



OPEN ACCESS

# Impacts of COVID-19 on sexual behaviour in Britain: findings from a large, quasi-representative survey (Natsal-COVID)

Catherine H Mercer <sup>1</sup>, Soazig Clifton <sup>1,2</sup>, Julie Riddell <sup>3</sup>, Clare Tanton <sup>4</sup>, Lily Freeman,<sup>1</sup> Andrew J Copas <sup>1</sup>, Emily Dema <sup>1</sup>, Raquel Bosó Pérez <sup>3</sup>, Jo Gibbs <sup>1</sup>, Wendy Macdowall <sup>4</sup>, Dee Menezes <sup>5</sup>, Mary-Clare Ridge <sup>1</sup>, Chris Bonell <sup>4</sup>, Pam Sonnenberg <sup>1</sup>, Nigel Field <sup>1</sup>, Kirstin R Mitchell <sup>3</sup>

► Additional supplemental material is published online only. To view, please visit the journal online (<http://dx.doi.org/10.1136/sextrans-2021-055210>).

<sup>1</sup>Institute for Global Health, University College London, London, UK

<sup>2</sup>NatCen Social Research, London, UK

<sup>3</sup>MRC/CSO Social and Public Health Sciences Unit, University of Glasgow, Glasgow, UK

<sup>4</sup>Faculty of Public Health and Policy, London School of Hygiene and Tropical Medicine, London, UK

<sup>5</sup>Institute for Health Informatics, University College London, London, UK

## Correspondence to

Professor Catherine H Mercer, Institute for Global Health, University College London, 3rd floor Mortimer Market Centre, London, WC1E 6JB, UK; c.mercer@ucl.ac.uk

CHM and SC are joint first authors.

NF and KRM are joint senior authors.

Received 7 July 2021

Accepted 8 November 2021



© Author(s) (or their employer(s)) 2021. Re-use permitted under CC BY. Published by BMJ.

**To cite:** Mercer CH, Clifton S, Riddell J, et al. *Sex Transm Infect* Epub ahead of print: [please include Day Month Year]. doi:10.1136/sextrans-2021-055210

## ABSTRACT

**Objectives** Physical restrictions imposed to combat COVID-19 dramatically altered sexual lifestyles but the specific impacts on sexual behaviour are still emerging. We investigated physical and virtual sexual activities, sexual frequency and satisfaction in the 4 months following lockdown in Britain in March 2020 and compared with pre-lockdown.

**Methods** Weighted analyses of web panel survey data collected July/August 2020 from a quota-based sample of 6654 people aged 18–59 years in Britain. Multivariable regression took account of participants' opportunity for partnered sex, gender and age, to examine their independent associations with perceived changes in sexual frequency and satisfaction.

**Results** Most participants (86.7%) reported some form of sex following lockdown with physical activities more commonly reported than virtual activities (83.7% vs 52.6%). Altogether, 63.2% reported sex with someone ('partnered sex') since lockdown, three-quarters of whom were in steady cohabiting relationships. With decreasing relationship formality, partnered sex was less frequently reported, while masturbation, sex toy use and virtual activities were more frequently reported. Around half of all participants perceived no change in partnered sex frequency compared with the 3 months pre-lockdown, but this was only one-third among those not cohabiting, who were more likely to report increases in non-partnered activities than those cohabiting. Two-thirds of participants perceived no change in sexual satisfaction; declines were more common among those not cohabiting. Relationship informality and younger age were independently associated with perceiving change, often declines, in sexual frequency and satisfaction.

**Conclusions** Our quasi-representative study of the British population found a substantial minority reported significant shifts in sexual repertoires, frequency and satisfaction following the introduction of COVID-19 restrictions. However, these negative changes were perceived by some more than others; predominantly those not cohabiting and the young. As these groups are most likely to experience adverse sexual health, it is important to monitor behaviour as restrictions ease to understand the longer term consequences, including for health services.

## INTRODUCTION

On 23 March 2020, the UK government announced a strict lockdown to limit SARS-CoV-2 transmission that was effective well into summer 2020 (online supplemental appendix 1). Social distancing rules meant that at no point were people from separate households permitted to have intimate contact unless they were in a 'support bubble' in England or an 'extended household' in Scotland.<sup>1</sup> Impacts of these restrictions on individuals' opportunity for sex with another person (hereon 'partnered sex') depended on their circumstances when the lockdown was announced, in particular, whether they had a sexual partner at the time and if so, whether they lived together. These two factors in turn being primarily driven by lifestyle.<sup>2–3</sup> In contrast, opportunities for non-partnered sex (masturbation and virtual sex) may have increased as technology and market forces responded to an anticipated demand<sup>4–7</sup> as people spent more time at home and online. However, the specific impacts of the COVID-19 pandemic on sexual behaviour are unclear, reflecting how, for example, adherence to physical restrictions was not universal and may have changed over time,<sup>8</sup> and for those cohabiting, while the opportunity to have sex was theoretically unaffected, inclination to do so may have been altered by lifestyle changes and stress engendered by the pandemic.<sup>9–10</sup>

Understanding the extent to which shifts in sexual behaviour occurred, and who was most affected, are important for public health. Any changes to rates of partner change have implications for STI transmission, even if temporary,<sup>11</sup> while changes to the frequency of partnered sex are key for interpreting trends in birth rates and abortion.<sup>12</sup> Despite the pivotal role of sex, there has been relatively little rigorous research examining the direct and indirect effects of COVID-19 on sexual behaviour. We sought to address this evidence gap by investigating: (1) What was the reported prevalence and frequency of physical and virtual sexual activities in Britain following the first national lockdown?; (2) Were there perceived changes in frequency of sexual activity and sexual satisfaction compared with pre-lockdown?; (3) If so, what was the direction and extent of change, and did this vary in the population?

## METHODS

Natsal-COVID involved a web panel survey administered 29 July–10 August 2020 by Ipsos MORI. The target sample size was 6500 people residing in Britain, comprising a core sample of 6000 aged 18–59 years and a boost sample of 500 aged 18–29 years. Quotas were used (age, sex, region, social grade) and data weighted to the general population (by age, sex, ethnicity, social grade, sexual identity) to achieve a quasi-representative population sample. Further methodological details—including the sociodemographic and behavioural profile of the achieved sample—have been previously reported.<sup>13</sup>

The questionnaire, available at [www.natsal.ac.uk](http://www.natsal.ac.uk), included questions about participants' relationship status and if this had changed since lockdown began. Questions about sexual history established whether participants had ever had partnered sex (defined as vaginal, oral, or anal sex with someone of the opposite sex, or any contact involving the genital area with same sex, transgender or non-binary individuals). All participants were asked if they had experienced each of the following physical (1–4) and virtual (5–9) sexual activities since lockdown:

1. Vaginal, anal or oral sex.
2. Other contact with someone's genital area.
3. Masturbating.
4. Using sex toys (by yourself or with someone else).
5. Messaging via dating apps/online.
6. Sexting (images or recorded videos).
7. Using video or voice calls to interact with someone sexually.
8. Looking at pornography.
9. Paying for online sexual services (eg, live streaming).

Participants were asked how frequently they had engaged in each activity since the start of lockdown and whether this was more or less compared with the 3 months before lockdown. Participants who reported ever having partnered sex (hereon 'the sexually experienced') were asked if they perceived changes since lockdown in their frequency of sex and satisfaction with their sex life.

We did complex survey analysis using Stata (V.15) to obtain population estimates. We first present the proportion and frequency of (1) reporting each of the sexual activities (above) since lockdown, and (2) perceiving change in the frequency of each activity compared with the 3 months pre-lockdown. Estimates are presented for five groups that reflect participants' opportunity for partnered sex and relationship formality given the assumed importance of these factors on individuals' sexual behaviour during the lockdown period:

1. No partnered sex ever.
2. No partnered sex since lockdown.
3. Partnered sex since lockdown but no steady relationship.
4. Partnered sex since lockdown in a steady non-cohabiting relationship.
5. Partnered sex since lockdown in a steady cohabiting relationship (online supplemental appendix 2).

The denominator for these analyses was the total sample reflecting our aim to consider sexual activity for the population as a whole. However, we limited the denominator to the sexually experienced when we examined participants' perceptions of change in (1) frequency of sex and (2) satisfaction with their sex life. For each outcome, we used multivariable logistic regression to calculate ORs for reporting an increase, and a decrease (each relative to no change) for partnered sex/relationship status group, age group, and gender, and then calculated adjusted ORs to examine their independent associations. Given that changes in sexual frequency may lead to changes in sexual satisfaction,<sup>14 15</sup> we additionally adjusted for the former to assess the impact on any associations observed with sexual satisfaction.

We also present our analyses stratified by gender (online supplemental appendices 4a,b and 6a,b) and age group (online supplemental appendices 5a–d and 7a–d) reflecting the importance of these demographics for the context of sexual activity.

## RESULTS

Almost two-thirds of the achieved sample (4073 of 6654) reported partnered sex in the 4 months following lockdown (online supplemental appendix 2). Most of these (3453 of 4073) were in a steady relationship, and of these, the majority lived with their partner (3094 of 3453). One-third of all participants (2288 of 6654) reported no partnered sex since lockdown, with one-third of these (743 of 2288) reporting *never* having partnered sex. Most reporting no partnered sex since lockdown described themselves as not in a steady relationship (68.7%, table 1), while 25.7% were in a steady cohabiting relationship. Of all those not in a steady relationship, only around one-quarter reported partnered sex since lockdown. This compares with almost three-quarters of those in a steady *non*-cohabiting relationship and 81.0% of those in a steady cohabiting relationship.

The reporting of partnered sex and relationship status was broadly similar by gender (online supplemental appendices 3a,b). However, although men were as likely as women to report partnered sex since lockdown, they were less likely to be in a steady relationship. There was greater variation by age (online

**Table 1** Cross-tabulation of experience of partnered sex by relationship status since lockdown

	Denominators (unweighted, weighted)*	Relationship status since lockdown							
		Not in a steady relationship		Steady non-cohabiting relationship		Steady cohabiting relationship		All	
		Row %	Column %	Row %	Column %	Row %	Column %	Row %	Column %
Experience of partnered sex									
No partnered sex ever	743, 762	78.6	25.4	3.3	5.5	18.2	3.6	100.0	11.5
Partnered sex ever but not since lockdown	1545, 1579	68.7	46.0	5.6	19.5	25.7	10.6	100.0	23.7
Partnered sex since lockdown	4073, 4012	14.5	24.4	8.1	71.7	77.5	81.0	100.0	60.3
Not known	293, 300	32.9	4.2	4.9	3.2	62.2	4.9	100.0	4.5
Total	6654, 6654	35.5	100.0	6.8	100.0	57.7	100.0	100.0	100.0
Denominators (unweighted, weighted)*		2383, 2359		494, 453		3777, 3842		6654, 6654	

Table created by the authors.

\*Denominators: all respondents.

supplemental appendices 3a,b). The proportion reporting never having partnered sex was highest among the young: around one-quarter of those aged under 25 years reducing to around 1 in 10 of those aged 25 years and older. Conversely, the proportion reporting partnered sex but not since lockdown was higher in older people (one in three of those 45–59 years vs one in six aged under 35 years). Among all participants, the proportion who reported partnered sex since lockdown with a steady cohabiting partner increased with age from one-quarter of those under 25 years to over half of those 25–44 years, but fell to just under half of those 45 years and older.

Of all participants, 86.7% reported some type of sexual activity during the first 4 months of lockdown (table 2), including over half of those reporting no partnered sex (either ever or since lockdown). Physical activities were more commonly reported than virtual activities (83.7% vs 52.6%). However, with decreasing relationship formality, partnered sex was less often reported while masturbation, sex toy use and virtual activities were more so.

The proportion reporting virtual activities since lockdown was largely driven by pornography use during this time, reported by 43.2% overall, but men were much more likely than women to do so (65.1% vs 21.1%, online supplemental appendices 4a,b). As with masturbation and sex toy use, pornography use declined with increasing relationship formality, but there was little difference in frequency by relationship status. Other virtual activities were less commonly reported at around one in five or fewer.

Figure 1 shows the extent and direction of perceived change in frequency of each physical and virtual sexual activity. Overall, just over half of participants perceived no change in their frequency of partnered physical activities but considerable differences exist by relationship status. Cohabiting participants were twice as likely as those not cohabiting to report no change. Among those who did report change, cohabittees were as likely to perceive increases as decreases in frequency, but those not cohabiting were far more likely to report decreases, especially those in steady relationships.

Of all participants, 61.1% reported no change in frequency of masturbation compared with pre-lockdown. However, among those who did, increases were more common than decreases (23.7% vs 15.3%), a pattern evident specifically for those reporting partnered sex and those not cohabiting. These patterns were also observed for sex toy use.

Whereas most participants reported no change in frequency of physical activities, the opposite was true for virtual activities: around two-thirds reported change with increases as likely as decreases (figure 1). Although the numbers reporting virtual activities were relatively small, it seems that changes—specifically declines—were more common among those reporting no partnered sex (either ever or since lockdown). Pornography use however was different: 59.3% reported no change and where change was reported then increases were almost twice as likely as decreases (26.5% vs 14.2%). Increases were most likely among participants reporting partnered sex since lockdown, and again, especially those not cohabiting.

The extent and direction of perceived change in sexual frequency overall (online supplemental appendix 8) were similar to what was observed for partnered physical sexual activities (figure 1)—at least for those reporting partnered sex since lockdown. Change was most likely to be perceived by those not cohabiting, for whom declines in frequency were far more common than increases. Of those reporting no partnered sex since lockdown, two-thirds perceived no change in (overall)

sexual frequency, but the remaining one-third all described this as a decline.

Perceptions of changes in sexual frequency were similar by gender but striking differences were observed by age. Younger people were far more likely to perceive change (60.7% of those 18–24 years reducing to 32.1% of those 45–59 years), and specifically declines (40.1% vs 25.4%, respectively). However, younger people were also more likely to perceive increases in frequency relative to older people (20.6% vs 6.7%, respectively).

Perceived changes in sexual satisfaction were less commonly reported overall than perceived changes in sexual frequency (36.9% vs 44.5%; online supplemental appendix 9). Participants were more likely to report ‘mostly negative’ than ‘mostly positive’ changes in their satisfaction (23.3% vs 14.0%). The proportion of those reporting partnered sex since lockdown who perceived ‘mostly negative’ changes increased with relationship informality from 16.5% of those cohabiting to 31.0% of those with no steady partner, which was as high as observed for those reporting no partnered sex since lockdown (32.7%). Only 2.5% of those reporting no partnered sex since lockdown perceived ‘mostly positive’ changes in satisfaction in contrast to around one in five of all those who reported partnered sex since lockdown, regardless of relationship status.

Men were slightly more likely to perceive change in sexual satisfaction than women and for this to be ‘mostly negative’. However, as with sexual frequency, larger differences in perceived satisfaction were observed by age, being largest among younger participants (57.4% of those 18–24 years vs 26.3% of those 45–59 years) and more likely to be ‘mostly negative’ (31.5% vs 18.8%, respectively).

In multivariable analyses (figure 2A,B), gender was independently associated with perceived changes in sexual satisfaction (but not frequency); men faring worse than women. For both outcomes, age was independently associated with perceiving change—and in either direction. Similarly, participants’ experience of partnered sex and relationship status since lockdown remained independently associated with both outcomes. Taking account of perceived change in frequency had little impact on these independent associations, although the magnitude of the adjusted ORs for perceiving ‘mostly negative’ change reduced for those not cohabiting (online supplemental appendix 9).

## DISCUSSION

Natsal-COVID suggests most people in Britain were sexually active following the initial national lockdown in March 2020. While reporting of physical partnered sex increased with relationship formality, non-partnered and virtual activities were more commonly reported by those not in steady relationships. Sexual activity at a population level appears largely unaffected by the COVID-19 restrictions, reflecting how most of the British population are in cohabiting relationships.<sup>2,3</sup> However, a substantial minority perceived sizeable changes following the initial lockdown. Declines in frequency were perceived most commonly by those not living with a partner but who reported partnered sex since lockdown. Declines in satisfaction were perceived most commonly by those with no steady partner but who reported sex since lockdown and those reporting no partnered sex since lockdown. Age was strongly and independently associated with perceived changes in sexual frequency and satisfaction, with younger people more likely to report both increases and decreases, suggesting influences independent of lockdown.

To our knowledge, this is the largest and most comprehensive study of sexual behaviour since the beginning of the COVID-19

**Table 2** Type and frequency of sexual activity reported since lockdown stratified by experience of partnered sex and relationship status

Reported partnered sex since lockdown	No		Yes			All % (CI)	P value
	Among those reporting never having partnered sex % (CI)	Among those reporting partnered sex ever but not since lockdown % (CI)	Among those not in a steady relationship % (CI)	Among those in a steady, non-cohabiting relationship % (CI)	Among those in a steady, cohabiting relationship % (CI)		
<b>% reporting any sexual activity</b>	53.8 (49.5 to 57.9)	65.4 (62.8 to 68.0)	100.0	100.0	100.0	86.7 (85.7 to 87.6)	<0.0001
<i>Denominators*</i>	639, 648	1487, 1518	620, 576	359, 325	3094, 3111	6199, 6178	
<b>Physical sexual activity since lockdown</b>							
<b>% reporting any physical sexual activity†</b>	42.0 (38.0 to 46.2)	58.3 (55.6 to 61.0)	100.0	100.0	100.0	83.7 (82.7 to 84.7)	<0.0001
<i>Denominators*</i>	642, 655	1458, 1489	620, 576	359, 325	3094, 3111	6173, 6156	
<b>% reporting any partnered sex‡</b>	0	0	100.0	100.0	100.0	63.2 (61.9 to 64.4)	<0.0001
<i>Denominators*</i>	762, 743	1579, 1545	576, 620	325, 359	3111, 3094	6354, 6361	
<b>% reporting any vaginal, oral, and/or anal sex</b>	0	0	91.7 (88.8 to 93.9)	97.4 (94.5 to 98.8)	97.7 (97.0 to 98.2)	61.7 (60.36 to 63.0)	<0.0001
<i>Denominators*</i>	687, 703	1545, 1579	618, 573	358, 325	3088, 3107	6296, 6287	
<b>Of those who did, frequency since lockdown</b>							
Less than weekly	–	–	53.2 (48.6 to 57.7)	47.1 (41.5 to 52.8)	40.7 (38.9 to 42.6)	42.9 (41.3 to 44.6)	<0.0001
At least once a week	–	–	46.8 (42.3 to 51.4)	52.9 (47.3 to 58.5)	59.3 (57.4 to 61.1)	57.1 (55.4 to 58.7)	
<i>Denominators§</i>	–	–	572, 526	349, 316	3017, 3035	3938, 3877	
<b>% reporting other contact with someone's genital area</b>	0	0	86.8 (83.4 to 89.5)	86.0 (81.4 to 89.5)	85.6 (84.2 to 86.9)	54.3 (52.9 to 55.6)	0.80
<i>Denominators*</i>	690, 708	1545, 1579	603, 558	357, 324	3041, 3055	6236, 6224	
<b>Of those who did, frequency since lockdown</b>							
Less than weekly	–	–	55.4 (50.6 to 60.1)	43.1 (37.3 to 49.1)	36.5 (34.6 to 38.5)	39.8 (38.0 to 41.5)	<0.0001
At least once a week	–	–	44.6 (39.9 to 49.4)	56.9 (50.9 to 62.7)	63.5 (61.5 to 65.4)	60.2 (58.5 to 62.0)	
<i>Denominators§</i>	–	–	528, 484	312, 278	2630, 2616	3470, 3378	
<b>% reporting masturbation</b>	39 (35.1 to 43.1)	56.9 (54.2 to 59.6)	77.5 (73.4 to 81.1)	69.0 (63.5 to 74.0)	57.1 (55.2 to 58.9)	57.4 (56.1 to 58.8)	<0.0001
<i>Denominators*</i>	673, 692	1460, 1491	595, 548	343, 310	3009, 3027	6080, 6068	
<b>Of those who did, frequency since lockdown</b>							
Less than weekly	29.4 (23.7 to 35.8)	29.1 (25.9 to 32.4)	28.0 (23.7 to 32.7)	39.9 (33.2 to 46.9)	36.7 (34.3 to 39.1)	33.4 (31.8 to 35.1)	<0.0001
At least once a week	70.6 (64.2 to 76.3)	70.9 (67.6 to 74.1)	72.0 (67.3 to 76.3)	60.2 (53.1 to 66.8)	63.3 (60.9 to 65.7)	66.6 (64.9 to 68.2)	
<i>Denominators§</i>	277, 270	883, 849	479, 425	239, 214	1790, 1727	3668, 3484	
<b>% reporting using sex toys (by yourself or with someone else)</b>	4.6 (3.3 to 6.4)	11.9 (10.3 to 13.7)	46.9 (42.6 to 51.4)	37.8 (32.5 to 43.5)	28.5 (26.8 to 30.2)	23.7 (22.6 to 24.8)	<0.0001
<i>Denominators*</i>	704, 724	1518, 1553	601, 554	349, 315	3050, 3072	6222, 6218	
<b>Of those who did, frequency since lockdown</b>							
Less than weekly	46.0 (29.9 to 62.9)	53.9 (46.6 to 61.2)	41.4 (35.3 to 47.8)	60.4 (51.1 to 69.0)	53.6 (50.2 to 57.1)	51.9 (49.2 to 54.6)	0.0030
At least once a week	54.0 (37.1 to 70.1)	46.1 (38.9 to 53.5)	58.6 (52.2 to 64.7)	39.6 (31.0 to 49.0)	46.4 (42.9 to 49.9)	48.1 (45.5 to 50.8)	
<i>Denominators§</i>	40, 33††	215, 185	300, 260	139, 119	943, 876	1637, 1473	
<b>Virtual sexual activities since lockdown</b>							
<b>% reporting any virtual sexual activity¶</b>	40.9 (37.0 to 45.0)	51.0 (48.3 to 53.7)	84.3 (80.8 to 87.2)	68.4 (63.0 to 73.4)	48.4 (46.5 to 50.3)	52.6 (51.2 to 53.9)	<0.0001
<i>Denominators*</i>	674, 690	1507, 1539	610, 565	356, 322	3045, 3063	6192, 6180	
<b>% reporting any virtual sexual activity excluding looking at pornography**</b>	19.4 (16.4 to 22.7)	25.6 (23.4 to 28.0)	73.7 (69.6 to 77.4)	54.5 (48.8 to 60.0)	21.0 (19.5 to 22.6)	28.5 (27.3 to 29.7)	<0.0001
<i>Denominators*</i>	687, 705	1527, 1561	613, 569	356, 322	3068, 3086	6251, 6243	
<b>% reporting messaging via dating apps/online</b>	16.1 (13.4 to 19.2)	21.6 (19.5 to 23.9)	59.7 (55.3 to 64.0)	38.4 (33.0 to 44.0)	13.7 (12.5 to 15.1)	21.4 (20.3 to 22.5)	<0.0001
<i>Denominators*</i>	702, 719	1537, 1571	608, 564	357, 323	3066, 3085	6270, 6262	
<b>Of those who did, frequency since lockdown</b>							
Less than weekly	53.8 (44.1 to 63.2)	41.1 (35.7 to 46.8)	28.4 (23.5 to 33.9)	19.6 (12.9 to 28.7)	27.9 (23.5 to 32.8)	32.9 (30.2 to 35.6)	<0.0001
At least once a week	46.2 (36.8 to 55.9)	58.9 (53.2 to 64.3)	71.6 (66.2 to 76.5)	80.4 (71.3 to 87.1)	72.1 (67.2 to 76.5)	67.2 (64.4 to 69.8)	
<i>Denominators§</i>	127, 115	367, 340	374, 337	140, 124	442, 424	1450, 1339	
<b>% reporting sexting (images or recorded videos)</b>	4.8 (3.4 to 6.8)	9.6 (8.2 to 11.2)	49.6 (45.2 to 53.9)	36.0 (30.8 to 41.5)	15.2 (13.9 to 16.6)	16.8 (15.8 to 17.8)	<0.0001
<i>Denominators*</i>	707, 726	1532, 1567	611, 568	357, 324	3080, 3099	6287, 6284	
<b>Of those who did, frequency since lockdown</b>							

Continued

Table 2 Continued

Reported partnered sex since lockdown	No		Yes			All % (CI)	P value
	Among those reporting never having partnered sex % (CI)	Among those reporting partnered sex ever but not since lockdown % (CI)	Among those not in a steady relationship % (CI)	Among those in a steady, non-cohabiting relationship % (CI)	Among those in a steady, cohabiting relationship % (CI)		
Sexual activity since lockdown							
Less than weekly	64.7 (47.5 to 78.8)	51.2 (42.9 to 59.5)	44.8 (38.7 to 51.1)	55.3 (45.9 to 64.3)	45.8 (41.1 to 50.6)	48.0 (44.8 to 51.2)	0.080
At least once a week	35.3 (21.2 to 52.5)	48.8 (40.5 to 57.1)	55.2 (48.9 to 61.3)	44.7 (35.7 to 54.1)	54.2 (49.4 to 58.9)	52.0 (48.8 to 55.2)	
Denominators§	41, 35††	169, 150	314, 281	131, 117	502, 472	1157, 1055	
% reporting using video or voice calls to interact with someone sexually	3.2 (2.0 to 5.1)	5.8 (4.7 to 7.2)	43.9 (39.6 to 48.3)	31.2 (26.2 to 36.7)	11.5 (10.3 to 12.7)	13.0 (12.2 to 14.0)	<0.0001
Denominators*	709, 728	1532, 1567	611, 565	356, 323	3076, 3094	6284, 6276	
Of those who did, frequency since lockdown							
Less than weekly	–	54.6 (43.7 to 65.0)	45.3 (38.6 to 52.2)	47.8 (37.9 to 58.0)	44.1 (38.7 to 49.7)	46.8 (43.1 to 50.5)	0.19
At least once a week	–	45.5 (35.0 to 56.4)	54.7 (47.8 to 61.4)	52.2 (42.0 to 62.2)	55.9 (50.3 to 61.3)	53.3 (49.5 to 56.9)	
Denominators§	21, 23††	92, 92	254, 248	108, 101	361, 355	836, 818	
% reporting looking at pornography	29.6 (26.0 to 33.4)	41.1 (38.5 to 43.7)	67.6 (63.3 to 71.6)	49.5 (43.9 to 55.1)	42.4 (40.5 to 44.3)	43.2 (41.9 to 44.6)	<0.0001
Denominators*	689, 707	1497, 1529	599, 553	352, 320	3048, 3067	6185, 6176	
Of those who did, frequency since lockdown							
Less than weekly	33.6 (26.8 to 41.1)	29.0 (25.4 to 32.9)	38.5 (33.4 to 44.0)	38.2 (30.6 to 46.4)	41.5 (38.7 to 44.4)	37.3 (35.4 to 39.3)	<0.0001
At least once a week	66.4 (58.9 to 73.3)	71.0 (67.1 to 74.6)	61.5 (56.0 to 66.6)	61.8 (53.7 to 69.4)	58.5 (55.6 to 61.3)	62.7 (60.7 to 64.6)	
Denominators§	207, 209	659, 628	411, 374	178, 159	1337, 1300	2792, 2669	
% reporting paying for online sexual services (eg, live streaming)	0.9 (0.4 to 1.9)	0.7 (0.4 to 1.3)	23.8 (20.2 to 27.9)	10.2 (7.2 to 14.3)	6.9 (6.0 to 8.0)	6.4 (5.7 to 7.0)	<0.0001
Denominators*	716, 736	1542, 1576	608, 563	357, 323	3079, 3097	6302, 6294	
Of those who did, frequency since lockdown							
Less than weekly	–	–	45.5 (36.3 to 55.0)	34.3 (19.8 to 52.3)	40.2 (33.4 to 47.5)	42.7 (37.5 to 48.0)	0.18
At least once a week	–	–	54.5 (45.0 to 63.7)	65.8 (47.7 to 80.2)	59.8 (52.5 to 66.7)	57.4 (52.0 to 62.6)	
Denominators§	7, 6††	12, 11††	131, 134	35, 33††	216, 215	401, 400	

Table created by the authors.

\*Denominators (unweighted, weighted): all respondents.

†Reported at least one of the following activities since lockdown: vaginal, anal or oral sex, other contact with someone's genital area, masturbating, using sex toys (by yourself or with someone else).

‡Reported at least one of the following partnered activities since lockdown: vaginal, anal or oral sex, other contact with someone's genital area.

§Denominators (unweighted, weighted): all respondents (who reported the activity in lockdown).

¶Reported at least one of the following since lockdown: messaging via dating apps/online, sexting (images or recorded videos), using video or voice calls to interact with someone sexually, looking at pornography, paying for online sexual services (eg, live streaming).

\*\*Reported at least one of the following since lockdown: Messaging via dating apps/online, sexting (images or recorded videos), using video or voice calls to interact with someone sexually, paying for online sexual services (eg, live streaming).

††Unweighted denominator <30 so estimates not shown due to small denominator.

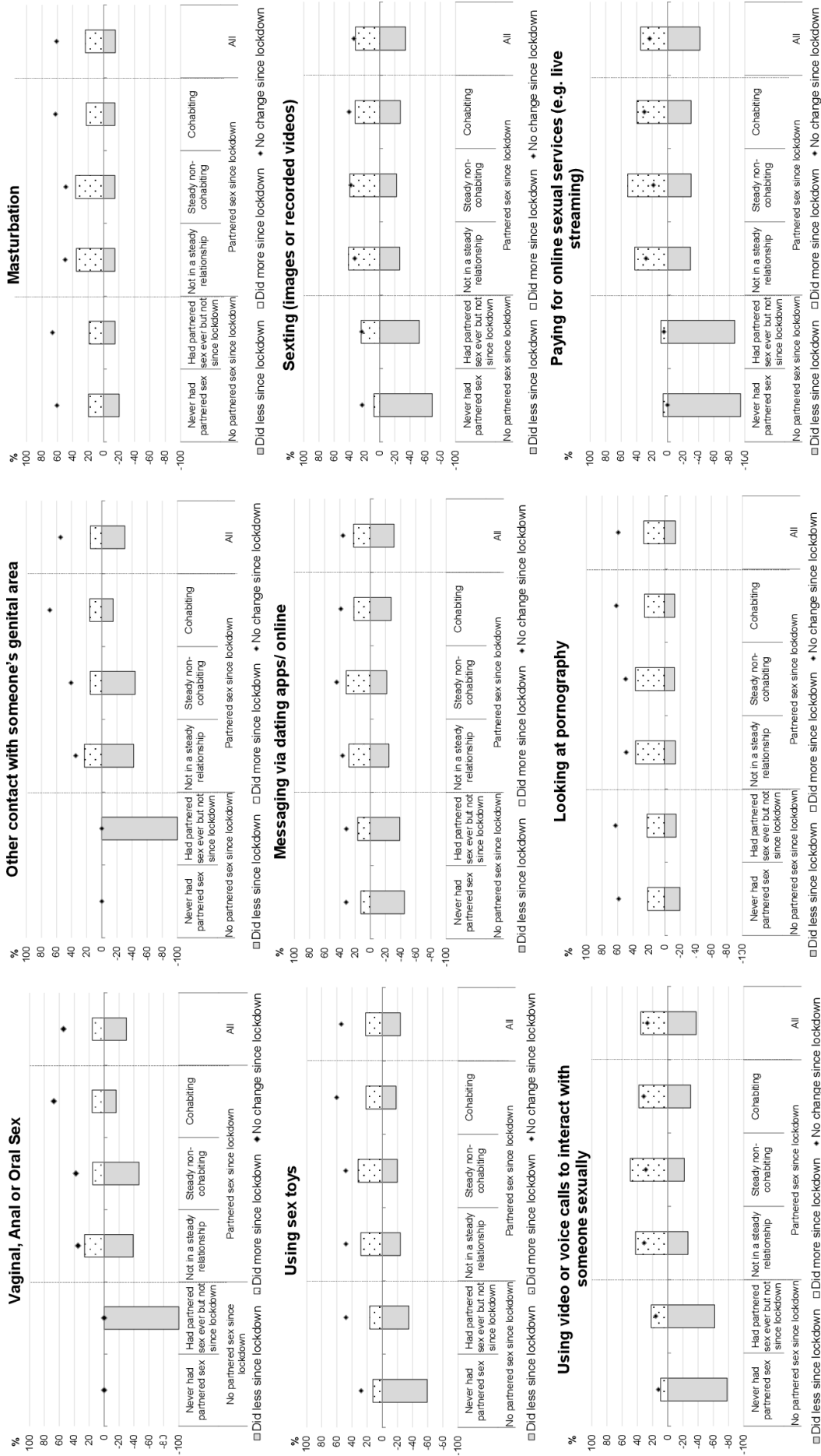
‡‡Unweighted denominator. Results should be interpreted with caution due to small denominator.

pandemic in Britain and one of the most comprehensive worldwide. Strengths include quasi-representative sampling using an established web panel, which has been shown to be more representative of the general population than convenience sampling.<sup>16</sup> However, this methodology has limitations. Estimates from online panels should be treated with caution given likely selection and response biases.<sup>17</sup> By using online methods, we excluded those without internet access, which in the UK in 2019 was 13% of those aged 16 years and over, and higher among those in lower social grades.<sup>18</sup> However, during the COVID-19 pandemic, 'gold standard' data collection, for example, probability sampling with in-person interviewing, was not possible due to physical distancing and rapid data collection requirements. Elsewhere,<sup>13</sup> we compared our sample with external data sources to assess measurable biases and found some differences in marital status, education level and health status. There is no contemporary external comparator for the sexual behaviour data, and previous research has shown that web panel estimates for sexual behaviour differ to those achieved through probability sampling.<sup>17</sup> Comparisons with Britain's last Natsal survey show that while the Natsal-COVID sample was less likely to report partnered sex ever, similarities exist in reported partner numbers and same-sex experience among those sexually active.<sup>13</sup> While

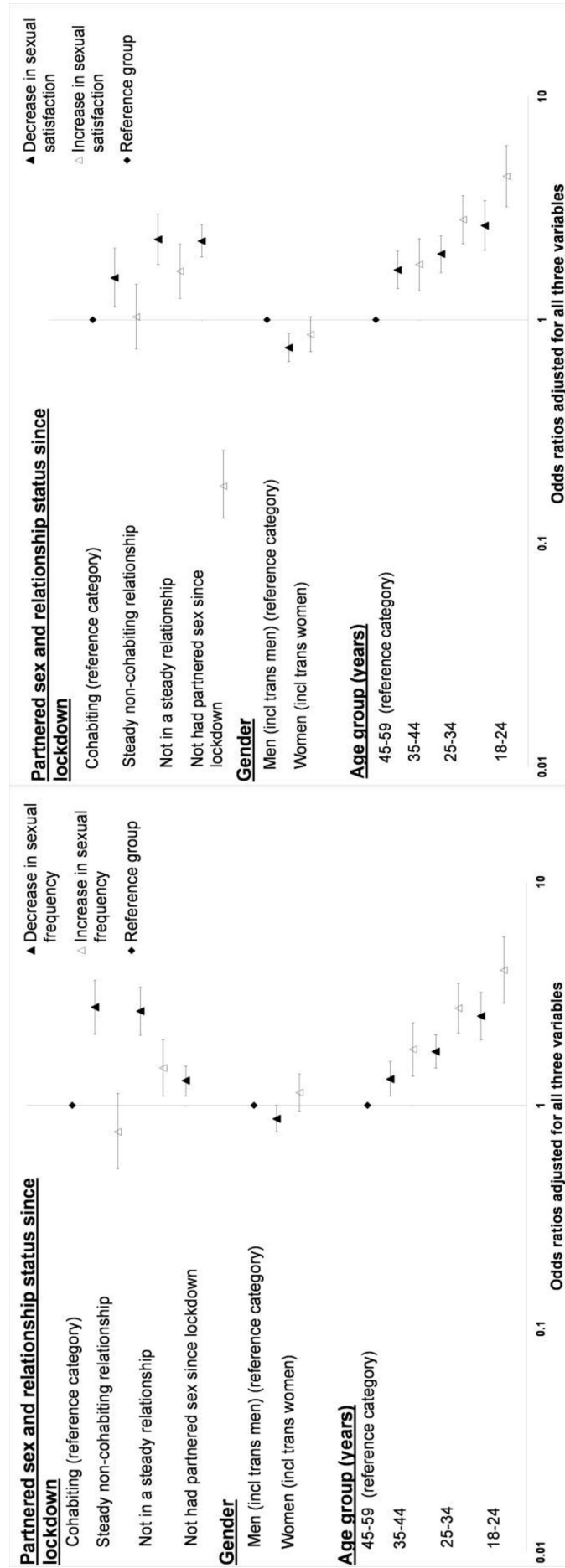
virtual sexual activities were less commonly reported than physical activities, it is plausible that using an online sample resulted in higher reporting of virtual activities—a hypothesis to be addressed by the next decennial survey, Natsal-4, which includes questions on both virtual and physical sexual activities.

The lack of pre-pandemic baseline data limited our ability to quantify change. Our findings on perceived change are subject to recall bias and social desirability bias, which may have been greater for activities prohibited in lockdown.<sup>19 20</sup> Our survey was fielded when restrictions were easing (online supplemental appendix 1), which may have affected participants' reporting, for example, possible greater willingness to report previously prohibited activities, or a more favourable take on changes to sex lives during lockdown.

Natsal-COVID sought to define sex broadly, and also change in overall sexual activity, but the lay perspective often considers sex as primarily partnered, and typically penetrative intercourse.<sup>21</sup> This seems to be how many in Natsal-COVID responded to the question on perceived change in frequency as the patterns observed mirrored those specifically for physical partnered activities among those reporting partnered sex. Therefore, while we sought to capture change in sexual activity overall, this may not have been how some participants answered it.



**Figure 1** Extent and direction of perceived change in frequency of partnered sexual activities compared to pre-lockdown, stratified by experience of partnered sex and relationship status since lockdown.



**Figure 2** Forest plots showing the adjusted odds ratios for perceiving a decrease and an increase (each relative to no change) in (A) sexual frequency compared to pre-lockdown, and (B) sexual satisfaction compared to pre-lockdown, according to partnered sex/relationship status, gender, and age-group.

Our results clearly show that changes in frequency were independently associated with both relationship status and age. Studies accounting for relationship status are rare but have generally shown, as we did, that not living with a partner was a key determinant of change; typically but not always a deterioration.<sup>22</sup> Others have reported that declines in frequency were common in young people,<sup>23</sup> which we show is not fully explained by relationship status: it seems lifestyle itself is important.

Our findings that only one-quarter of participants not in steady relationships reported partnered sex since lockdown, and among those that did, this was perceived as having declined, have important consequences for public health. Those not in steady relationships are most likely to have new and casual partners,<sup>24 25</sup> both key STI risk behaviours, so it follows that STI transmission may have reduced following the initial lockdown.<sup>26</sup> However, as restrictions ease, it is likely that there will be an uptick in partner change rates and therefore STI transmission and unintended pregnancy, with implications for the demand for sexual and reproductive health (SRH) services. Lockdown restrictions may have meant a delay to sexual debut for some young people. Coupled with lockdown limiting young people's access to relationship and sex education delivered through schools, community organisations and peer discussion, it is plausible that this cohort may be more vulnerable to adverse circumstances when they do experience sexual debut, with implications for their subsequent sexual well-being.<sup>27</sup>

We found that the majority of those with a steady but non-cohabiting partner reported partnered sex since lockdown despite this implying non-adherence to physical restrictions. This suggests that virtual partnered and non-partnered sexual activities, as activities unaffected by lockdown restrictions, were insufficient substitutes for intimacy among individuals living apart from their partner. While more commonly reported by those in non-cohabiting relationships, cohabiting participants did so too suggesting that virtual and non-partnered sexual activities may play both complementary and compensatory roles for some. The broadening of sexual repertoires, including through the adoption, or at least trial, of virtual activities experienced by some because of lockdown, further fuels the rapid technological and social changes underway prior to the pandemic, with technologically mediated ways of being sexually intimate expanding in scope and social acceptability. Indeed, studies are already reporting increases, for example, in live-cam streaming<sup>5</sup> and

pornography use,<sup>6 7</sup> and retail data are claiming increases since lockdown in sex toy sales.<sup>28</sup> The potential shift in sexual repertoires, specifically the balance between in-person and virtual sexual activities, also has implications for public health; the benefit of virtual activity in terms of reduced STI and pregnancy risk may be offset by detrimental impacts on sexual satisfaction and well-being. Sexual activity and the context in which this occurs therefore require monitoring through the pandemic and beyond to ascertain whether the observed changes simply represent a temporary adjustment to circumstances or are a longer term trend, especially for those disproportionately affected by poor SRH.

**Handling editor** Jason J Ong

**Twitter** Catherine H Mercer @NatsalStudy, Soazig Clifton @soazigclifton, Jo Gibbs @jogibbs76, Nigel Field @fienige and Kirstin R Mitchell @KMitchinGlasgow

**Contributors** Natsal is a collaboration between University College London (UCL), the London School of Hygiene and Tropical Medicine (LSHTM), the University of Glasgow, Örebro University Hospital, Sweden and NatCen Social Research. The paper was conceived by CHM, CT, KM, PS and NF. CHM wrote the first draft, with further contributions from all authors. Statistical analysis was done by JR with support from CHM, AC and ED. Data management was undertaken by JR. PS and CHM are principal investigators (PIs) on Natsal, and NF and KM are PIs on Natsal-COVID. All authors contributed to data interpretation, reviewed successive drafts and approved the final version of the manuscript. CHM is the paper's guarantor and accepts full responsibility for the work, had access to the data, and controlled the decision to publish.

**Funding** The Natsal Resource, which is supported by a grant from the Wellcome Trust (212931/Z/18/Z), with contributions from the Economic and Social Research Council (ESRC) and National Institute for Health Research (NIHR), supports the Natsal-COVID Study in addition to funding from the UCL COVID-19 Rapid Response Fund and the MRC/CSO Social and Public Health Sciences Unit (Core funding, MC\_UU\_00022/3; SPHSU18).

**Competing interests** None declared.

**Patient consent for publication** Not required.

**Ethics approval** Ethical approval was obtained from the University of Glasgow MVLS College (reference 20019174) and LSHTM Research Ethics Committees (reference 22565).

**Provenance and peer review** Not commissioned; externally peer reviewed.

**Data availability statement** The data are available from the UK Data Service (study number: 8865) alongside other datasets from Natsal.

**Open access** This is an open access article distributed in accordance with the Creative Commons Attribution 4.0 Unported (CC BY 4.0) license, which permits others to copy, redistribute, remix, transform and build upon this work for any purpose, provided the original work is properly cited, a link to the licence is given, and indication of whether changes were made. See: <https://creativecommons.org/licenses/by/4.0/>.

#### ORCID iDs

Catherine H Mercer <http://orcid.org/0000-0002-4220-5034>

Soazig Clifton <http://orcid.org/0000-0002-4171-0805>

Julie Riddell <http://orcid.org/0000-0002-8084-4566>

Clare Tanton <http://orcid.org/0000-0002-4612-1858>

Andrew J Copas <http://orcid.org/0000-0001-8968-5963>

Emily Dema <http://orcid.org/0000-0002-7254-2023>

Raquel Bosó Pérez <http://orcid.org/0000-0001-7342-4566>

Jo Gibbs <http://orcid.org/0000-0001-5696-0260>

Wendy Macdowall <http://orcid.org/0000-0001-5868-8336>

Dee Menezes <http://orcid.org/0000-0002-1628-1228>

Mary-Clare Ridge <http://orcid.org/0000-0001-9621-4529>

Chris Bonell <http://orcid.org/0000-0002-6253-6498>

Pam Sonnenberg <http://orcid.org/0000-0002-1067-1583>

Nigel Field <http://orcid.org/0000-0002-2825-6652>

Kirstin R Mitchell <http://orcid.org/0000-0002-4409-6601>

#### REFERENCES

- 1 Prime Minister's Office. Prime Minister's statement on coronavirus (COVID-19): 10 June 2020. GOV.UK. Available: <https://www.gov.uk/government/speeches/pm-statement-at-the-coronavirus-press-conference-10-june-2020> [Accessed 4 May 2021].

#### Key messages

- ▶ Many studies investigating the effects of COVID-19 on sexual behaviour have used small, clinic-based and/or convenience samples which are not representative of the general population.
- ▶ Natsal-COVID involved a large (N=6654) web panel survey with quota sampling and statistical weighting of the data, making the findings quasi-representative of the British general population.
- ▶ Most people reported some form of sex in the 4 months following lockdown, with only a minority perceiving changes, usually declines, in sexual frequency and/or satisfaction.
- ▶ Inequalities were observed in perceiving changes, with implications for the demand for, and provision of, sexual and reproductive health services, and tracking trends therein.



- 2 Curtis TJ, Field N, Clifton S, *et al.* Household structure and its association with sexual risk behaviours and sexual health outcomes: evidence from a British probability sample survey. *BMJ Open* 2018;8:e024255.
- 3 Mercer CH, Tanton C, Prah P, *et al.* Changes in sexual attitudes and lifestyles in Britain through the life course and over time: findings from the National surveys of sexual attitudes and lifestyles (Natsal). *The Lancet* 2013;382:1781–94.
- 4 Lehmiller JJ, Garcia JR, Gesselman AN, *et al.* Less sex, but more sexual diversity: changes in sexual behavior during the COVID-19 coronavirus pandemic. *Leisure Sciences* 2021;43:295–304.
- 5 Hensel DJ, Rosenberg M, Luetke M, *et al.* Changes in solo and Partnered sexual behaviors during the COVID-19 pandemic: findings from a U.S. probability survey. *medRxiv*.
- 6 Li G, Tang D, Song B, *et al.* Impact of the COVID-19 pandemic on partner relationships and sexual and reproductive health: cross-sectional, online survey study. *J Med Internet Res* 2020;22:e20961.
- 7 Pornhub. Coronavirus insights – Pornhub insights. Available: <https://www.pornhub.com/insights/corona-virus> [Accessed 20 May 2021].
- 8 Jarvis CI, Van Zandvoort K, Gimma A, *et al.* Quantifying the impact of physical distance measures on the transmission of COVID-19 in the UK. *BMC Med* 2020;18:124.
- 9 Mitchell KR, Shimonovich M, Boso Perez R. The early impact of COVID-19 on sex life and relationship quality in steady relationships in Britain: Quasi-representative national web-panel survey. *Journal of Sex Research Submitt* 2021 [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3862586](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3862586)
- 10 Rosenberg M, Luetke M, Hensel D, *et al.* Depression and Loneliness during April 2020 COVID-19 restrictions in the United States, and their associations with frequency of social and sexual connections. *Soc Psychiatry Psychiatr Epidemiol* 2021;56:1221–32.
- 11 Aral SO. Sexual risk behaviour and infection: epidemiological considerations. *Sex Transm Infect* 2004;80(Suppl 2):ii8–12.
- 12 Bongaarts J. The proximate determinants of fertility. *Technol Soc* 1987;9:243–60.
- 13 Dema E, Copas AJ, Clifton S, *et al.* Methodology of Natsal-COVID wave 1: a large, quasi-representative survey with qualitative follow-up measuring the impact of COVID-19 on sexual and reproductive health in Britain. *Wellcome Open Res* 2021;6:209 <https://wellcomeopenresearch.org/articles/6-209>
- 14 Blanchflower DG, Oswald AJ. Money, sex and happiness: an empirical study. *Scand J Econ* 2004;106:393–415.
- 15 Muise A, Schimmack U, Impett EA. Sexual frequency predicts greater well-being, but more is not always better. *Soc Psychol Personal Sci* 2016;7:295–302.
- 16 Lehdonvirta V, Oksanen A, Räsänen P. Social media, web, and panel surveys: using Non-Probability samples in social and policy research. social science research network, 2020. Available: <https://papers.ssrn.com/abstract=3567823> [Accessed 20 May 2021].
- 17 Erens B, Phelps A, Clifton S, *et al.* Methodology of the third British national survey of sexual attitudes and lifestyles (Natsal-3). *Sex Transm Infect* 2014;90:84–9.
- 18 Online Nation. Ofcom, 2021. Available: <https://www.ofcom.org.uk/research-and-data/internet-and-on-demand-research/online-nation> [Accessed 20 May 2021].
- 19 Hipp L, Bünning M, Munnes S, *et al.* Problems and pitfalls of retrospective survey questions in COVID-19 studies. *Surv Res Methods* 2020;14:109–14.
- 20 Sonnenberg P, Menezes D, Freeman L, *et al.* Intimate physical contact between people from different households during the COVID-19 pandemic: a mixed-methods study from a large, quasi-representative survey (Natsal-COVID). *SSRN Electronic Journal* 2021;5.
- 21 Sanders SA, Reinisch JM. Would you say you “had sex” if? *JAMA* 1999;281:275–7.
- 22 Coombe J, Kong FYS, Bittleston H, *et al.* Love during lockdown: findings from an online survey examining the impact of COVID-19 on the sexual health of people living in Australia. *Sex Transm Infect* 2021;97:357–62.
- 23 Wignall L, Portch E, McCormack M, *et al.* Changes in sexual desire and behaviors among UK young adults during social Lockdown due to COVID-19. *J Sex Res* 2021;58:976–85.
- 24 Mercer CH, Aicken CRH, Brook MG, *et al.* Estimating the likely public health impact of partner notification for a clinical service: an evidence-based algorithm. *Am J Public Health* 2011;101:2117–23.
- 25 Mercer CH, Prah P, Field N, *et al.* The health and well-being of men who have sex with men (MSM) in Britain: evidence from the third national survey of sexual attitudes and lifestyles (Natsal-3). *BMC Public Health* 2016;16:525.
- 26 Dema E, Gibbs J, Clifton S, *et al.* Initial impacts of COVID-19 on risk behaviour, sexual and reproductive health service use and unmet need in Britain: findings from a large, quasi-representative survey (Natsal-COVID). *Lancet Public Health*.
- 27 Palmer MJ, Clarke L, Ploubidis GB, *et al.* Is “Sexual Competence” at First Heterosexual Intercourse Associated With Subsequent Sexual Health Status? *J Sex Res* 2017;54:91–104.
- 28 Lee BY. Sex toy sales are buzzing with social distancing from COVID-19 coronavirus. Forbes. Available: <https://www.forbes.com/sites/brucelee/2020/04/26/sex-toys-are-buzzing-with-social-distancing-from-covid-19-coronavirus/> [Accessed 20 May 2021].

**Online supplementary appendices:**

Appendix 1: Timeline of Natsal-COVID study and COVID-19 restrictions in Britain.

Appendix 2: Flowchart of the sample distribution according to experience of partnered sex and relationship status since lockdown.

Appendix 3a: Distribution of experience of partnered sex and relationship status since lockdown stratified by age-group: Men.

Appendix 3b: Distribution of experience of partnered sex and relationship status since lockdown stratified by age-group: Women.

Appendix 4a: Type and frequency of sexual activity reported since lockdown stratified by experience of partnered sex and relationship status since lockdown: Men.

Appendix 4b: Type and frequency of sexual activity reported since lockdown stratified by experience of partnered sex and relationship status since lockdown: Women.

Appendix 5a: Type and frequency of sexual activity reported since lockdown stratified by experience of partnered sex and relationship status since lockdown: Age-group 18-24 years.

Appendix 5b: Type and frequency of sexual activity reported since lockdown stratified by experience of partnered sex and relationship status since lockdown: Age-group 25-34 years.

Appendix 5c: Type and frequency of sexual activity reported since lockdown stratified by experience of partnered sex and relationship status since lockdown: Age-group 35-44 years.

Appendix 5d: Type and frequency of sexual activity reported since lockdown stratified by experience of partnered sex and relationship status since lockdown: Age-group 45-59 years.

Appendix 6a: Extent and direction of perceived change in frequency of particular physical and virtual sexual activities compared to pre-lockdown, stratified by experience of partnered sex and relationship status since lockdown: Men.

Appendix 6b: Extent and direction of perceived change in frequency of particular physical and virtual sexual activities compared to pre-lockdown, stratified by experience of partnered sex and relationship status since lockdown: Women

Appendix 7a: Extent and direction of perceived change in frequency of particular physical and virtual sexual activities compared to pre-lockdown, stratified by experience of partnered sex and relationship status since lockdown: Age-group 18-24 years.

Appendix 7b: Extent and direction of perceived change in frequency of particular physical and virtual sexual activities compared to pre-lockdown, stratified by experience of partnered sex and relationship status since lockdown: Age-group 25-34 years.

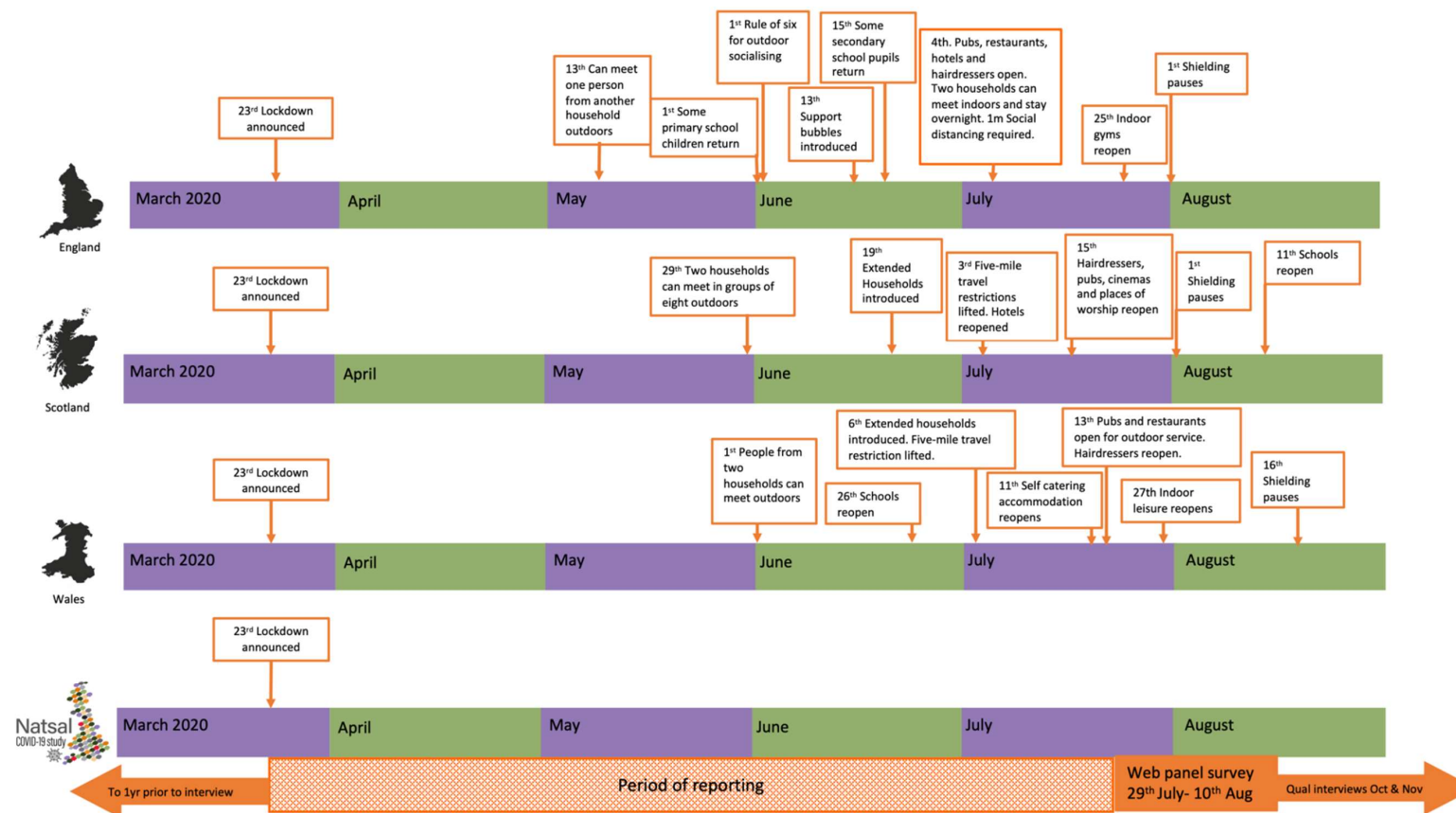
Appendix 7c: Extent and direction of perceived change in frequency of particular physical and virtual sexual activities compared to pre-lockdown, stratified by experience of partnered sex and relationship status since lockdown: Age-group 35-44 years.

Appendix 7d: Extent and direction of perceived change in frequency of particular physical and virtual sexual activities compared to pre-lockdown, stratified by experience of partnered sex and relationship status since lockdown: Age-group 45-59 years.

Appendix 8: Percentages, crude and adjusted odds ratios (OR) for perceiving a decrease and an increase (each relative to no change) in sexual frequency compared to pre-lockdown, according to experience of partnered sex/relationship status since lockdown, gender, and age-group

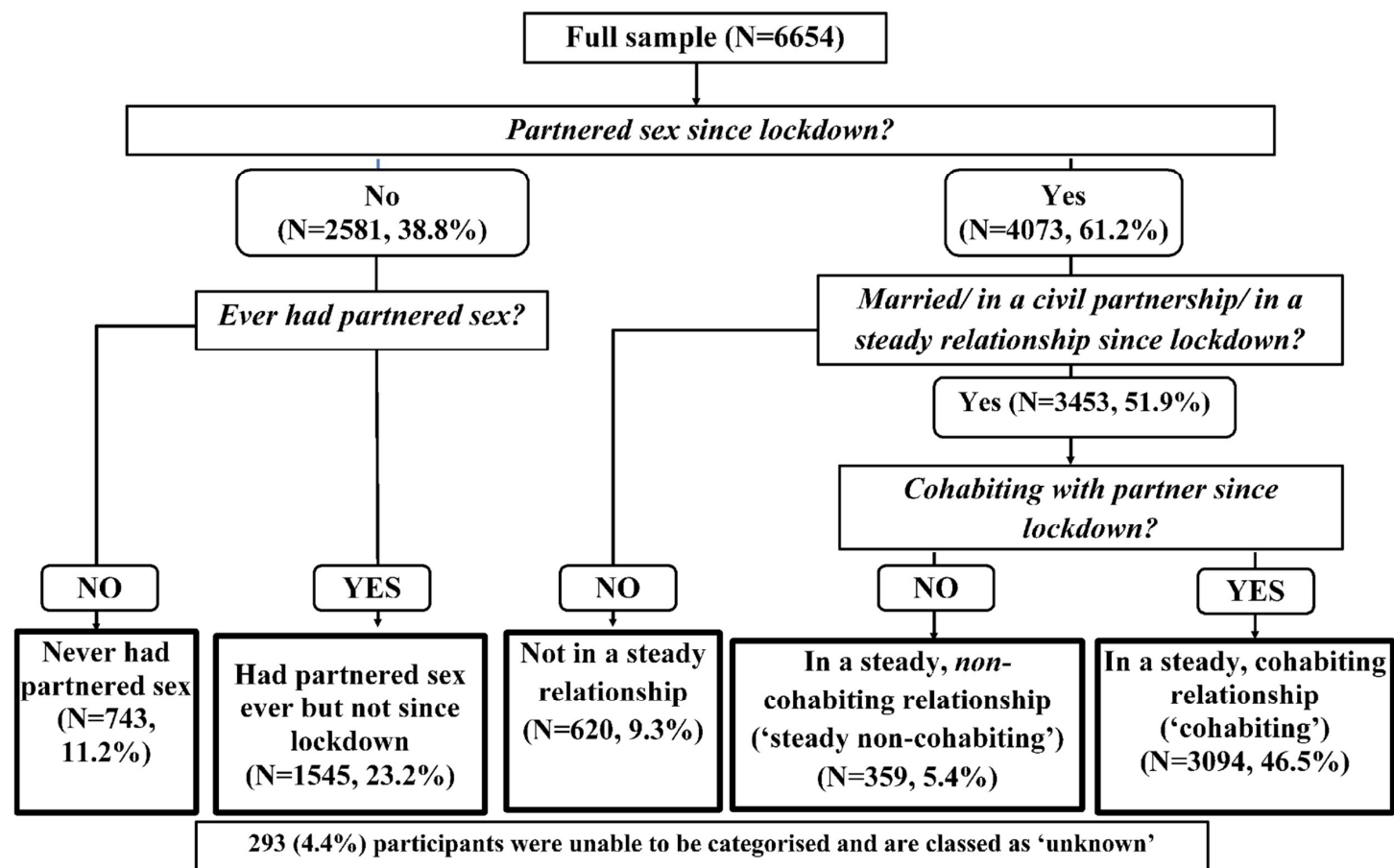
Appendix 9: Percentages, crude and adjusted odds ratios for perceiving a decrease and an increase (each relative to no change) in sexual satisfaction compared to pre-lockdown, according to experience of partnered sex/relationship status, gender, and age-group

## Appendix 1: Timeline of Natsal-COVID study and COVID-19 restrictions in Britain



Created by the authors by adapting a figure created by Dr Caisey Pulford, Senior Surveillance and Prevention Scientist at Public Health England, who provided permission for the authors to do so. All others figures and tables created by the authors.

Appendix 2: Flowchart of the sample distribution according to participants' experience of partnered sex and relationship status since lockdown



N=unweighted count. %= unweighted percentage

## Appendix 3a: Experience of partnered sex by relationship status since lockdown stratified by age-group: Men ∞

		Age-group					p-value
		18-24	25-34	35-44	45-59	All	
No partnered sex since lockdown	No partner sex ever % (CI)	27.9 (23.2 - 33.1)	6.9 (5.1 - 9.2)	7.6 (5.7 - 10.1)	9.7 (8.1 - 11.6)	11.0 (9.8 - 12.3)	<0.001
	Partnered sex ever but not since lockdown % (CI)	13.0 (9.8 - 17.1)	18.1 (15.3 - 21.3)	21.4 (18.3 - 24.8)	36.9 (34.1 - 39.8)	25.1 (23.5 - 26.7)	
Had partnered sex since lockdown	Not in a steady relationship % (CI)	24.7 (20.3 - 29.7)	14.7 (12.2 - 17.6)	8.5 (6.6 - 11.0)	5.3 (4.1 - 6.8)	11.2 (10.0 - 12.4)	
	In a steady non-cohabiting relationship % (CI)	9.1 (6.5 - 12.7)	5.5 (4.1 - 7.5)	3.1 (2.0 - 4.7)	2.8 (2.0 - 4.0)	4.5 (3.7 - 5.3)	
	In a steady cohabiting relationship % (CI)	25.3 (20.8 - 30.3)	54.9 (51.0 - 58.6)	59.4 (55.5 - 63.2)	45.3 (42.4 - 48.2)	48.4 (46.5 - 50.2)	
All		100.0	100.0	100.0	100.0	100.0	
<i>Denominators (unweighted, weighted) †</i>		<i>401, 450</i>	<i>775, 844</i>	<i>737, 789</i>	<i>1275, 1226</i>	<i>3187, 3310</i>	

## Appendix 3b: Experience of partnered sex by relationship status since lockdown stratified by age-group: Women ∞

		Age-group					p-value
		18-24	25-34	35-44	45-59	All	
No partnered sex since lockdown	No partner sex ever % (CI)	26.8 (23.0 - 31.1)	10.0 (8.2 - 12.3)	10.9 (8.6 - 13.6)	11.8 (9.8 - 14.2)	12.9 (11.7 - 14.2)	<0.001
	Partnered sex ever but not since lockdown % (CI)	19.4 (16.1 - 23.2)	14.0 (12.2 - 35.0)	21.6 (18.6 - 24.9)	36.8 (33.6 - 40.1)	24.7 (23.1 - 26.3)	
Had partnered sex since lockdown	Not in a steady relationship % (CI)	15.6 (12.6 - 19.3)	9.9 (8.1 - 12.1)	5.1 (3.7 - 7.1)	2.8 (1.9 - 4.2)	6.9 (6.1 - 7.8)	
	In a steady non-cohabiting relationship % (CI)	13.6 (10.9 - 16.8)	7.7 (6.1 - 9.5)	3.6 (2.4 - 5.4)	3.3 (2.3 - 4.7)	5.8 (5.0 - 6.7)	
	In a steady cohabiting relationship % (CI)	24.6 (21.0 - 28.5)	58.3 (55.1 - 61.5)	58.9 (55.0 - 62.6)	45.3 (42.0 - 48.6)	49.7 (47.9 - 51.6)	
All		100.0	100.0	100.0	100.0	100.0	
<i>Denominators (unweighted, weighted) †</i>		<i>596, 399</i>	<i>1147, 917</i>	<i>735, 813</i>	<i>965, 1190</i>	<i>3443, 3320</i>	

CI=confidence intervals.

† Denominator: All men/women (including trans men/women)

∞ 24 participants who identified “in another way” are included in data presented for all participants but excluded from “Men” and “Women”. Trans men and trans women are included in data for men and women, respectively.

**Appendix 4a: Type and frequency of sexual activity reported since lockdown stratified by experience of partnered sex and relationship status since lockdown: Men**

Reported partnered sex since lockdown	No		Yes			All	p-value
	Among those reporting never having had partnered sex % (CI)	Among those reporting partnered sex ever but not since lockdown % (CI)	Among those not in a steady relationship % (CI)	Among those in a steady non-cohabiting relationship % (CI)	Among those in a steady cohabiting relationship % (CI)		
<b>Sexual activity since lockdown</b>							
% reporting any sexual activity*	72.5 (66.6 - 77.6)	80.3 (77.0 - 83.1)	100	100	100	92.4 (91.3 - 93.4)	<0.0001
<i>Denominator (unwgt, wgt)</i>	286, 308	750, 765	359, 356	138, 142	1476, 1541	3009, 3112	
<b>Physical sexual activities since lockdown†</b>							
% reporting any physical sexual activity*	61.3 (55.1 - 67.1)	74.7 (71.2 - 77.9)	100	100	100	90 (88.8 - 91.1)	<0.0001
<i>Denominator (unwgt, wgt)</i>	286, 309	733, 744	359, 356	138, 142	1476, 1541	2992, 3093	
% reporting any vaginal, oral, and/or anal sex*	0	0	90.4 (86.4 - 93.4)	96.6 (90.1 - 98.9)	98.3 (97.5 - 98.9)	62.3 (60.4 - 64.1)	<0.0001
<i>Denominator (unwgt, wgt)</i>	301, 331	782, 799	357, 354	138, 142	1473, 1538	3051, 3163	
Of those who did, frequency since lockdown**:							
Less than weekly	..	..	48.6 (42.6 - 54.6)	50.2 (41.3 - 59.0)	41.5 (38.8 - 44.2)	43.3 (40.9 - 45.6)	0.030
At least once a week	..	..	51.5 (45.4 - 57.4)	49.8 (41.0 - 58.7)	58.5 (55.8 - 61.2)	56.8 (54.4 - 59.1)	
<i>Denominator (unwgt, wgt)</i>	..	..	325, 320	134, 137	1443, 1512	1902, 1969	
% reporting other contact with someone's genital area*	0	0	90.2 (85.9 - 93.3)	86.3 (79.3 - 91.2)	87.3 (85.4 - 89.0)	56.2 (54.3 - 58.1)	0.36
<i>Denominator (unwgt, wgt)</i>	303, 332	782, 799	349, 346	138, 142	1459, 1524	3031, 3142	
Of those who did, frequency since lockdown**:							
Less than weekly	..	..	52.2 (46.1 - 58.2)	45.9 (36.6 - 55.5)	36.9 (34.2 - 39.8)	40.2 (37.8 - 42.8)	<0.0001
At least once a week	..	..	47.8 (41.8 - 53.9)	54.1 (44.6 - 63.4)	63.1 (60.2 - 65.8)	59.8 (57.3 - 62.2)	
<i>Denominator (unwgt, wgt)</i>	..	..	318, 312	119, 123	1280, 1331	1717, 1765	
% reporting masturbation*	59.4 (53.3 - 65.3)	74.4 (70.8 - 77.6)	84.5 (79.6 - 88.4)	78.7 (70.7 - 85.0)	71.4 (68.8 - 73.8)	72.7 (70.9 - 74.4)	<0.0001
<i>Denominator (unwgt, wgt)</i>	292, 316	734, 746	347, 342	136, 140	1433, 1495	2942, 3039	
Of those who did, frequency since lockdown**:							
Less than weekly	23.5 (17.1 - 31.2)	15.9 (13.0 - 19.4)	22.1 (17.2 - 27.8)	27.5 (19.3 - 37.7)	27.0 (24.2 - 29.9)	23.3 (21.4 - 25.3)	<0.0001
At least once a week	76.6 (68.8,82.9)	84.1 (80.6,87.0)	78.0 (72.2,82.8)	72.5 (62.3,80.7)	73.0 (70.1,75.8)	76.7 (74.7,78.6)	
<i>Denominator (unwgt, wgt)</i>	179, 188	557, 555	302, 289	108, 110	1047, 1068	2193, 2209	
% reporting using sex toys (by yourself or with someone else)*	3.2 (1.8 - 5.5)	5.5 (4.0 - 7.5)	46.1 (40.3 - 51.9)	33.8 (25.9 - 42.7)	29.9 (27.4 - 32.4)	22.8 (21.3 - 24.4)	<0.0001
<i>Denominator (unwgt, wgt)</i>	306, 335	776, 792	348, 344	137, 141	1457, 1523	3024, 3134	
Of those who did, frequency since lockdown**:							
Less than weekly	..	54.4 (38.3 - 69.6)	41.4 (33.4 - 50.0)	57.0 (41.4 - 71.3)	49.1 (44.1 - 54.1)	47.9 (44.0 - 51.9)	0.21
At least once a week	..	45.6 (30.4 - 61.7)	58.6 (50.0 - 66.6)	43.0 (28.7 - 58.6)	50.9 (46.0 - 55.9)	52.1 (48.1 - 56.0)	
<i>Denominator (unwgt, wgt)</i>	16, 11#	51, 43	167, 158	48,48**	451, 455	733, 715	
<b>Virtual sexual activities since lockdown</b>							

<b>% reporting any virtual sexual activity†*</b>	58.5 (52.3 - 64.5)	71.6 (68.1 - 74.9)	91.9 (88.0 - 94.6)	75.4 (67.1 - 82.1)	67.8 (65.2 - 70.3)	70.9 (69.1 - 72.6)	<0.0001
<i>Denominator (unwgt, wgt)</i>	287, 311,	759, 774	353, 349	137, 141	1448, 1513	2984, 3088	
<b>% reporting virtual sexual activity excluding looking at pornography††*</b>	19.0 (14.6 - 24.4)	27.8 (24.5 - 31.3)	80.4 (75.4 - 84.6)	58.6 (49.8 - 66.9)	27.6 (25.2 - 30.1)	34.1 (32.3 - 35.9)	<0.0001
<i>Denominator (unwgt, wgt)</i>	297, 324	776, 792	354, 351	137, 141	1466, 1531	3030, 3138	
<b>% reporting messaging via dating apps/online*</b>	16.2 (12.1 - 21.3)	24.1 (21.0 - 27.5)	66.9 (61.2 - 72.1)	40.2 (31.9 - 49.2)	19.2 (17.1 - 21.5)	26.4 (24.7 - 28.1)	<0.0001
<i>Denominator (unwgt, wgt)</i>	304, 331	779, 795	351, 348	137, 141	1459, 1526	3030, 3141	
Of those who did, frequency since lockdown**:							
Less than weekly	57.4 (42.0 - 71.5)	44.2 (36.6 - 52.1)	27.2 (21.4 - 34.0)	20.3 (11.1 - 34.3)	27.9 (22.5 - 33.9)	32.9 (29.4 - 36.5)	<0.0001
At least once a week	42.6 (28.5 - 58.0)	55.8 (47.9 - 63.4)	72.8 (66.0 - 78.6)	79.7 (65.8 - 88.9)	72.1 (66.1 - 77.5)	67.1 (63.5 - 70.6)	
<i>Denominator (unwgt, wgt)</i>	50, 54	188, 192	244, 233	53, 57	290, 293	825, 828	
<b>% reporting sexting (images or recorded videos)*</b>	4.5 (2.6 - 7.8)	10.6 (8.5 - 13.1)	56.9 (51.1 - 62.5)	40.1 (31.7 - 49.1)	20.7 (18.6 - 23.0)	21.4 (19.8 - 23.0)	<0.0001
<i>Denominator (unwgt, wgt)</i>	303, 331	780, 796	355, 352	137, 142	1468, 1535	3155, 3043	
Of those who did, frequency since lockdown**:							
Less than weekly	..	51.2 (39.9 - 62.4)	45.0 (37.5 - 52.7)	61.7 (47.1 - 74.5)	42.7 (36.9 - 48.7)	46.4 (42.3 - 50.6)	0-10
At least once a week	..	48.8 (37.6 - 60.1)	55.1 (47.4 - 62.5)	38.3 (25.5 - 52.9)	57.3 (51.3 - 63.1)	53.6 (49.4 - 57.7)	
<i>Denominator (unwgt, wgt)</i>	6, 15 #	93, 84	207, 200	53, 57	314, 318	683, 674	
<b>% reporting using video or voice calls to interact with someone sexually*</b>	3.3 (1.6 - 6.7)	6.8 (5.1 - 9.0)	53.8 (48.1 - 59.5)	39.5 (31.2 - 48.5)	16.1 (14.2 - 18.2)	17.6 (16.2 - 19.2)	<0.0001
<i>Denominator (unwgt, wgt)</i>	305, 334	778, 794	353, 349	138, 142	1465, 1531	3039, 3150	
Of those who did, frequency since lockdown**:							
Less than weekly	..	50.8 (36.4 - 65.2)	43.2 (35.5 - 51.2)	48.5 (34.5 - 62.8)	43.0 (36.5 - 49.8)	45.1 (40.6 - 49.7)	0-21
At least once a week	..	49.2 (34.8 - 63.6)	56.8 (48.8 - 64.5)	51.5 (37.2 - 65.6)	57.0 (50.2 - 63.6)	54.9 (50.3 - 59.4)	
<i>Denominator (unwgt, wgt)</i>	9, 11 #	50, 54	186, 188	51, 56	237, 247	533, 555	
<b>% reporting looking at pornography*</b>	50.1 (43.9 - 56.2)	67.1 (63.5 - 70.6)	81.2 (76.2 - 85.4)	67.5 (58.8 - 75.2)	63.4 (60.7 - 66.0)	65.1 (63.3 - 66.9)	<0.0001
<i>Denominator (unwgt, wgt)</i>	294, 319	750, 763	348, 345	136, 140	1445, 1510	2973, 3076	
Of those who did, frequency since lockdown**:							
Less than weekly	29.5 (22.0 - 38.2)	22.0 (18.4 - 26.0)	32.6 (26.8 - 39.1)	24.1 (16.1 - 34.5)	33.3 (30.1 - 36.6)	29.6 (27.4 - 31.8)	<0.0001
At least once a week	70.5 (61.8 - 78.0)	78.0 (74.0 - 81.6)	67.4 (60.9 - 73.2)	75.9 (65.6 - 83.9)	66.7 (63.4 - 69.9)	70.4 (68.2 - 72.6)	
<i>Denominator (unwgt, wgt)</i>	151, 160	511, 512	286, 281	93, 94	938, 957	1979, 2003	
<b>% reporting paying for online sexual services (e.g. live streaming)*</b>	1.3 (0.5 - 3.4)	1.1 (0.5 - 2.2)	32.7 (27.4 - 38.4)	16.4 (10.7 - 24.4)	11.2 (9.6 - 13.1)	10.2 (9.1 - 11.4)	<0.0001
<i>Denominator (unwgt, wgt)</i>	309, 338	780, 796	352, 350	137, 141	1466, 1531	3044, 3155	
Of those who did, frequency since lockdown**:							
Less than weekly	..	..	47.2 (37.0 - 57.6)	..	40.0 (32.2 - 48.2)	42.9 (37.0 - 49.0)	0-11
At least once a week	..	..	52.8 (42.4 - 63.0)	..	60.0 (51.8 - 67.8)	57.1 (51.0 - 63.0)	
<i>Denominator (unwgt, wgt)</i>	5, 5 #	8, 8 #	106, 114	22, 23 #	163, 172	304, 322	



CI=confidence intervals

\* Denominator: All respondents

\*\* Denominator: All respondents who reported the activity in lockdown

† Reported at least one of the following since lockdown: vaginal, anal or oral sex, other contact with someone's genital area, masturbating, using sex toys (by yourself or with someone else)

†† Reported at least one of the following since lockdown: messaging via dating apps/online, sexting (images or recorded videos), using video or voice calls to interact with someone sexually, looking at pornography, paying for online sexual services (e.g. live streaming)

††† Reported at least one of the following since lockdown: messaging via dating apps/online, sexting (images or recorded videos), using video or voice calls to interact with someone sexually, paying for online sexual services (e.g. live streaming)

# Unweighted denominator <30. Results not shown due to small denominator

**Appendix 4b: Type and frequency of sexual activity reported since lockdown stratified by experience of partnered sex and relationship status since lockdown: Women<sup>o</sup>**

Reported partnered sex since lockdown	No		Yes			All	p-value
	Among those reporting never having had partnered sex % (CI)	Among those reporting partnered sex ever but not since lockdown % (CI)	Among those not in a steady relationship % (CI)	Among those in a steady non-cohabiting relationship % (CI)	Among those in a steady cohabiting relationship % (CI)		
<b>Sexual activity since lockdown</b>							
% reporting any sexual activity*	36.1 (30.8 - 41.7)	50.0 (46.1 - 53.8)	100	100	100	80.7 (79.1 - 82.1)	<0.0001
Denominator (unwgt, wgt)	346, 333	732, 748	258, 217	220, 182	1612, 1564	3168, 3044	
% reporting physical sexual activity †*	24.5 (20.0 - 29.6)	41.5 (37.7 - 45.3)	100	100	100	77.4 (75.7 - 78.9)	<0.0001
Denominator (unwgt, wgt)	349, 339	720, 740	258, 217	220, 182	1612, 1564	3159, 3041	
% reporting vaginal, oral, and/or anal sex*	0	0	94.2 (89.6 - 96.8)	98.0 (94.6 - 99.3)	97.1 (96.0 - 97.9)	61.2 (59.4 - 63.0)	0.065
Denominator (unwgt, wgt)	379, 366	758, 776	258, 217	219, 182	1609, 1562	3223, 3102	
Of those who did, frequency since lockdown**:							
Less than weekly	..	..	60.4 (53.5 - 66.9)	45.0 (37.8 - 52.3)	40.0 (37.4 - 42.6)	42.6 (40.3 - 45.0)	<0.0001
At least once a week	..	..	39.6 (33.1 - 46.5)	55.1 (47.7 - 62.2)	60.0 (57.4 - 62.6)	57.4 (55.1 - 59.7)	
Denominator (unwgt, wgt)	..	..	245, 204	214, 178	1568, 1516	2027, 1898	
% reporting other contact with someone's genital area*	0	0	80.9 (75.0 - 85.7)	85.6 (79.1 - 90.3)	83.8 (81.8 - 85.7)	52.4 (50.5 - 54.3)	0.460
Denominator (unwgt, wgt)	380, 369	758, 776	251, 210	218, 181	1576, 1525	3183, 3060	
Of those who did, frequency since lockdown**:							
Less than weekly	..	..	61.1 (53.6 - 68.2)	41.1 (33.9 - 48.8)	36.1 (33.4 - 38.9)	39.2 (36.8 - 41.7)	<0.0001
At least once a week	..	..	38.9 (31.8 - 46.4)	58.9 (51.2 - 66.2)	63.9 (61.1 - 66.6)	60.8 (58.3 - 63.2)	
Denominator (unwgt, wgt)	..	..	207, 170	192, 155	1344, 1279	1743, 1603	
% reporting masturbation*	21.5 (17.5 - 26.2)	39.1 (35.4 - 42.9)	65.3 (58.4 - 71.7)	60.7 (53.2 - 67.8)	42.9 (40.3 - 45.5)	41.8 (40.0 - 43.7)	<0.0001
Denominator (unwgt, wgt)	374, 369	721, 740	245, 203	206, 169	1570, 1526	3116, 3007	
Of those who did, frequency since lockdown**:							
Less than weekly	43.3 (32.5 - 54.8)	54.4 (48.5 - 60.2)	40.0 (32.3 - 48.3)	53.5 (44.1 - 62.7)	52.6 (48.7 - 56.5)	51.2 (48.4 - 54.0)	0.034
At least once a week	56.7 (45.2,67.5)	45.6 (39.8,51.6)	60.0 (51.7,67.7)	46.5 (37.4,55.9)	47.4 (43.5,51.3)	48.8 (46.0,51.6)	
Denominator (unwgt, wgt)	95, 79	321, 289	174, 133	130, 103	737, 654	1457, 1257	
% reporting using sex toys (by yourself or with someone else)*	5.9 (3.9 - 8.9)	18.2 (15.6 - 21.2)	48.6 (41.9 - 55.3)	40.7 (33.7 - 48.1)	27.0 (24.8 - 29.3)	24.4 (22.9 - 26.0)	<0.0001
Denominator (unwgt, wgt)	391, 382	737, 756	250, 207	211, 173	1587, 1543	3176, 3062	
Of those who did, frequency since lockdown**:							
Less than weekly	..	53.9 (45.5 - 62.1)	41.8 (32.9 - 51.4)	63.5 (52.0 - 73.6)	58.7 (53.8 - 63.4)	55.8 (52.2 - 59.4)	0.023
At least once a week	..	46.1 (37.9 - 54.5)	58.2 (48.6 - 67.2)	36.5 (26.4 - 48.0)	41.3 (36.7 - 46.2)	44.2 (40.6 - 47.8)	
Denominator (unwgt, wgt)	24, 23 #	160, 138	132, 101	90, 71	488, 416	894, 748	
<b>Any virtual sexual activity since lockdown</b>							
% reporting any virtual sexual activity ††*	25.7 (21.3 - 30.6)	29.7 (26.5 - 33.1)	71.5 (64.9 - 77.3)	62.9 (55.5 - 69.6)	29.3 (27.0 - 31.7)	33.9 (32.2 - 35.6)	<0.0001
Denominator (unwgt, wgt)	380, 372	743, 761	254, 213	218, 181	1591, 1545	3186, 3070	
% reporting any virtual sexual activity excluding looking at pornography †††*	19.5 (15.7 - 23.9)	23.2 (20.3 - 26.4)	62.4 (55.6 - 68.7)	51.0 (43.7 - 58.2)	14.3 (12.7 - 16.2)	22.7 (21.2 - 24.2)	<0.0001
Denominator (unwgt, wgt)	383, 374	746, 764	256, 215	218, 181	1596, 1549	3199, 3082	

<b>% reporting messaging via dating apps/online*</b>	15.7 (12.4 - 19.8)	19.1 (16.5 - 22.1)	47.4 (40.8 - 54.1)	36.6 (29.9 - 43.8)	8.3 (7.0 - 9.9)	16.3 (15.0 - 17.6)	<0.0001
<i>Denominator (unwgt, wgt)</i>	391, 381	753, 771	254, 213	219, 182	1601, 1553	3218, 3099	
Of those who did, frequency since lockdown**:							
Less than weekly	52.3 (39.9 - 64.5)	36.7 (29.4 - 44.7)	30.0 (21.7 - 39.8)	19.3 (10.6 - 32.7)	28.3 (20.8 - 37.2)	32.7 (28.7 - 37.1)	0.002
At least once a week	47.7 (35.5 - 60.1)	63.3 (55.3 - 70.6)	70.1 (60.3 - 78.3)	80.7 (67.3 - 89.4)	71.8 (62.8 - 79.2)	67.3 (62.9 - 71.3)	
<i>Denominator (unwgt, wgt)</i>	75, 60	178, 147	127, 101	86, 66	151, 130	617, 504	
<b>% reporting sexting (images or recorded videos)*</b>	4.9 (3.2 - 7.6)	8.5 (6.7 - 10.8)	37.2 (31.0 - 43.8)	32.5 (26.2 - 39.4)	9.7 (8.3 - 11.3)	12.0 (10.9 - 13.2)	<0.0001
<i>Denominator (unwgt, wgt)</i>	397, 389	747, 766	253, 213	219, 182	1606, 1558	3222, 3106	
Of those who did, frequency since lockdown**:							
Less than weekly	..	50.5 (38.5 - 62.5)	44.4 (34.1 - 55.3)	50.0 (38.1 - 61.9)	51.9 (44.0 - 59.8)	50.8 (45.8 - 55.8)	0.30
At least once a week	..	49.5 (37.6 - 61.5)	55.6 (44.8 - 65.9)	50.0 (38.1 - 61.9)	48.1 (40.2 - 56.1)	49.2 (44.2 - 54.2)	
<i>Denominator (unwgt, wgt)</i>	24, 19 #	75, 65,	105, 79	77, 59	185, 151	466, 373	
<b>% reporting using video or voice calls to interact with someone sexually*</b>	3.0 (1.6 - 5.4)	4.9 (3.6 - 6.7)	28.1 (22.4 - 34.7)	24.2 (18.7 - 30.8)	6.9 (5.7 - 8.3)	8.4 (7.4 - 9.4)	<0.0001
<i>Denominator (unwgt, wgt)</i>	397, 387	749, 768	256, 214	217, 180	1605, 1557	3224, 3106	
Of those who did, frequency since lockdown**:							
Less than weekly	..	59.8 (43.5 - 74.2)	51.9 (38.9 - 64.7)	48.0 (34.5 - 61.9)	47.2 (37.5 - 57.0)	50.8 (44.6 - 57.0)	0.69
At least once a week	..	40.2 (25.8 - 56.5)	48.1 (35.3 - 61.1)	52.0 (38.1 - 65.5)	52.8 (43.0 - 62.5)	49.2 (43.0 - 55.4)	
<i>Denominator (unwgt, wgt)</i>	11, 11 #	42, 38 †	68, 60	56, 44	123, 107	300, 260	
<b>% reporting looking at pornography*</b>	11.6 (8.6 - 15.6)	14.7 (12.4 - 17.4)	44.8 (38.2 - 51.6)	35.2 (28.6 - 42.5)	21.9 (19.8 - 24.1)	21.1 (19.7 - 22.7)	<0.0001
<i>Denominator (unwgt, wgt)</i>	388, 381	742, 761	249, 206	215, 180	1597, 1551	3191, 3078	
Of those who did, frequency since lockdown**:							
Less than weekly	47.5 (32.4 - 63.1)	60.4 (51.5 - 68.7)	57.0 (47.0 - 66.4)	59.8 (47.5 - 70.9)	65.0 (59.6 - 70.0)	61.4 (57.6 - 65.0)	0.18
At least once a week	52.5 (36.9 - 67.6)	39.6 (31.3 - 48.5)	43.0 (33.6 - 53.0)	40.2 (29.1 - 52.5)	35.0 (30.0 - 40.4)	38.6 (35.0 - 42.5)	
<i>Denominator (unwgt, wgt)</i>	51, 44	144, 112	124, 92	84, 63	395, 339	798, 651	
<b>% reporting paying for online sexual services (e.g. live streaming)*</b>	0.5 (0.1 - 2.0)	0.4 (0.1 - 1.2)	9.0 (5.8 - 13.8)	4.9 (2.7 - 8.8)	2.8 (2.1 - 3.8)	2.4 (1.9 - 3.1)	<0.0001
<i>Denominator (unwgt, wgt)</i>	400, 391	757, 775	253, 210	219, 182	1607, 1560	3236, 3117	
Of those who did, frequency since lockdown**:							
Less than weekly	..	..	..	..	41.3 (27.4 - 56.8)	41.3 (30.7 - 52.7)	0.26
At least once a week	..	..	..	..	58.7 (43.2 - 72.6)	58.7 (47.3 - 69.3)	
<i>Denominator (unwgt, wgt)</i>	2, 2#	4, 3 #	24, 19 #	12, 9 #	53, 43	95, 76	

CI=confidence intervals.

∞ 24 participants who identified “in another way” are included in data presented for all participants but excluded from “Men” and “Women”.

Trans men and trans women are included in data for men and women, respectively.

\* Denominator: All respondents

\*\* Denominator: All respondents who reported the activity in lockdown

† Reported at least one of the following since lockdown: vaginal, anal or oral sex, other contact with someone's genital area, masturbating, using sex toys (by yourself or with someone else)

†† Reported at least one of the following since lockdown: messaging via dating apps/online, sexting (images or recorded videos), using video or voice calls to interact with someone sexually, looking at pornography, paying for online sexual services (e.g. live streaming)

††† Reported at least one of the following since lockdown: messaging via dating apps/online, sexting (images or recorded videos), using video or voice calls to interact with someone sexually, paying for online sexual services (e.g. live streaming)

# Unweighted denominator <50. Results should be interpreted with caution due to small denominator.

# Unweighted denominator <30. Results not shown due to small denominator.

**Appendix 5a: Type and frequency of sexual activity reported since lockdown stratified by experience of partnered sex and relationship status since lockdown: Age-group 18-24 years**

Reported partnered sex since lockdown	No		Yes			All	p-value
	Among those reporting never having had partnered sex % (CI)	Among those reporting partnered sex ever but not since lockdown % (CI)	Among those not in a steady relationship % (CI)	Among those in a steady non-cohabiting relationship % (CI)	Among those in a steady cohabiting relationship % (CI)		
<b>Sexual activity since lockdown</b>							
<b>% reporting any sexual activity*</b>	62.5 (55.2 - 69.2)	85.5 (77.4 - 91.0)	100	100	100	88.4 (85.8 - 90.5)	<0.0001
<i>Denominator (unwgt, wgt)</i>	215, 195	159, 128	187, 171	115, 91	252, 205	928, 789	
<b>% reporting any physical sexual activity † *</b>	46.3 (39.1 - 53.8)	68.2 (59.2 - 76.0)	100	100	100	81.5 (78.6 - 84.2)	<0.0001
<i>Denominator (unwgt, wgt)</i>	216, 199	152, 122	187, 171	115, 91	252, 205	922, 787	
<b>% reporting any virtual sexual activity †† *</b>	51.3 (44.1 - 58.5)	80.1 (71.7 - 86.5)	91.0 (84.6 - 95.0)	79.6 (70.8 - 86.2)	68.9 (62.2 - 74.9)	72.2 (68.9 - 75.3)	<0.0001
<i>Denominator (unwgt, wgt)</i>	225, 202	160, 129	185, 169	115, 91	248, 202	933, 793	
<b>% reporting any virtual sexual activity excluding looking at pornography ††† *</b>	25.6 (19.9 - 32.3)	61.3 (52.4 - 69.5)	86.0 (79.2 - 90.9)	69.4 (59.7 - 77.6)	47.6 (40.6 - 54.7)	54.6 (51.0 - 58.2)	<0.0001
<i>Denominator (unwgt, wgt)</i>	231, 211	160, 129	185, 169	115, 91	251, 204	942, 804	

CI=confidence intervals.

\* Denominator: All respondents

† Reported at least one of the following since lockdown: vaginal, anal or oral sex, other contact with someone's genital area, masturbating, using sex toys (by yourself or with someone else)

†† Reported at least one of the following since lockdown: messaging via dating apps/online, sexting (images or recorded videos), using video or voice calls to interact with someone sexually, looking at pornography, paying for online sexual services (e.g. live streaming)

††† Reported at least one of the following since lockdown: messaging via dating apps/online, sexting (images or recorded videos), using video or voice calls to interact with someone sexually, paying for online sexual services (e.g. live streaming)

**Appendix 5b: Type and frequency of sexual activity reported since lockdown stratified by experience of partnered sex and relationship status since lockdown: Age-group 25-34 years**

Reported partnered sex since lockdown	No		Yes			All	p-value
	Among those reporting never having had partnered sex % (CI)	Among those reporting partnered sex ever but not since lockdown % (CI)	Among those not in a steady relationship % (CI)	Among those in a steady non-cohabiting relationship % (CI)	Among those in a steady cohabiting relationship % (CI)		
<b>Sexual activity since lockdown</b>							
<b>% reporting any sexual activity*</b>	53.5 (44.0 - 62.7)	81.9 (76.5 - 86.2)	100	100	100	93.6 (92.3 - 94.8)	<0.0001
<i>Denominator (unwgt, wgt)</i>	130, 126	282, 261	229, 207	128, 112	1049, 959	1818, 1664	
<b>% reporting any physical sexual activity † *</b>	40.1 (31.1 - 49.7)	72.8 (66.7 - 78.1)	100	100	100	91.3 (89.7 - 92.6)	<0.0001
<i>Denominator (unwgt, wgt)</i>	132, 129	270, 248	229, 207	128, 112	1049, 959	1808, 1654	
<b>% reporting virtual sexual activity †† *</b>	47.2 (38.1 - 56.6)	71.8 (65.9 - 77.1)	86.7 (81.3 - 90.7)	69.4 (60.1 - 77.4)	56.1 (52.8 - 59.3)	62.6 (60.1 - 65.0)	<0.0001
<i>Denominator (unwgt, wgt)</i>	134, 131	286, 265	226, 204	126, 110	1026, 937	1798, 1646	
<b>% reporting any virtual sexual activity excluding looking at pornography ††† *</b>	24.5 (17.7 - 33.0)	49.1 (42.9 - 55.4)	76.0 (69.4 - 81.6)	60.3 (50.9 - 69.1)	28.1 (25.2 - 31.2)	39.2 (36.8 - 41.7)	<0.0001
<i>Denominator (unwgt, wgt)</i>	138, 134	290, 269	227, 205	126, 110	1036, 946	1817, 1664	

CI=confidence intervals.

\* Denominator: All respondents

† Reported at least one of the following since lockdown: vaginal, anal or oral sex, other contact with someone's genital area, masturbating, using sex toys (by yourself or with someone else)

†† Reported at least one of the following since lockdown: messaging via dating apps/online, sexting (images or recorded videos), using video or voice calls to interact with someone sexually, looking at pornography, paying for online sexual services (e.g. live streaming)

††† Reported at least one of the following since lockdown: messaging via dating apps/online, sexting (images or recorded videos), using video or voice calls to interact with someone sexually, paying for online sexual services (e.g. live streaming)

**Appendix 5c: Type and frequency of sexual activity reported since lockdown stratified by experience of partnered sex and relationship status since lockdown: Age-group 35-44 years**

Reported partnered sex since lockdown	No		Yes			All	p-value
	Among those reporting never having had partnered sex % (CI)	Among those reporting partnered sex ever but not since lockdown % (CI)	Among those not in a steady relationship % (CI)	Among those in a steady non-cohabiting relationship % (CI)	Among those in a steady cohabiting relationship % (CI)		
<b>Sexual activity since lockdown</b>							
<b>% reporting any sexual activity*</b>	51.9 (41.6 - 62.1)	68.2 (62.3 - 73.5)	100	100	100	89.7 (87.8 - 91.3)	<0.0001
<i>Denominator (unwgt, wgt)</i>	110, 120,	303, 320	104, 104	49, 52 †	825, 909	1390, 1505	
<b>% reporting any physical sexual activity † *</b>	42.4 (32.6 - 52.8)	63.7 (57.6 - 69.3)	100	100	100	88.2 (86.2 - 89.9)	<0.0001
<i>Denominator (unwgt, wgt)</i>	100, 109	294, 311	104, 104	49, 52 †	825, 909	1372, 1485	
<b>% reporting virtual sexual activity †† *</b>	34.0 (25.4 - 43.7)	56.3 (50.3 - 62.0)	83.7 (74.4 - 90.1)	67.6 (52.76 - 79.58)	50.2 (46.6 - 53.8)	52.9 (50.1 - 55.7)	<0.0001
<i>Denominator (unwgt, wgt)</i>	111, 127	307, 325	100, 99	48, 51 †	810, 893	1376, 1495	
<b>% reporting any virtual sexual activity excluding looking at pornography ††† *</b>	19.1 (12.7 - 27.8)	28.6 (23.5 - 34.2)	72.2 (61.9 - 80.7)	43.2 (29.5 - 58.0)	20.2 (17.5 - 23.2)	26.2 (23.8 - 28.7)	<0.0001
<i>Denominator (unwgt, wgt)</i>	115, 131	309, 327	101, 101	48, 51 †	817, 901	1390, 1512	

CI=confidence intervals.

\* Denominator: All respondents

† Reported at least one of the following since lockdown: vaginal, anal or oral sex, other contact with someone's genital area, masturbating, using sex toys (by yourself or with someone else)

†† Reported at least one of the following since lockdown: messaging via dating apps/online, sexting (images or recorded videos), using video or voice calls to interact with someone sexually, looking at pornography, paying for online sexual services (e.g. live streaming)

††† Reported at least one of the following since lockdown: messaging via dating apps/online, sexting (images or recorded videos), using video or voice calls to interact with someone sexually, paying for online sexual services (e.g. live streaming)

‡ Unweighted denominator <50. Results should be interpreted with caution due to small denominator.

**Appendix 5d: Type and frequency of sexual activity reported since lockdown stratified by experience of partnered sex and relationship status since lockdown: Age-group 45-59 years**

Reported partnered sex since lockdown	No		Yes			All	p-value
	Among those reporting never having had partnered sex % (CI)	Among those reporting partnered sex ever but not since lockdown % (CI)	Among those not in a steady relationship % (CI)	Among those in a steady non-cohabiting relationship % (CI)	Among those in a steady cohabiting relationship % (CI)		
<b>Sexual activity since lockdown</b>							
<b>% reporting any sexual activity*</b>	47.0 (39.8 - 54.5)	55.8 (52.1 - 59.5)	100	100	100	78.8 (76.9 - 80.6)	<0.0001
<i>Denominator (unwgt, wgt)</i>	193, 218	744, 809	100, 94	67, 70	968, 1039	2072, 2230	
<b>% reporting any physical sexual activity † *</b>	39.1 (32.3 - 46.4)	50.3 (46.5 - 54.0)	100	100	100	76.0 (74.0 - 77.9)	<0.0001
<i>Denominator (unwgt, wgt)</i>	194, 219	742, 808	100, 94	67, 70	968, 1039	2071, 2229	
<b>% reporting any virtual sexual activity †† *</b>	32.1 (25.8 - 39.0)	37.6 (34.2 - 41.2)	67.3 (56.4 - 76.6)	53.0 (40.3 - 65.3)	36.0 (33.0 - 39.2)	38.0 (35.9 - 40.2)	<0.0001
<i>Denominator (unwgt, wgt)</i>	204, 231	754, 821	99, 93	67, 70	961, 1031	2085, 2246	
<b>% reporting any virtual sexual activity excluding looking at pornography ††† *</b>	10.8 (7.0 - 16.2)	11.3 (9.2 - 13.8)	48.0 (37.6 - 58.5)	33.9 (22.8 - 47.2)	10.0 (8.3 - 12.1)	12.9 (11.5 - 14.4)	<0.0001
<i>Denominator (unwgt, wgt)</i>	203, 230	768, 835	100, 94	67, 70	964, 1035	2102, 2263	

CI=confidence intervals.

\* Denominator: All respondents

† Reported at least one of the following since lockdown: vaginal, anal or oral sex, other contact with someone's genital area, masturbating, using sex toys (by yourself or with someone else)

†† Reported at least one of the following since lockdown: messaging via dating apps/online, sexting (images or recorded videos), using video or voice calls to interact with someone sexually, looking at pornography, paying for online sexual services (e.g. live streaming)

††† Reported at least one of the following since lockdown: messaging via dating apps/online, sexting (images or recorded videos), using video or voice calls to interact with someone sexually, paying for online sexual services (e.g. live streaming)

**Appendix 6a: Extent and direction of perceived change in frequency of particular physical and virtual sexual activities compared to pre-lockdown, stratified by experience of partnered sex and relationship status since lockdown: Men ∞**

Reported partnered sex since lockdown	No		Yes			All	p-value
	Among those reporting never having had partnered sex % (CI)	Among those reporting partnered sex ever but not since lockdown % (CI)	Among those not in a steady relationship % (CI)	Among those in a steady non-cohabiting relationship % (CI)	Among those in a steady cohabiting relationship % (CI)		
<b>Vaginal, anal and/or oral sex</b>							
Did less since lockdown	..	100	36.9 (31.3,43.0)	47.5 (38.8,56.4)	17.3 (15.4,19.5)	31.5 (29.5,33.7)	<0.0001
No change since lockdown	..	0	37.0 (31.4,43.1)	38.0 (29.8,47.0)	65.0 (62.3,67.6)	51.8 (49.5,54.1)	
Did more since lockdown	..	0	26.0 (21.0,31.7)	14.5 (9.2,22.1)	17.7 (15.6,19.9)	16.6 (15.0,18.4)	
<i>Denominator (unwgt, wgt)*</i>	..	247, 251	320, 315	135, 137	1413, 1479	2115, 2181	
<b>Other contact with someone's genital area</b>							
Did less since lockdown	..	100.0	41.6 (35.6,47.9)	42.6 (33.9,51.9)	16.3 (14.3,18.6)	31.9 (29.7,34.1)	<0.0001
No change since lockdown	..	0.0	35.4 (29.6,41.7)	40.0 (31.3,49.3)	65.9 (63.1,68.6)	51.8 (49.4,54.2)	
Did more since lockdown	..	0.0	23.0 (18.1,28.8)	17.4 (11.2,26.0)	17.8 (15.6,20.2)	16.4 (14.6,18.2)	
<i>Denominator (unwgt, wgt)*</i>	..	245, 243	295, 288	126, 130	1283, 1333	1949, 1994	
<b>Masturbation</b>							
Did less since lockdown	17.9 (12.3,25.2)	12.2 (9.6,15.3)	13.7 (9.9,18.7)	11.3 (6.4,19.1)	12.4 (10.4,14.7)	12.9 (11.5,14.5)	<0.0001
No change since lockdown	62.0 (54.1,69.4)	67.8 (63.5,71.8)	48.3 (42.0,54.6)	49.6 (39.5,59.7)	61.2 (58.0,64.3)	60.7 (58.5,62.9)	
Did more since lockdown	20.1 (14.6,27.1)	20.1 (16.7,24.0)	38.0 (32.0,44.4)	39.1 (29.6,49.6)	26.4 (23.7,29.4)	26.3 (24.4,28.4)	
<i>Denominator (unwgt, wgt)**</i>	187, 196	569, 565	294, 283	105, 108	1045, 1064	2200, 2216	
<b>Using sex toys (by yourself or with someone else)</b>							
Did less since lockdown	70.6 (52.0,84.2)	55.9 (45.0,66.2)	26.4 (19.6,34.6)	19.6 (10.4,33.9)	19.6 (15.9,23.9)	27.0 (23.8,30.5)	<0.0001
No change since lockdown	23.6 (11.6,41.9)	30.8 (21.7,41.6)	46.1 (37.9,54.5)	37.7 (24.8,52.7)	55.6 (50.6,60.4)	48.5 (44.8,52.3)	
Did more since lockdown	5.9 (1.5,20.7)	13.4 (7.4,23.0)	27.5 (20.5,35.8)	42.7 (28.7,58.0)	24.9 (20.9,29.3)	24.5 (21.4,27.9)	
<i>Denominators (wgt, unwgt)**</i>	33, 29†	105, 94	167, 162	50, 51	471, 474	826, 810	
<b>Messaging via dating apps/ online</b>							
Did less since lockdown	44.1 (31.5,57.5)	42.0 (35.5,48.7)	23.7 (18.2,30.2)	27.3 (17.0,40.6)	27.5 (22.4,33.2)	31.7 (28.5,35.0)	0.002
No change since lockdown	36.7 (25.1,50.2)	31.9 (25.9,38.5)	39.7 (33.0,46.7)	37.6 (25.5,51.5)	38.8 (33.2,44.8)	36.9 (33.6,40.4)	
Did more since lockdown	19.2 (10.8,31.7)	26.2 (20.6,32.6)	36.7 (30.1,43.7)	35.1 (23.4,48.9)	33.7 (28.3,39.6)	31.4 (28.3,34.8)	
<i>Denominators (wgt, unwgt)**</i>	68, 65	253, 249	232, 238	61, 58	320, 320	935, 930	
<b>Sexting (images or recorded videos)</b>							
Did less since lockdown	69.1 (50.2,83.3)	51.5 (43.1,59.8)	24.4 (18.4,31.6)	14.4 (6.9,27.5)	26.7 (21.9,32.2)	31.8 (28.4,35.5)	<0.0001



<b>No change since lockdown</b>	19.1 (8.4,37.8)	20.5 (14.5,28.2)	34.7 (27.9,42.1)	44.7(31.3,58.9)	38.2 (32.8,44.0)	33.5 (30.0,37.2)	
<b>Did more since lockdown</b>	11.8 (4.2,28.9)	28.0 (21.1,36.2)	41.0 (33.8,48.6)	40.9 (28.0,55.3)	35.1 (29.8,40.8)	34.7 (31.1,38.4)	
<i>Denominators (wgt, unwgt)**</i>	33, 33 †	154, 163	203, 208	57, 53	345, 338	792, 795	
<b>Using video or voice calls to interact with someone sexually</b>							
<b>Did less since lockdown</b>	78.5 (57.0,90.9)	62.9 (52.7,72.0)	24.4 (18.1,32.1)	15.4 (7.5,29.3)	26.8 (21.4,32.9)	34.2 (30.4,38.3)	
<b>No change since lockdown</b>	11.1 (3.5,30.3)	14.5 (8.9,22.7)	32.9 (25.7,40.9)	38.9 (25.8,53.9)	29.8 (24.2,36.0)	27.8 (24.2,31.7)	<0.0001
<b>Did more since lockdown</b>	10.5 (2.6,34.1)	22.6 (15.1,32.5)	42.7 (35.0,50.8)	45.6 (31.9,60.1)	43.5 (37.1,50.0)	38.0 (34.0,42.2)	
<i>Denominators (wgt, unwgt)**</i>	37, 31 †	111, 112	183, 181	56, 50	265, 261	652, 635	
<b>Looking at pornography</b>							
<b>Did less since lockdown</b>	15.8 (10.3,23.5)	12.0 (9.3,15.3)	12.1 (8.4,17.1)	11.5 (6.1,20.9)	10.7 (8.8,13.0)	11.7 (10.3,13.3)	
<b>No change since lockdown</b>	62.0 (53.3,69.9)	65.6 (61.1,69.9)	50.1 (43.6,56.6)	48.7 (38.0,59.5)	61.7 (58.3,65.0)	60.6 (58.2,62.9)	<0.0001
<b>Did more since lockdown</b>	22.2 (15.9,30.1)	22.4 (18.7,26.6)	37.7 (31.6,44.3)	39.8 (29.6,50.9)	27.6 (24.5,30.8)	27.7 (25.6,29.9)	
<i>Denominator (unwgt, wgt)**</i>	158, 167	522, 522	278, 270	91, 94	932, 948	1981, 2002	
<b>Paying for online sexual services (e.g. live streaming)</b>							
<b>Did less since lockdown</b>	..	81.5 (66.5,90.7)	26.8 (18.6,36.9)	..	29 (22.3,36.6)	38.1 (33.0,43.4)	
<b>No change since lockdown</b>	..	6.6 (2.1,18.7)	30.6 (22.1,40.7)	..	29 (22.5,36.4)	24.9 (20.6,29.9)	<0.0001
<b>Did more since lockdown</b>	..	11.9 (4.8,26.6)	42.6 (32.9,52.9)	..	42.1 (34.8,49.8)	37 (32.1,42.3)	
<i>Denominator (unwgt, wgt)**</i>	25, 25 †	46, 46 **	110, 116	24, 27 †	187, 200	392, 415	

CI=confidence intervals.

∞ 24 participants who identified “in another way” are included in data presented for all participants but excluded from “Men” and “Women”. Trans men and trans women are included in data for men and women, respectively.

\* Denominator: All respondents (excluding those with no partnered experience ever) who reported the activity since lockdown OR did not do the activity during lockdown and reported a decrease.

\*\* Denominator: All respondents who reported the activity since lockdown OR did not do the activity during lockdown and reported a decrease

† Unweighted denominator <50. Results should be interpreted with caution due to small denominator.

‡ Unweighted denominator <30. Results not shown due to small denominator.

**Appendix 6b: Extent and direction of perceived change in frequency of particular physical and virtual sexual activities compared to pre-lockdown, stratified by experience of partnered sex and relationship status since lockdown: Women ∞**

Reported partnered sex since lockdown	No		Yes			All	p-value
	Among those reporting never having had partnered sex % (CI)	Among those reporting partnered sex ever but not since lockdown % (CI)	Among those not in a steady relationship % (CI)	Among those in a steady non-cohabiting relationship % (CI)	Among those in a steady cohabiting relationship % (CI)		
<b>Vaginal, anal and/or oral sex</b>							
Did less since lockdown	..	100	42.3 (35.6,49.3)	46.7 (39.4,54.0)	15.3 (13.5,17.3)	28.6 (26.6,30.6)	<0.0001
No change since lockdown	..	0	31.6 (25.5,38.3)	37.7 (31.0,45.0)	70.1 (67.6,72.4)	57.1 (54.8,59.3)	
Did more since lockdown	..	0	26.2 (20.5,32.7)	15.6 (11.2,21.4)	14.6 (12.8,16.6)	14.4 (12.9,16.0)	
<i>Denominator (unwgt, wgt)*</i>	..	218, 196	235, 191	214, 178	1548, 1496	2215, 2061	
<b>Other contact with someone's genital area</b>							
Did less since lockdown	..	100	43.0 (35.8,50.4)	45.6 (38.1,53.3)	13.8 (12.0,15.9)	28.7 (26.6,30.9)	<0.0001
No change since lockdown	..	0	33.2 (26.5,40.6)	41.5 (34.2,49.2)	72.3 (69.6,74.7)	58.0 (55.7,60.4)	
Did more since lockdown	..	0	23.9 (18.2,30.7)	12.9 (8.7,18.9)	13.9 (12.1,16.0)	13.3 (11.7,15.0)	
<i>Denominator (unwgt, wgt)*</i>	..	218, 193	210, 168	194, 159	1331, 1267	1953, 1787	
<b>Masturbation</b>							
Did less since lockdown	24.8 (16.8,35.0)	20.2 (16.1,25.1)	17.3 (12.0,24.2)	17.9 (12.2,25.5)	18.8 (15.9,22.0)	19.3 (17.3,21.6)	<0.0001
No change since lockdown	56.6 (45.9,66.7)	64.2 (58.7,69.3)	52.4 (44.3,60.3)	48.4 (39.2,57.7)	64.7 (60.9,68.2)	61.5 (58.8,64.1)	
Did more since lockdown	18.7 (11.9,28.1)	15.6 (12.1,19.8)	30.4 (23.6,38.1)	33.7 (25.4,43.1)	16.5 (13.9,19.5)	19.2 (17.2,21.4)	
<i>Denominator (unwgt, wgt)**</i>	105, 91	356, 323	179, 137	134, 104	765, 682	1539, 1337	
<b>Using sex toys (by yourself or with someone else)</b>							
Did less since lockdown	50.5 (34.9,66.0)	24.4 (18.4,31.5)	18.9 (12.8,26.9)	19.8 (12.7,29.6)	16.6 (13.4,20.4)	20.4 (17.8,23.3)	<0.0001
No change since lockdown	32.2 (19.2,48.7)	58.1 (50.5,65.3)	51.3 (42.3,60.3)	55.8 (44.5,66.5)	65.1 (60.6,69.5)	59.5 (56.2,62.8)	
Did more since lockdown	17.3 (8.5,32.1)	17.6 (12.7,23.8)	29.8 (22.4,38.4)	24.4 (15.7,35.9)	18.3 (14.9,22.2)	20.1 (17.5,22.9)	
<i>Denominators (wgt, unwgt)**</i>	44, 42‡	194, 168	143, 107	95, 74	521, 453	997, 844	
<b>Messaging via dating apps/ online</b>							
Did less since lockdown	45.8 (34.8,57.3)	34.0 (27.6,41.1)	25.9 (18.8,34.5)	17.0 (10.2,27.1)	28.1 (21.1,36.3)	30.6 (27.0,34.5)	0.002
No change since lockdown	27.3 (18.4,38.5)	31.6 (25.5,38.5)	29.2 (21.6,38.0)	49.6 (38.2,61.1)	38.7 (30.9,47.2)	34.4 (30.7,38.4)	
Did more since lockdown	26.9 (18.0,38.0)	34.4 (28.1,41.2)	45.0 (36.2,54.1)	33.4 (23.6,44.9)	33.2 (25.9,41.4)	35.0 (31.3,38.9)	
<i>Denominators (wgt, unwgt)**</i>	75, 91	191, 229	108, 141	69, 89	140, 167	583, 717	
<b>Sexting (images or recorded videos)</b>							
Did less since lockdown	68.9 (52.9,81.4)	53.4 (43.9,62.6)	30.8 (22.5,40.6)	30.0 (20.5,41.6)	28.0 (21.8,35.2)	38.0 (33.8,42.5)	<0.0001
No change since lockdown	27.3 (15.5,43.5)	27.3 (19.4,36.9)	27.8 (19.8,37.4)	32.9 (23.1,44.5)	44.6 (37.3,52.1)	34.6 (30.4,38.9)	

<b>Did more since lockdown</b>	3.8 (1.3,10.8)	19.3 (13.2,27.3)	41.4 (31.8,51.8)	37.1 (26.7,48.9)	27.4 (21.1,34.7)	27.4 (23.6,31.6)	
<i>Denominators (wgt, unwgt)**</i>	39, 43 ‡	107, 125	87, 117	61, 84	175, 211	469, 580	
<b>Using video or voice calls to interact with someone sexually</b>							
<b>Did less since lockdown</b>	..	59.8 (48.0,70.7)	32.2 (22.3,44.1)	30.2 (19.8,43.2)	37.7 (29.3,46.8)	43.4 (38.2,48.8)	<0.0001
<b>No change since lockdown</b>	..	18.7 (11.1,29.9)	26.4 (17.1,38.3)	17.2 (9.4,29.5)	34.9 (26.9,43.8)	25.9 (21.5,30.9)	
<b>Did more since lockdown</b>	..	21.4 (13.4,32.4)	41.4 (30.3,53.5)	52.6 (39.5,65.3)	27.4 (20.4,35.9)	30.7 (26.0,35.8)	
<i>Denominators (wgt, unwgt)**</i>	28, 28 ‡	68, 80	71, 82	47, 64 ‡	132, 147	346, 401	
<b>Looking at pornography</b>							
<b>Did less since lockdown</b>	33.0 (21.5,46.9)	28.0 (21.1,36.0)	18.8 (12.5,27.4)	15.0 (8.5,25.1)	18.9 (15.1,23.3)	21.3 (18.4,24.5)	0.0001
<b>No change since lockdown</b>	47.8 (34.5,61.4)	51.5 (43.2,59.7)	45.6 (36.4,55.2)	52.3 (40.4,63.9)	61.5 (56.2,66.5)	55.4 (51.7,59.0)	
<b>Did more since lockdown</b>	19.3 (11.0,31.6)	20.6 (14.4,28.5)	35.6 (27.1,45.0)	32.8 (22.6,44.9)	19.7 (15.8,24.3)	23.3 (20.3,26.6)	
<i>Denominator (unwgt, wgt)**</i>	66, 59	168, 133	135, 103	89, 68	421, 364	879, 727	
<b>Paying for online sexual services (E.g. live streaming)</b>							
<b>Did less since lockdown</b>	..	..	43.4 (25.6,63.05)	..	35.5 (23.8,49.1)	54.2 (45.6,62.6)	<0.0001
<b>No change since lockdown</b>	..	..	12.4 (4.9,27.8)	..	34.2 (22.8,47.8)	18.0 (12.3,25.7)	
<b>Did more since lockdown</b>	..	..	44.2 (26.2,63.8)	..	30.4 (20.2,42.9)	27.8 (20.9,35.9)	
<i>Denominator (unwgt, wgt)**</i>	15, 16 ‡	28, 21 ‡	32, 26 ‡	15, 12 ‡	70, 59	160, 134	

CI=confidence intervals.

∞ 24 participants who identified “in another way” are included in data presented for all participants but excluded from “Men” and “Women”. Trans men and trans women are included in data for men and women, respectively.

\* Denominator: All respondents (excluding those with no partnered experience ever) who reported the activity since lockdown OR did not do the activity during lockdown and reported a decrease.

\*\* Denominator: All respondents who reported the activity since lockdown OR did not do the activity during lockdown and reported a decrease.

‡ Unweighted denominator <50. Results should be interpreted with caution due to small denominator.

‡ Unweighted denominator <30. Results not shown due to small denominator.

**Appendix 7a: Extent and direction of perceived change in frequency of particular physical and virtual sexual activities compared to pre-lockdown, stratified by experience of partnered sex and relationship status since lockdown: Age-group 18-24 years**

Reported partnered sex since lockdown	No		Yes			All	p-value
	Among those reporting never having had partnered sex % (CI)	Among those reporting partnered sex ever but not since lockdown % (CI)	Among those not in a steady relationship % (CI)	Among those in a steady non-cohabiting relationship % (CI)	Among those in a steady cohabiting relationship % (CI)		
<b>Vaginal, anal and/or oral sex</b>							
Did less since lockdown	..	100·0	38·4 (30·3,47·2)	45·4 (35·6,55·6)	19·5 (14·4,25·8)	41·4 (37·1,45·9)	<0·0001
No change since lockdown	..	0·0	26·2 (19·1,34·9)	31·9 (23·2,42·1)	47·9 (40·8,55·1)	31·8 (27·8,36·1)	
Did more since lockdown	..	0·0	35·4 (27·4,44·2)	22·7 (15·2,32·4)	32·6 (26·0,40·0)	26·8 (22·9,31·1)	
<i>Denominator (unwgt, wgt)*</i>	..	92, 73	157, 139	110, 86	239, 191	598, 488	
<b>Other contact with someone's genital area</b>							
Did less since lockdown	..	100·0	36·6 (28·7,45·3)	41·5 (31·8,51·9)	16·6 (11·4,23·4)	39·6 (35·2,44·2)	<0·0001
No change since lockdown	..	0·0	29·2 (21·6,38·0)	37·1 (27·7,47·7)	52·2 (44·6,59·7)	34·9 (30·7,39·4)	
Did more since lockdown	..	0·0	34·2 (26·3,43·2)	21·4 (13·6,31·9)	31·2 (24·5,38·9)	25·5 (21·5,29·9)	
<i>Denominator (unwgt, wgt) *</i>	..	96, 73	151, 133	107, 85	221, 180	575, 471	
<b>Masturbation</b>							
Did less since lockdown	18·6 (11·1,29·3)	14·1 (8·2,23·2)	20·0 (13·8,28·1)	13·2 (7·5,22·1)	20·4 (14·2,28·5)	17·9 (14·7,21·7)	0·054
No change since lockdown	52·7 (41·5,63·6)	41·8 (32·2,52·0)	32·1 (24·6,40·7)	32·8 (22·8,44·7)	38·8 (30·7,47·7)	39·3 (35·1,43·8)	
Did more since lockdown	28·8 (19·7,39·9)	44·1 (34·2,54·4)	47·9 (39·1,56·9)	53·9 (42·0,65·4)	40·8 (32·3,49·9)	42·7 (38·3,47·3)	
<i>Denominator (unwgt, wgt) *</i>	93, 93	115, 90	150, 135	81, 66	162, 132	601, 516	
<b>Using sex toys (by yourself or with someone else)</b>							
Did less since lockdown	..	38·5 (25·2,53·8)	20·6 (13·2,30·7)	16·9 (8·6,30·5)	27·4 (18·0,39·4)	27·2 (22·0,33·1)	0·015
No change since lockdown	..	29·2 (18·1,43·5)	38·4 (28·7,49·3)	35·1 (22·2,50·6)	42·3 (32·2,53·1)	36·8 (31·2,42·7)	
Did more since lockdown	..	32·3 (20·3,47·1)	41·0 (30·9,51·9)	48·0 (32·5,63·8)	30·3 (21·5,40·9)	36·0 (30·4,42·1)	
<i>Denominator (unwgt, wgt) **</i>	22, 16 #	56, 38	105, 88	48, 38 †	114, 84	345, 264	
<b>Messaging via dating apps/ online</b>							
Did less since lockdown	48·3 (34·8,62·0)	27·9 (19·2,38·4)	24·2 (16·7,33·7)	17·2 (9·1,30·1)	30·9 (19·8,44·8)	28·9 (24·2,34·1)	0·034
No change since lockdown	26·6 (16·2,40·5)	23·8 (16·0,33·7)	33·2 (24·7,43·1)	38·7 (26·7,52·3)	29·7 (20·0,41·8)	30·3 (25·7,35·3)	
Did more since lockdown	25·1 (15·5,38·0)	48·4 (38·0,58·9)	42·6 (33·2,52·6)	44·1 (31·2,57·9)	39·3 (27·9,52·1)	40·8 (35·8,46·1)	
<i>Denominator (unwgt, wgt) **</i>	64, 53	106, 79	124, 114	61, 48	83, 73	438, 367	
<b>Sexting (images or recorded videos)</b>							
Did less since lockdown	..	57·5 (43·6,70·2)	25·5 (17·5,35·6)	24·9 (15·1,38·3)	31·9 (21·6,44·2)	35·1 (29·6,40·9)	0·0001
No change since lockdown	..	19·1 (10·5,32·4)	24·5 (16·8,34·3)	26·2 (15·8,40·0)	31·6 (21·2,44·3)	26·5 (21·6,32·1)	

Did more since lockdown	..	23.4 (14.15,36.2)	50.0 (39.6,60.3)	48.9 (35.3,62.7)	36.5 (25.8,48.8)	38.4 (32.8,44.4)	
<i>Denominator (unwgt, wgt) **</i>	29, 26 #	61, 46	112, 100	59, 48	91, 77	352, 297	
<b>Using video or voice calls to interact with someone sexually</b>							
Did less since lockdown	..	68.6 (50.2,82.6)	26.9 (18.2,37.8)	23.0 (13.2,37.0)	26.8 (16.9,39.8)	34.5 (28.6,41.0)	<0.0001
No change since lockdown	..	10.2 (4.0,23.7)	28.1 (19.1,39.2)	25.0 (13.1,42.5)	30.4 (20.2,43.0)	24.4 (19.1,30.5)	
Did more since lockdown	..	21.2 (9.7,40.3)	45.1 (34.4,56.2)	52.0 (36.5,67.1)	42.8 (30.4,56.2)	41.1 (34.7,47.8)	
<i>Denominator (unwgt, wgt) **</i>	23, 24 #	35, 28 †	96, 93	49, 41 †	72, 65	275, 250	
<b>Looking at pornography</b>							
Did less since lockdown	14.2 (8.0,23.9)	21.6 (13.5,32.8)	18.9 (12.4,27.7)	14.4 (7.2,26.7)	19.8 (13.3,28.4)	18.2 (14.7,22.2)	0.38
No change since lockdown	55.2 (43.2,66.6)	40.8 (30.1,52.4)	38.0 (29.3,47.6)	36.3 (24.0,50.7)	43.4 (33.9,53.4)	42.9 (38.1,47.9)	
Did more since lockdown	30.6 (20.7,42.6)	37.6 (27.1,49.5)	43.1 (33.9,52.9)	49.3 (35.4,63.3)	36.8 (27.3,47.5)	38.9 (34.1,44.0)	
<i>Denominators (unwgt, wgt) **</i>	82, 82	89, 74	129, 118	59, 50	132, 108	491, 433	
<b>Paying for online sexual services (E.g. live streaming)</b>							
Did less since lockdown	..	..	28.8 (17.7,43.2)	..	28.5 (15.1,47.2)	37.9 (29.6,47.1)	<0.0001
No change since lockdown	..	..	26.3 (15.9,40.4)	..	23.3 (12.6,39.1)	21.6 (15.1,30.0)	
Did more since lockdown	..	..	44.9 (31.5,59.0)	..	48.2 (32.5,64.2)	40.4 (32.0,49.5)	
<i>Denominators (wgt, unwgt) **</i>	10, 9 #	13, 10 #	61, 62	18, 18 #	50, 48	152, 146	

CI=confidence intervals.

\* Denominator: All respondents (excluding those with no partnered experience ever) who reported the activity since lockdown OR did not do the activity during lockdown and reported a decrease.

\*\* Denominator: All respondents who reported the activity since lockdown OR did not do the activity during lockdown and reported a decrease

† Unweighted denominator <50. Results should be interpreted with caution due to small denominator.

# Unweighted denominator <30. Results not shown due to small denominator

**Appendix 7b: Extent and direction of perceived change in frequency of particular physical and virtual sexual activities compared to pre-lockdown, stratified by experience of partnered sex and relationship status since lockdown: Age-group 25-34 years**

Reported partnered sex since lockdown	No		Yes			All	p-value
	Among those reporting never having had partnered sex % (CI)	Among those reporting partnered sex ever but not since lockdown % (CI)	Among those not in a steady relationship % (CI)	Among those in a steady non-cohabiting relationship % (CI)	Among those in a steady cohabiting relationship % (CI)		
<b>Vaginal, anal and/or oral sex</b>							
Did less since lockdown	..	100.0	39.3 (32.2,46.8)	46.7 (37.5,56.1)	16.4 (14.1,19.1)	29.4 (26.9,32.0)	<0.0001
No change since lockdown	..	0.0	35.6 (28.8,43.1)	37.3 (28.7,46.7)	62.3 (59.0,65.5)	51.1 (48.3,53.9)	
Did more since lockdown	..	0.0	25.1 (19.1,32.2)	16.1 (10.4,24.0)	21.2 (18.6,24.1)	19.5 (17.4,21.8)	
<i>Denominator (unwgt, wgt)*</i>	..	124, 114	213, 188	126, 110	997, 912	1460, 1324	
<b>Other contact with someone's genital area</b>							
Did less since lockdown	..	100.0	46.6 (38.6,54.8)	45.0 (35.4,55.0)	15.4 (13.0,18.1)	30.1 (27.5,32.9)	<0.0001
No change since lockdown	..	0.0	34.8 (27.4,42.9)	39.5 (30.3,49.4)	64.1 (60.7,67.4)	52.0 (49.1,54.9)	
Did more since lockdown	..	0.0	18.6 (13.2,25.6)	15.5 (9.6,24.1)	20.6 (17.9,23.5)	17.9 (15.8,20.2)	
<i>Denominator (unwgt, wgt)*</i>	..	128, 118	182, 158	113, 100	925, 838	1348, 1214	
<b>Masturbation</b>							
Did less since lockdown	34.4 (21.9,49.4)	14.4 (10.1,20.1)	11.1 (6.7,17.7)	15.9 (9.5,25.3)	14.8 (12.1,17.9)	15.4 (13.3,17.7)	0.007
No change since lockdown	43.0 (30.0,57.1)	55.4 (47.8,62.8)	55.5 (47.1,63.7)	54.2 (42.9,65.2)	59.5 (55.5,63.5)	57.0 (53.9,60.1)	
Did more since lockdown	22.6 (13.3,35.9)	30.2 (23.6,37.8)	33.4 (26.0,41.7)	29.9 (20.5,41.4)	25.7 (22.3,29.4)	27.7 (25.0,30.5)	
<i>Denominator (unwgt, wgt)*</i>	63, 60	296, 186	173, 146	87, 73	679, 612	1208, 1075	
<b>Using sex toys (by yourself or with someone else)</b>							
Did less since lockdown	..	36.9 (26.3,49.1)	28.1 (19.8,38.2)	19.2 (10.6,32.3)	14.3 (11.0,18.3)	21.3 (18.1,24.8)	<0.0001
No change since lockdown	..	39.7 (29.1,51.3)	48.2 (38.4,58.1)	51.8 (38.2,65.2)	59.6 (54.3,64.7)	53.6 (49.5,57.6)	
Did more since lockdown	..	23.4 (14.7,35.0)	23.8 (16.4,33.1)	29.0 (18.0,43.0)	26.1 (21.7,31.1)	25.2 (21.8,28.9)	
<i>Denominator (unwgt, wgt)**</i>	26, 24 †	83, 62	122, 107	60, 47	418, 367	709, 606	
<b>Messaging via dating apps/ online</b>							
Did less since lockdown	53.5 (37.3,69.0)	34.1 (26.4,42.8)	27.8 (20.5,36.4)	16.3 (8.2,29.9)	29.1 (22.7,36.5)	30.8 (26.8,35.0)	0.043
No change since lockdown	22.0 (11.3,38.4)	30.3 (22.7,39.1)	35.9 (27.9,44.8)	49.8 (35.1,64.5)	35.7 (28.7,43.3)	34.5 (30.4,38.9)	
Did more since lockdown	24.5 (13.4,40.7)	35.6 (27.5,44.5)	36.3 (28.2,45.3)	33.9 (21.2,49.4)	35.2 (28.3,42.9)	34.7 (30.6,39.1)	
<i>Denominator (unwgt, wgt)**</i>	44, 37 †	149, 138	151, 131	51, 43	192, 181	587, 531	
<b>Sexting (images or recorded videos)</b>							
Did less since lockdown	..	45.7 (34.8,57.1)	28.1 (20.1,37.8)	11.3 (5.2,23.0)	26.1 (20.6,32.5)	30.4 (26.3,34.9)	<0.0001
No change since lockdown	..	24.8 (16.1,36.1)	33.6 (25.1,43.2)	53.3 (38.7,67.4)	39.8 (33.4,46.6)	36.0 (31.6,40.5)	

Did more since lockdown	..	29.5 (20.2,41.0)	38.3 (29.2,48.4)	35.4 (22.8,50.4)	34.1 (27.9,40.9)	33.6 (29.3,38.2)	
<i>Denominator (unwgt, wgt) **</i>	20, 19 ‡	88, 79	126, 110	52, 45	240, 227	526, 479	
<b>Using video or voice calls to interact with someone sexually</b>							
Did less since lockdown	..	51.4 (38.4,64.2)	22.3 (14.2,33.2)	13.7 (6.7,26.2)	29.2 (22.6,36.9)	32.4 (27.6,37.5)	<0.0001
No change since lockdown	..	17.4 (9.7,29.3)	37.5 (26.9,49.3)	40.1 (26.1,56.0)	28.3 (21.7,36.0)	28.9 (24.3,34.1)	
Did more since lockdown	..	31.2 (20.0,45.1)	40.3 (29.5,52.0)	46.1 (31.5,61.4)	42.5 (34.9,50.4)	38.7 (33.6,44.1)	
<i>Denominator (unwgt, wgt) **</i>	15, 16 ‡	67, 59	89, 86	46, 41 ‡	177, 169	394, 370	
<b>Looking at pornography</b>							
Did less since lockdown	30.2 (17.2,47.4)	14.0 (9.4,20.3)	10.5 (6.2,17.4)	9.1 (4.1,19.2)	12.5 (9.7,16.0)	13.2 (11.0,15.8)	0.079
No change since lockdown	44.4 (29.7,60.2)	53.6 (45.0,62.0)	54.8 (45.8,63.4)	60.5 (47.7,72.0)	57.7 (52.9,62.4)	56.0 (52.4,59.4)	
Did more since lockdown	25.4 (14.4,40.7)	32.5 (24.7,41.3)	34.7 (26.8,43.6)	30.4 (20.1,43.1)	29.8 (25.6,34.3)	30.8 (27.6,34.2)	
<i>Denominators (unwgt, wgt) **</i>	48, 51 ‡	160, 150	159, 139	70, 61	495, 469	932, 870	
<b>Paying for online sexual services (E.g. live streaming)</b>							
Did less since lockdown	..	..	31.1 (19.0,46.5)	..	20.6 (13.9,29.5)	34.8 (28.2,41.9)	<0.0001
No change since lockdown	..	..	26.2 (15.3,41.3)	..	30.7 (22.3,40.7)	25.2 (19.3,32.1)	
Did more since lockdown	..	..	42.7 (28.8,57.8)	..	48.6 (39.1,58.3)	40.1 (33.3,47.3)	
<i>Denominators (wgt, unwgt) **</i>	12, 13 ‡	23, 19 ‡	51, 51	12, 12 ‡	118, 117	216, 213	

CI=confidence intervals.

\* Denominator: All respondents (excluding those with no partnered experience ever) who reported the activity since lockdown OR did not do the activity during lockdown and reported a decrease.

\*\* Denominator: All respondents who reported the activity since lockdown OR did not do the activity during lockdown and reported a decrease

‡ Unweighted denominator <50. Results should be interpreted with caution due to small denominator.

‡ Unweighted denominator <30. Results not shown due to small denominator

**Appendix 7c: Extent and direction of perceived change in frequency of particular physical and virtual sexual activities compared to pre-lockdown, stratified by experience of partnered sex and relationship status since lockdown: Age-group 35-44 years**

Reported partnered sex since lockdown	No		Yes			All	p-value
	Among those reporting never having had partnered sex % (CI)	Among those reporting partnered sex ever but not since lockdown % (CI)	Among those not in a steady relationship % (CI)	Among those in a steady non-cohabiting relationship % (CI)	Among those in a steady cohabiting relationship % (CI)		
<b>Vaginal, anal and/or oral sex</b>							
Did less since lockdown	..	100·0	35·0 (25·4,46·0)	40·4 (27·0,55·4)	17·6 (15·0,20·5)	27·8 (25·0,30·7)	<0·0001
No change since lockdown	..	0·0	40·3 (30·2,51·3)	43·7 (29·9,58·5)	66·6 (63·0,69·9)	57·1 (53·9,60·2)	
Did more since lockdown	..	0·0	24·7 (16·5,35·3)	15·9 (7·6,30·4)	15·9 (13·4,18·8)	15·1 (12·9,17·6)	
<i>Denominator (unwgt, wgt)*</i>	..	<i>97, 105</i>	<i>92, 93</i>	<i>48, 51 †</i>	<i>795, 875</i>	<i>1032, 1124</i>	
<b>Other contact with someone's genital area</b>							
Did less since lockdown	..	100·0	33·9 (24·1,45·4)	35·6 (22·1,51·8)	17·0 (14·3,20·2)	27·5 (24·5,30·6)	<0·0001
No change since lockdown	..	0·0	44·2 (33·1,55·8)	45·0 (29·4,61·6)	67·5 (63·7,71·1)	57·9 (54·4,61·3)	
Did more since lockdown	..	0·0	21·9 (13·9,32·9)	19·4 (9·3,36·2)	15·4 (12·7,18·6)	14·7 (12·3,17·3)	
<i>Denominator (unwgt, wgt) *</i>	..	<i>90, 95</i>	<i>84, 84</i>	<i>39, 42 †</i>	<i>681, 746</i>	<i>894, 967</i>	
<b>Masturbation</b>							
Did less since lockdown	18·1 (9·3,32·2)	14·9 (10·2,21·2)	13·0 (7·0,23·0)	9·7 (3·1,26·2)	14·7 (11·7,18·2)	14·6 (12·2,17·3)	0·724
No change since lockdown	65·8 (50·8,78·2)	68·0 (60·5,74·66)	64·0 (51·8,74·6)	66·3 (47·8,81·0)	61·5 (56·9,66·0)	63·6 (60·1,67·0)	
Did more since lockdown	16·2 (7·9,30·1)	17·1 (12·2,23·5)	23·0 (14·4,34·7)	24·0 (12·0,42·3)	23·8 (20·0,28·1)	21·8 (19·0,25·0)	
<i>Denominator (unwgt, wgt) *</i>	<i>52, 51</i>	<i>195, 198</i>	<i>75, 72</i>	<i>31, 34 †</i>	<i>499, 536</i>	<i>852, 891</i>	
<b>Using sex toys (by yourself or with someone else)</b>							
Did less since lockdown	..	30·5 (20·3,43·0)	18·7 (9·7,32·8)	..	21·5 (16·6,27·5)	24·1 (19·8,28·9)	0·032
No change since lockdown	..	56·9 (44·2,68·7)	62·2 (46·5,75·7)	..	58·2 (51·5,64·7)	57·9 (52·5,63·0)	
Did more since lockdown	..	12·6 (6·3,23·5)	19·2 (9·6,34·6)	..	20·2 (15·4,26·2)	18·1 (14·3,22·6)	
<i>Denominator (unwgt, wgt) **</i>	<i>10, 11 †</i>	<i>68, 70</i>	<i>46, 42 †</i>	<i>16, 19 †</i>	<i>241, 257</i>	<i>381, 398</i>	
<b>Messaging via dating apps/ online</b>							
Did less since lockdown	..	42·7 (32·9,53·06)	15·7 (8·3,27·8)	..	23·3 (16·4,32·0)	29·5 (24·5,35·0)	0·023
No change since lockdown	..	37·1 (27·9,47·3)	42·3 (29·5,56·2)	..	42·7 (33·8,52·1)	40·9 (35·3,46·6)	
Did more since lockdown	..	20·2 (13·2,29·4)	42·0 (29·4,55·7)	..	34·0 (25·9,43·2)	29·7 (24·8,35·1)	
<i>Denominator (unwgt, wgt) **</i>	<i>26, 28 †</i>	<i>105, 111</i>	<i>59, 59</i>	<i>16, 18 †</i>	<i>129, 134</i>	<i>335, 350</i>	
<b>Sexting (images or recorded videos)</b>							
Did less since lockdown	..	41·0 (29·0,54·2)	21·4 (12·3,34·7)	..	27·4 (20·3,35·9)	31·3 (26·0,37·3)	0·020
No change since lockdown	..	28·3 (17·9,41·8)	44·0 (31·0,57·9)	..	39·8 (31·7,48·6)	37·4 (31·7,43·5)	



Did more since lockdown	..	30.7 (20.1,43.8)	34.5 (22.7,48.6)	..	32.8 (25.1,41.5)	31.3 (25.9,37.2)	
<i>Denominator (unwgt, wgt) **</i>	14, 13 #	66, 64	58, 57	15, 16 #	144, 151	297, 301	
<b>Using video or voice calls to interact with someone sexually</b>							
Did less since lockdown	..	57.7 (42.5,71.6)	31.4 (19.0,47.2)	..	33.1 (24.0,43.6)	40.2 (33.5,47.3)	0.009
No change since lockdown	..	24.3 (13.5,39.7)	29.4 (17.3,45.5)	..	34.0 (24.9,44.5)	29.7 (23.6,36.7)	
Did more since lockdown	..	18.0 (9.18,32.4)	39.1 (25.4,54.8)	..	32.9 (23.9,43.5)	30.1 (24.0,36.9)	
<i>Denominator (unwgt, wgt) **</i>	12, 14 #	46, 50 †	46, 47 †	11, 12 #	96, 108	211, 230	
<b>Looking at pornography</b>							
Did less since lockdown	22.9 (11.2,41.3)	16.4 (11.2,62)	9.7 (4.6,19.5)	..	14.9 (11.5,19.1)	15.4 (12.7,18.6)	0.43
No change since lockdown	56.1 (38.2,72.5)	63.2 (54.6,71.0)	55.1 (42.2,67.3)	..	60.1 (54.6,65.3)	60.2 (56.1,64.2)	
Did more since lockdown	21.0 (9.8,39.4)	20.5 (14.3,28.4)	35.2 (24.0,48.3)	..	25.0 (20.5,30.2)	24.4 (20.9,28.2)	
<i>Denominators (unwgt, wgt) **</i>	36, 35 †	158, 160	67, 65	20, 23 #	366, 393	647, 678	
<b>Paying for online sexual services (E.g. live streaming)</b>							
Did less since lockdown	..	..	..	..	43.3 (31.3,56.1)	44.0 (34.6,53.8)	0.036
No change since lockdown	..	..	..	..	30.9 (20.3,43.9)	25.8 (18.2,35.4)	
Did more since lockdown	..	..	..	..	25.9 (16.5,38.1)	30.2 (22.1,39.7)	
<i>Denominators (wgt, unwgt) **</i>	9, 9 #	15, 14 #	20, 20 #	5, 6 #	65, 73	114, 122	

CI=confidence intervals.

\* Denominator: All respondents (excluding those with no partnered experience ever) who reported the activity since lockdown OR did not do the activity during lockdown and reported a decrease.

\*\* Denominator: All respondents who reported the activity since lockdown OR did not do the activity during lockdown and reported a decrease

† Unweighted denominator <50. Results should be interpreted with caution due to small denominator.

# Unweighted denominator <30. Results not shown due to small denominator

**Appendix 7d: Extent and direction of perceived change in frequency of particular physical and virtual sexual activities compared to pre-lockdown, stratified by experience of partnered sex and relationship status since lockdown: Age-group 45-59 years**

Reported partnered sex since lockdown	No		Yes			All	p-value
	Among those reporting never having had partnered sex % (CI)	Among those reporting partnered sex ever but not since lockdown % (CI)	Among those not in a steady relationship % (CI)	Among those in a steady non-cohabiting relationship % (CI)	Among those in a steady cohabiting relationship % (CI)		
<b>Vaginal, anal and/or oral sex</b>							
Did less since lockdown	..	100·0	43·6 (33·1,54·6)	53·9 (41·2,66·2)	14·5 (12·3,16·9)	28·6 (26·1,31·3)	<0·0001
No change since lockdown	..	0·0	42·1 (31·8,53·1)	41·3 (29·6,54·2)	76·9 (74·0,79·6)	63·7 (60·8,66·4)	
Did more since lockdown	..	0·0	14·3 (8·2,23·9)	4·8 (1·6,13·4)	8·6 (6·8,10·7)	7·7 (6·3,9·5)	
<i>Denominator (unwgt, wgt)*</i>	..	153, 156	95, 88	66, 69	936, 1004	1250, 1315	
<b>Other contact with someone's genital area</b>							
Did less since lockdown	..	100·0	50·1 (39·1,61·2)	51·8 (38·8,64·4)	12·8 (10·7,15·4)	29·3 (26·6,32·2)	<0·0001
No change since lockdown	..	0·0	34·5 (24·8,45·6)	44·5 (32·2,57·6)	78·9 (75·7,81·7)	63·2 (60·2,66·2)	
Did more since lockdown	..	0·0	15·4 (8·8,25·4)	3·7 (1·0,12·9)	8·3 (6·5,10·6)	7·5 (6·0,9·3)	
<i>Denominator (unwgt, wgt) *</i>	..	150, 151	91, 83	62, 63	793, 842	1096, 1139	
<b>Masturbation</b>							
Did less since lockdown	13·3 (7·2,23·0)	15·5 (12·2,19·5)	14·4 (7·8,25·3)	18·6 (9·0,34·5)	13·7 (10·7,17·3)	14·6 (12·5,16·9)	<0·0001
No change since lockdown	77·6 (66·9,85·6)	75·8 (71·3,79·9)	58·0 (45·6,69·4)	51·4 (34·8,67·7)	74·2 (69·9,78·1)	73·3 (70·4,76·0)	
Did more since lockdown	9·1 (4·4,17·9)	8·6 (6·2,11·9)	27·6 (18·0,39·7)	30·1 (16·4,48·5)	12·1 (9·4,15·5)	12·2 (10·3,14·4)	
<i>Denominator (unwgt, wgt) *</i>	88, 88	414, 420	77, 68	40, 39‡	476, 473	1095, 1088	
<b>Using sex toys (by yourself or with someone else)</b>							
Did less since lockdown	..	36·0 (26·5,46·6)	23·8 (12·0,41·6)	..	16·7 (12·1,22·5)	24·2 (20·0,29·0)	0·004
No change since lockdown	..	55·3 (44·5,65·5)	56·1 (38·6,72·1)	..	71·0 (64·3,76·9)	63·1 (57·8,68·0)	
Did more since lockdown	..	8·8 (4·2,17·2)	20·2 (9·6,37·1)	..	12·3 (8·4,17·7)	12·7 (9·6,16·8)	
<i>Denominator (unwgt, wgt) **</i>	20, 21 ‡	96, 96	39, 34‡	21, 22 ‡	223, 225	399, 397	
<b>Messaging via dating apps/ online</b>							
Did less since lockdown	..	47·1 (37·8,56·7)	27·3 (15·4,43·7)	..	29·2 (19·6,41·1)	37·9 (32·0,44·1)	0·229
No change since lockdown	..	33·2 (24·9,42·6)	39·9 (25·5,56·3)	..	48·8 (37·3,60·5)	40·6 (34·6,46·8)	
Did more since lockdown	..	19·7 (13·1,28·4)	32·8 (20·1,48·6)	..	21·9 (13·9,32·9)	21·6 (16·9,27·1)	
<i>Denominator (unwgt, wgt) **</i>	24, 27 ‡	120, 118	48, 40‡	20, 21 ‡	85, 74	297, 279	
<b>Sexting (images or recorded videos)</b>							
Did less since lockdown	..	65·1 (52·8,75·7)	31·8 (16·0,53·1)	..	25·0 (15·6,37·5)	46·1 (38·8,53·6)	<0·0001
No change since lockdown	..	21·0 (12·6,32·8)	37·4 (20·2,58·6)	..	54·5 (42·1,66·4)	35·6 (28·8,43·1)	

Did more since lockdown	..	13.9 (7.5,24.3)	30.8 (16.0,51.1)	..	20.5 (12.4,31.9)	18.3 (13.4,24.5)	
<i>Denominator (unwgt, wgt) **</i>	14, 16 ‡	74, 73	30, 24 ‡	12, 11 ‡	77, 67	207, 191	
<b>Using video or voice calls to interact with someone sexually</b>							
Did less since lockdown	..	76.6 (61.5,87.0)	30.9 (16.0,51.2)	..	32.3 (20.8,46.4)	50.0 (41.6,58.3)	<0.0001
No change since lockdown	..	8.6 (3.3,20.8)	24.2 (11.7,43.4)	..	38.5 (26.5,52.1)	23.3 (17.1,30.9)	
Did more since lockdown	..	14.8 (6.8,29.3)	44.9 (27.2,64.1)	..	29.2 (18.7,42.6)	26.8 (20.1,34.8)	
<i>Denominator (unwgt, wgt) **</i>	10, 12 ‡	45, 44 ‡	32, 28 ‡	9, 10 ‡	64, 57	160, 152	
<b>Looking at pornography</b>							
Did less since lockdown	17.1 (9.0,30.1)	13.3 (9.7,18.0)	18.8 (10.0,32.6)	9.9 (3.2,27.1)	9.2 (6.5,12.9)	12.0 (9.8,14.6)	<0.0001
No change since lockdown	76.5 (63.3,86.0)	73.6 (67.9,78.6)	50.2 (36.5,63.9)	41.6 (24.7,60.8)	74.6 (69.6,79.0)	71.5 (68.0,74.7)	
Did more since lockdown	6.4 (2.4,16.0)	13.1 (9.4,17.8)	31.0 (19.8,45.1)	48.4 (30.0,67.3)	16.2 (12.6,20.6)	16.6 (14.0,19.5)	
<i>Denominators (unwgt, wgt) **</i>	63, 63	287, 275	60, 52	32, 30 ‡	364, 346	806, 765	
<b>Paying for online sexual services (E.g. live streaming)</b>							
Did less since lockdown	..	..	..	..	..	68.1 (56.2,78.1)	<0.0001
No change since lockdown	..	..	..	..	..	16.7 (9.8,27.0)	
Did more since lockdown	..	..	..	..	..	15.2 (8.4,26.0)	
<i>Denominators (wgt, unwgt) **</i>	9, 10 ‡	24, 25 ‡	11, 10 ‡	5, 4 ‡	24, 23 ‡	73, 72	

CI=confidence intervals.

\* Denominator: All respondents (excluding those with no partnered experience ever) who reported the activity since lockdown OR did not do the activity during lockdown and reported a decrease.

\*\* Denominator: All respondents who reported the activity since lockdown OR did not do the activity during lockdown and reported a decrease

‡ Unweighted denominator <50. Results should be interpreted with caution due to small denominator.

‡ Unweighted denominator <30. Results not shown due to small denominator

**Appendix 8: Percentages, crude and adjusted odds ratios (OR) for perceiving a decrease and an increase (each relative to no change) in sexual frequency compared to pre-lockdown, according to experience of partnered sex/relationship status since lockdown, gender, and age-group**

	Reported no change/ stayed the same sexual frequency since lockdown		Reported <i>decreased</i> sexual frequency since lockdown				Reported <i>increased</i> sexual frequency since lockdown			
	% (95% CI)	Denominator (unweighted- weighted) <sup>‡</sup>	% (95% CI)	OR (95% CI)	RAGS Adjusted OR (95%CI)	Denominator (unweighted- weighted) <sup>‡</sup>	% (95% CI)	OR (95% CI)	RAGS Adjusted OR (95% CI)	Denominator (unweighted- weighted) <sup>‡</sup>
<b>Partnered sex and relationship status since lockdown</b>										
Had partnered sex since lockdown and in a steady cohabiting relationship	56.8 (54.9-58.7)	1629, 1665	23.9 (22.3-25.6)	1.00	1.00	731, 701	19.3 (17.9-20.9)	1.00	1.00	573, 567
Had partnered sex since lockdown and in a steady non-cohabiting relationship	36.7 (31.4-42.3)	127, 117	50.3 (44.7-55.9)	3.25 (2.50-4.24)	2.75 (2.08-3.63)	176, 160	13.0 (9.8-17.2)	1.04 (1.49-2.57)	0.76 (0.52-1.13)	49, 42 **
Had partnered sex since lockdown and not in a steady relationship	33.3 (29.0-37.9)	164, 167	44.5 (40.0-49.1)	3.17 (2.51-4.01)	2.64 (2.06-3.38)	255, 223	22.2 (18.7-26.2)	1.96 (1.49-2.57)	1.47 (1.10-1.97)	131, 111
Not had partnered sex since lockdown	66.0 (63.3-68.5)	948, 975	33.3 (30.8-35.9)	1.20 (1.03-1.39)	1.29 (1.10-1.50)	499, 492	0.7 (0.4-1.5)	Excluded from model <sup>†</sup>		9, 11 *
<b>Age-group</b>										
45-59	67.9 (65.7-70.1)	1273, 1384	25.4 (23.4-27.5)	1.00	1.00	512, 517	6.7 (5.6-8.0)	1.00	1.00	125, 136
35-44	57.9 (55.0-60.8)	730, 790	28.3 (25.7-30.9)	1.31 (1.10-1.55)	1.31 (1.10-1.57)	363, 385	13.8 (11.9-16.0)	2.43 (1.87-3.15)	1.78 (1.35-2.34)	174, 189
25-34	47.6 (44.9-50.2)	787, 709	32.3 (29.9-34.9)	1.82 (1.55-2.14)	1.74 (1.47-2.07)	532, 482	20.1 (18.1-22.3)	4.30 (3.39-5.46)	2.72 (2.11-3.51)	332, 300
18-24	39.3 (35.4-43.4)	274, 230	40.1 (36.2-44.2)	2.73 (2.20-3.38)	2.51 (1.96-3.21)	299, 235	20.6 (17.4-24.1)	5.32 (3.95-7.16)	4.03 (2.87-5.67)	145, 120
<b>Gender</b>										
Men	55.9 (53.8-57.9)	1478, 1533	31.0 (29.2-32.9)	1.00	1.00	857, 851	13.2 (11.8-14.6)	1.00	1.00	343, 361
Women	57.8 (55.8-59.7)	1576, 1569	28.1 (26.4-29.9)	0.88 (0.77-1.00)	0.87 (0.76-1.00)	845, 764	14.1 (12.8-15.5)	1.03 (0.87-1.22)	1.14 (0.94-1.38)	432, 382

<sup>‡</sup> Denominator: All respondents who reported partnered sex ever (excluding those missing/ 'did not answer' question on change in frequency)

<sup>§</sup> Adjusted for RAG - relationship status, age and gender

<sup>†</sup> Excluded from analysis as this group reported no partnered sex since lockdown, therefore would not have the opportunity to report an increase.

**Appendix 9: Percentages, crude and adjusted odds ratios (OR) for perceiving a decrease and an increase (each relative to no change) in sexual satisfaction compared to pre-lockdown, according to partnered sex/relationship status, gender and age-group**

	Reported no change/ stayed the same sexual satisfaction since lockdown		Reported decreased sexual satisfaction since lockdown					Reported increased sexual satisfaction since lockdown				
	% (95% CI)	Denominator (unweighted, weighted) ‡	% (95% CI)	OR (95% CI)	RAGS Adjusted OR (95%CI)	RAGS and sexual satisfaction Adjusted OR (95%CI)	Denominator (unweighted, weighted) ‡	% (95% CI)	OR (95% CI)	RAGS Adjusted OR (95%CI)	RAGS and sexual satisfaction Adjusted OR (95%CI)	Denominator (unweighted, weighted) ‡
<b>Partnered sex and relationship status since lockdown</b>												
Had partnered sex since lockdown and in a steady cohabiting relationship	66.6 (64.7-68.4)	1909, 1948	16.5 (15.2-18.0)	1.00	1.00	1.00	509, 484	16.9 (15.5-18.4)	1.00	1.00	1.00	509, 495
Had partnered sex since lockdown and in a steady non-cohabiting relationship	55.7 (50.0-61.2)	191, 177	25.5 (20.9-30.7)	1.84 (1.38-2.47)	1.54 (1.14-2.09)	0.88 (0.62-1.24)	88, 81	18.8 (14.9-23.5)	1.33 (0.97-1.82)	1.03 (0.74-1.44)	1.35 (0.94-1.94)	71, 60
Had partnered sex since lockdown and not in a steady relationship	43.7 (39.1-48.3)	225, 218	31.0 (26.9-35.4)	2.86 (2.24-3.64)	2.29 (1.77-2.97)	1.73 (1.29-2.32)	177, 155	25.4 (21.6-29.5)	2.29 (1.78-2.94)	1.65 (1.25-2.18)	1.64 (1.18-2.27)	146, 127
Not had partnered sex since lockdown	64.9 (62.2-67.4)	934, 963	32.7 (30.2-35.3)	2.03 (1.73-2.37)	2.25 (1.91-2.66)	2.19 (1.81-2.65)	488, 485	2.5 (1.8-3.5)	0.15 (0.11-0.22)	0.18 (0.13-0.26)	0.36 (0.25-0.54)	37, 37**
<b>Age-group</b>												
45-59	74.6 (72.5-76.6)	1407, 1523	18.8 (17.1-20.7)	1.00	1.00	1.00	376, 384	6.6 (5.6-7.9)	1.00	1.00	1.00	130, 135
35-44	63.9 (61.1-66.6)	807, 871	23.7 (21.4-26.3)	1.47 (1.23-1.77)	1.67 (1.38-2.03)	1.62 (1.31-2.00)	301, 324	12.4 (10.6-14.4)	2.18 (1.68-2.83)	1.77 (1.35-2.31)	1.48 (1.10-1.99)	157, 168
25-34	56.2 (53.6-58.8)	921, 838	24.4 (22.2-26.7)	1.72 (1.44-2.05)	1.97 (1.63-2.38)	1.69 (1.36-2.10)	407, 364	19.4 (17.4-21.6)	3.29 (3.08-4.92)	2.81 (2.19-3.59)	2.00 (1.53-2.61)	319, 289
18-24	45.5 (41.5-49.6)	327, 269	31.5 (27.8-35.4)	2.74 (2.19-3.44)	2.64 (2.05-3.41)	2.18 (1.59-3.00)	227, 186	23.0 (19.7-26.6)	5.69 (4.28-7.55)	4.39 (3.20-6.02)	2.95 (2.04-4.25)	168, 136
<b>Gender</b>												
Men	55.9 (58.9-62.9)	1630, 1683	25.2 (23.5-27.0)	1.00	1.00	1.00	691, 697	13.9 (12.5-15.3)	1.00	1.00	1.00	368, 383
Women (including trans women)	66.8 (64.9-68.6)	1824, 1810	20.5 (19.0-22.1)	0.74 (0.65-0.85)	0.75 (0.65-0.87)	0.76 (0.65-0.90)	615, 556	12.7 (11.5-14.0)	0.84 (0.71-0.99)	0.86 (0.72-1.03)	0.78 (0.64-0.96)	405, 344
<b>Sexual frequency</b>												
Stayed the same since lockdown	83.1 (81.7-84.5)	2504, 2576	11.1 (10.0-12.3)	1.00		1.00	355, 344	5.8 (5.0-6.7)	1.00		1.00	190, 180
Decreased since lockdown	38.5 (36.0-41.0)	647, 616	53.7 (51.1-56.3)	10.46 (8.89-12.30)		10.11 (8.49-12.03)	902, 860	7.9 (6.6-9.4)	2.93 (2.26-3.79)		2.13 (1.69-2.91)	134, 126
Increased since lockdown	38.3 (34.7-42.1)	286, 284	4.8 (3.5-6.7)	0.95 (0.64-1.39)		1.03 (0.69-1.54)	38, 36*	56.8 (53.0-60.6)	21.25 (16.95-26.64)		14.27 (11.21-18.18)	447, 421

\* Denominator: All respondents who reported partnered sex ever (excluding those missing/ 'did not answer' question on change in satisfaction)  
§ Adjusted for RAG - relationship status, age and gender