] All sample sizes are provided unweighted. Note sample numbers for each correlate do not always sum to the total sample number due to missing data.

Values are percentages unless otherwise stated.

All figures are weighted for sampling probabilities and differential non-response.

SD = standard deviation.

[2] Never/rarely = never – once or twice a year; regularly = once every 2 months – twice a week; frequently = 3 days a week – almost every day.

Table 2 Multivariable models testing independent associations between predictors and lifetime number of sexual partners in men

	Adjusted OR [95% CI][1]		
	2-4 (n=786)[2]	5-9 (n=491)	≥10 (n=486)
Age	0.96 [0.95-0.97]***	0.94 [0.92-0.95]***	0.92 [0.91-0.94]***
Partnership status[3]			
Separated/divorced	4.95 [2.65-9.24]***	12.97 [6.98-24.08]***	20.18 [10.94-37.21]***
Widowed	1.83 [1.23-2.73]**	1.38 [0.80-2.39]	1.47 [0.81-2.67]
Single/never married	1.23 [0.77-1.95]	1.69 [1.05-2.74]*	2.59 [1.65-4.07]***
Sexual orientation[4]			
Bisexual	0.99 [0.55-1.77]	0.88 [0.46-1.67]	1.29 [0.71-2.36]
Homosexual	1.24 [0.21-7.46]	0.80 [0.10-6.50]	11.55 [2.55-52.38]**
Non-white ethnicity[5]	1.03 [0.67-1.59]	1.12 [0.69-1.82]	0.85 [0.50-1.46]
Wealth quintile[6]			
2	0.68 [0.46-0.99]*	0.63 [0.41-0.97]*	0.41 [0.27-0.62]***
3	0.94 [0.64-1.37]	0.81 [0.52-1.26]	0.50 [0.32-0.77]**
4	0.96 [0.65-1.41]	1.05 [0.68-1.62]	0.60 [0.39-0.94]*
5 (richest)	0.82 [0.55-1.23]	1.21 [0.77-1.90]	0.94 [0.60-1.45]
Smoking status[7]			
Former smoker	0.54 [0.35-0.82]**	1.16 [0.77-1.74]	1.48 [0.99-2.22]
Current smoker	0.87 [0.60-1.26]	1.93 [1.33-2.80]**	2.13 [1.46-3.11]***
Alcohol intake[8]			
Regularly	1.10 [0.81-1.48]	1.51 [1.04-2.18]*	1.97 [1.33-2.92]**
Frequently	1.34 [0.98-1.83]	2.32 [1.58-3.39]***	3.25 [2.17-4.88]***
Physical activity[9]			
Moderately active at least once a week	1.02 [0.76-1.37]	1.28 [0.90-1.82]	0.74 [0.52-1.05]
Vigorously active at least once a week	1.30 [0.94-1.80]	1.59 [1.08-2.35]*	1.14 [0.78-1.67]
Limiting long-standing illness	0.84 [0.66-1.08]	1.16 [0.88-1.54]	1.13 [0.84-1.51]

[1] Multivariable multinomial logistic regression was performed. 0-1 sexual partners was the reference group in all analyses (n=775).

[2] Unweighted sample sizes. Models were performed on complete cases and as such the analysed sample number differs from the number included in the bivariate analyses.

[3] Reference category: married/cohabiting.

[4] Reference category: heterosexual.

[5] Reference category: white.

[6] Reference category: 1 (poorest).

[7] Reference category: never smoker.

[8] Reference category: never/rarely.

[9] Reference category: inactive.

All figures are weighted for sampling probabilities and differential non-response.

OR = odds ratio; CI = confidence interval.

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

Table 3 Multivariable models testing independent associations between predictors and lifetime number of sexual partners in women

	Adjusted OR [95% CI][1]		
	2-4 (*n*=1170)[2]	5-9 (*n*=486)	≥10 (*n*=243)
Age	0.95 [0.93-0.96]***	0.90 [0.89-0.92]***	0.90 [0.88-0.92]***
Partnership status[3]			
Separated/divorced	6.98 [4.84-10.07]***	12.68 [8.39-19.16]***	14.53 [8.99-23.46]***
Widowed	1.73 [1.33-2.26]***	1.66 [1.08-2.55]*	1.38 [0.72-2.65]
Single/never married	1.56 [0.96-2.54]	2.22 [1.26-3.89]**	5.33 [2.93-9.67]***
Sexual orientation[4]			
Bisexual	1.10 [0.70-1.74]	2.09 [1.27-3.46]**	5.87 [3.50-9.85]***
Homosexual	3.98 [0.59-26.70]	5.61 [0.68-46.49]	5.05 [0.47-54.57]
Non-white ethnicity[5]	0.35 [0.21-0.58]***	0.22 [0.11-0.46]***	0.11 [0.03-0.35]***
Wealth quintile[6]			
2	0.97 [0.71-1.31]	0.83 [0.55-1.25]	0.90 [0.55-1.48]
3	1.05 [0.77-1.43]	0.90 [0.59-1.37]	1.02 [0.60-1.74]
4	0.83 [0.60-1.15]	1.08 [0.71-1.66]	0.74 [0.42-1.32]
5 (richest)	0.88 [0.63-1.23]	1.15 [0.74-1.77]	1.20 [0.69-2.10]
Smoking status[7]			
Former smoker	1.17 [0.78-1.73]	1.78 [1.14-2.78]*	2.24 [1.31-3.83]**
Current smoker	1.53 [1.13-2.07]	1.95 [1.34-2.83]***	3.18 [2.06-4.90]***
Alcohol intake[8]			
Regularly	1.23 [0.98-1.54]	2.20 [1.58-3.06]***	1.16 [0.78-1.75]
Frequently	1.59 [1.23-2.07]**	3.16 [2.18-4.56]***	2.17 [1.39-3.40]**
Physical activity[9]			
Moderately active at least once a week	1.51 [1.18-1.92]**	1.26 [0.90-1.76]	1.68 [1.08-2.60]*
Vigorously active at least once a week	1.60 [1.19-2.14]**	1.74 [1.19-2.55]**	1.73 [1.04-2.88]*
Limiting long-standing illness	1.12 [0.91-1.38]	1.53 [1.16-2.02]**	1.58 [1.10-2.26]*

[1] Multivariable multinomial logistic regression was performed. 0-1 sexual partners was the reference group in all analyses (*n*=1198).

[2] Unweighted sample sizes. Models were performed on complete cases and as such the analysed sample number differs from the number included in the bivariate analyses.

[3] Reference category: married/cohabiting.

[4] Reference category: heterosexual.

[5] Reference category: white.

[6] Reference category: 1 (poorest).

[7] Reference category: never smoker.

[8] Reference category: never/rarely.

[9] Reference category: inactive.

All figures are weighted for sampling probabilities and differential non-response.

OR = odds ratio; CI = confidence interval.

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

Supplementary Table 1 Multivariable models testing independent associations between predictors and lifetime number of sexual partners in men (excluding those with 0 sexual partners)

	Adjusted OR [95% CI][1]		
	2-4 (*n*=786)[2]	5-9 (*n*=491)	≥10 (*n*=486)
Age	0.96 [0.95-0.97]***	0.94 [0.92-0.95]***	0.92 [0.91-0.94]***
Partnership status[3]			
Separated/divorced	5.52 [2.81-10.81]***	14.51 [7.44-28.29]***	22.69 [11.70-43.99]***
Widowed	1.85 [1.24-2.80]**	1.46 [0.84-2.54]	1.58 [0.86-2.87]
Single/never married	2.89 [1.57-5.31]**	4.11 [2.20-7.69]***	6.46 [3.52-11.84]***
Sexual orientation[4]			
Bisexual	0.87 [0.48-1.58]	0.76 [0.39-1.48]	1.10 [0.59-2.05]
Homosexual	1.27 [0.17-9.67]	0.78 [0.08-7.77]	11.00 [1.83-66.04]**
Non-white ethnicity[5]	1.03 [0.67-1.60]	1.10 [0.67-1.81]	0.85 [0.49-1.46]
Wealth quintile[6]			
2	0.56 [0.37-0.83]**	0.51 [0.32-0.79]**	0.32 [0.21-0.50]***
3	0.78 [0.53-1.17]	0.66 [0.42-1.05]	0.40 [0.25-0.64]***
4	0.81 [0.54-1.21]	0.89 [0.56-1.39]	0.51 [0.32-0.81]**
5 (richest)	0.68 [0.45-1.04]	0.99 [0.62-1.58]	0.76 [0.48-1.20]
Smoking status[7]			
Former smoker	0.58 [0.37-0.89]*	1.25 [0.82-1.91]	1.64 [1.08-2.50]*
Current smoker	0.89 [0.61-1.30]	1.98 [1.34-2.91]**	2.17 [1.46-3.22]***
Alcohol intake[8]			
Regularly	1.10 [0.81-1.49]	1.54 [1.05-2.25]*	2.04 [1.36-3.06]**
Frequently	1.32 [0.96-1.81]	2.30 [1.55-3.39]***	3.23 [2.13-4.90]***
Physical activity[9]			
Moderately active at least once a week	0.93 [0.69-1.27]	1.16 [0.81-1.67]	0.66 [0.46-0.95]*
Vigorously active at least once a week	1.21 [0.86-1.69]	1.47 [0.99-2.19]	1.04 [0.70-1.53]
Limiting long-standing illness	0.84 [0.66-1.08]	1.16 [0.87-1.54]	1.13 [0.84-1.53]

[1] Multivariable multinomial logistic regression was performed. 0-1 sexual partners was the reference group in all analyses (*n*=736).

[2] Unweighted sample sizes. Models were performed on complete cases and as such the analysed sample number differs from the number included in the bivariate analyses.

[3] Reference category: married/cohabiting.

[4] Reference category: heterosexual.

[5] Reference category: white.

[6] Reference category: 1 (poorest).

[7] Reference category: never smoker.

[8] Reference category: never/rarely.

[9] Reference category: inactive.

All figures are weighted for sampling probabilities and differential non-response.

OR = odds ratio; CI = confidence interval.

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

Supplementary Table 2 Multivariable models testing independent associations between predictors and lifetime number of sexual partners in women (excluding those with 0 sexual partners)

	Adjusted OR [95% CI][1]		
	2-4 (*n*=1170)[2]	5-9 (*n*=486)	≥10 (*n*=243)
Age	0.95 [0.93-0.96]***	0.90 [0.89-0.92]***	0.90 [0.88-0.92]***
Partnership status[3]			
Separated/divorced	7.55 [5.17-11.04]***	13.73 [8.97-21.03]***	15.68 [9.60-25.62]***
Widowed	1.72 [1.32-2.25]***	1.65 [1.07-2.54]*	1.38 [0.72-2.65]
Single/never married	2.32 [1.34-4.02]**	3.41 [1.84-6.32]***	8.35 [4.36-16.00]***
Sexual orientation[4]			
Bisexual	1.17 [0.73-1.88]	2.23 [1.33-3.73]**	6.26 [3.68-10.65]***
Homosexual	7.20 [0.66-78.96]	10.40 [0.78-138.25]	8.86 [0.53-148.76]
Non-white ethnicity[5]	0.32 [0.19-0.53]***	0.19 [0.09-0.41]***	0.09 [0.03-0.30]***
Wealth quintile[6]			
2	0.93 [0.68-1.27]	0.77 [0.51-1.17]	0.82 [0.49-1.36]
3	0.98 [0.72-1.34]	0.82 [0.53-1.25]	0.92 [0.54-1.56]
4	0.78 [0.56-1.09]	0.99 [0.65-1.53]	0.66 [0.37-1.19]
5 (richest)	0.81 [0.58-1.14]	1.04 [0.67-1.61]	1.06 [0.60-1.86]
Smoking status[7]			
Former smoker	1.26 [0.84-1.89]	1.96 [1.24-3.09]**	2.51 [1.46-4.34]**
Current smoker	1.57 [1.15-2.14]**	1.98 [1.36-2.90]***	3.19 [2.05-4.96]***
Alcohol intake[8]			
Regularly	1.20 [0.96-151]	2.16 [1.55-3.01]***	1.14 [0.76-1.72]
Frequently	1.64 [1.26-2.15]***	3.31 [2.28-4.80]***	2.30 [1.46-3.62]***
Physical activity[9]			
Moderately active at least once a week	1.45 [1.13-1.85]**	1.19 [0.85-1.67]	1.53 [0.99-2.38]
Vigorously active at least once a week	1.53 [1.14-2.06]**	1.64 [1.12-2.41]*	1.58 [0.94-2.63]
Limiting long-standing illness	1.15 [0.93-1.42]	1.59 [1.20-2.10]**	1.64 [1.14-2.36]**

[1] Multivariable multinomial logistic regression was performed. 0-1 sexual partners was the reference group in all analyses (*n*=1166).

[2] Unweighted sample sizes. Models were performed on complete cases and as such the analysed sample number differs from the number included in the bivariate analyses.

[3] Reference category: married/cohabiting.

[4] Reference category: heterosexual.

[5] Reference category: white.

[6] Reference category: 1 (poorest).

[7] Reference category: never smoker.

[8] Reference category: never/rarely.

[9] Reference category: inactive.

All figures are weighted for sampling probabilities and differential non-response.

OR = odds ratio; CI = confidence interval.

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