

# Sex and the Asian City: Low Sex Marriages in Singapore

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## Extended abstract

*“I work 10 hours a day, and when I get home and my boyfriend even mentions sex, I just sort of recoil...A relationship in this city is like a second job. You just get so tired out.”*

Carmen Leow, 20 years old (Los Angeles Times, 24 December 2006)

## Background

In 2005, the condom company Durex carried out an online survey with 317,000 adult respondents from 41 countries. The average number of sexual encounters per year was estimated to be around 103, with Asian societies reporting the lowest frequencies: Japan (45), Singapore (73), India (75), Indonesia (77) and Hong Kong (78). This paper investigates whether a) low sexual frequency is observed among married couples in the city state of Singapore, so that the low levels cannot be fully explained by social disapproval of non-marital sex and childbearing, and b) the extent to which lifestyle and stress explain the observed sexual activity patterns.

Previous literature suggests that average sexual frequency is around 5-6 times a month among Singaporeans aged 30-55, and among men and women aged 30-40, 90.9% and 79.4% report having less sex due to stress (Goh et al. 2004). The biomedical literature suggests that stress may reduce sexual libido and sexual frequency. Physiologically, chronic stress builds up an individual's allostatic load and increases cortisol levels, causing inhibited or delayed release of ovulatory hormones, including LH, and hyposecretion of corticotrophin-releasing hormone, causing implantation probability to be lower (Hamilton and Meston 2013; Lynch et al. 2012). Psychologically, stress can also distract individuals from focusing on sexual cues (Hamilton and Meston 2013).

## Methods

The survey data were collected from 657 women using cluster sampling at the five main geographical regions of Singapore: Central, North, Northeast, West and East, between April and July 2018. Participants were recruited directly on the street and screened for the following inclusion criteria: currently married; aged 25-34 in 2018; either Singaporean or married to a Singaporean; and able to speak, read and write in English. All participants received a S\$20 token of appreciation for their participation in a 60-minute baseline interview, which collected information on household demographics, fertility intentions and preferences, levels of stress and work-life balance, life and marital satisfaction, social views and marital coital activity, which were based on the Sexual Activity Questionnaire in Thirlaway, Fallowfield and Cuzick (1996). All interviews were conducted face-to-face in English. The more confidential information, e.g. life and marital satisfaction and coital activity, was collected using computerized self-administered questionnaires. In addition, participants received additional tokens of up to \$100 for participation in biweekly diaries conducted online over the next 14 weeks, which records the dates of the first day of menstrual flow and coital activity during the past two weeks. 618 participants (93.64%) completed all diaries. Sampling weights were constructed to obtain a representative sample with respect to the age, racial and educational

distributions of married female residents in this age range, based on published statistics from the 2015 General Household Survey conducted by the Department of Statistics.

## Results

Preliminary analysis shows that among Singaporean married women in prime ages of childbearing, the vast majority (93.8%) have been sexually active in the past year, but sexual frequency is fairly low at less than four times a month, or around 44 times a year (Table 1). Sexual activity is substantially higher among younger women in their late 20s than women in their early 30s, at around five and three encounters per month respectively, consistent with literature showing a negative relationship between age and sexual activity due to poorer health, declining testosterone and habituation (Cheung et al. 2008; Ghuman 2005; Goh and Tong 2010; Thirlaway, Fallowfield and Cuzick 1996). For both age groups, actual frequency is lower than self-reported ideals, especially among older women.

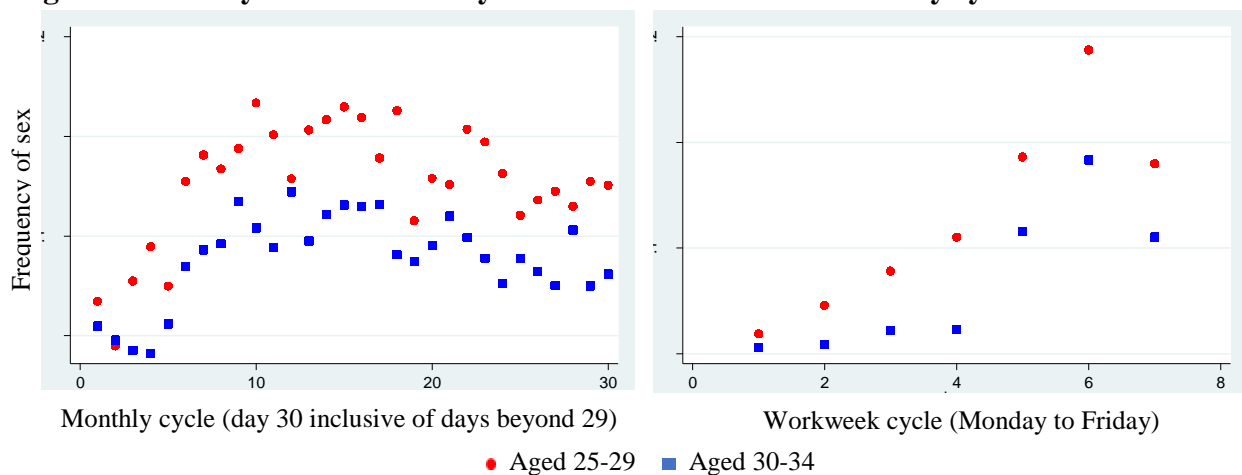
**Table 1: Sexual Frequency and Interest Among Married Singaporean Women, By Age**

	All	Aged 25-29	Aged 30-34
Sexually active in the past year (%)	93.80	94.83	93.36
Sexual frequency in the past 30 days	3.63	5.01	3.04
Satisfaction with sexual frequency (1 = Very dissatisfied, 5 = Very satisfied)	3.42	3.69	3.31
Ideal frequency per month	5.57	6.40	5.21
Desired to have sex in the past 30 days (%)	74.99	78.04	73.68
Too tired to have sex in the past 30 days (%)	89.48	87.79	90.21
Enjoyed having sex in the past 30 days (%)	90.97	90.00	91.44
Observations	657	254	403

Notes: All figures are adjusted for sample weights.

While around 75% of respondents desired to have sex in the past month, nearly 90% reported being too tired to have sex, suggesting that lifestyle features heavily in determining marital sexual behavior. Fig. 1 shows that both biological and lifestyle influences affect probability of sexual activity: probabilities tend to be lowest at the start of the menstrual cycle and to peak between the 10<sup>th</sup> and 20<sup>th</sup> day. In addition, the workweek also matters, with sex happening more on Fridays and weekends, especially on Saturday. Among 30-34 year-olds, probability of sexual activity is extremely low from Mondays to Thursdays.

**Fig 1: Probability of sexual activity across the menstrual and weekly cycles**



**Table 2: Impact of Stress and Tiredness on Daily Probability of Sex, By Age**

	All	Aged 25-29	Aged 30-34
<b>Stress level</b>			
Very stressful	-	-	-
Quite stressful	1.498***	1.418*	1.560***
Neither relaxed nor stressful	1.673***	1.398*	1.847***
Quite relaxed	1.874***	1.369	2.247***
Very relaxed	1.641**	1.623*	1.676**
<b>Tiredness level</b>			
Very tiring	-	-	-
Quite tiring	1.220**	1.107	1.307**
Average	1.513***	1.433***	1.584***
Not tiring	1.442**	1.542*	1.261
Not tiring at all	2.001	0.978	2.551*
<b>Day of the week</b>			
Monday	-	-	-
Tuesday	1.025	1.245	0.921
Wednesday	1.176*	1.703***	0.960
Thursday	1.371**	1.995***	1.099
Friday	2.367***	2.988***	2.103***
Saturday	3.193***	3.881***	2.920***
Sunday	2.041***	2.500***	1.868***
Public holiday eve	1.227	1.139	1.292*
Public holiday	1.204	1.114	1.251
Pseudo R <sup>2</sup>	0.143	0.138	0.143
Observations	43,920	15,768	28,097

Notes: All estimates are odds ratios, generated using a logistic fixed effects model controlling for day of menstrual cycle and month fixed effects, and adjusted for sample weights. Standard errors are clustered at the individual level. \*\*\*, \*\*, and \* correspond to statistical significance at 1%, 5% and 10% level respectively.

Table 2 further investigates the extent to which lifestyle and stress affect sexual activity patterns. Respondents who self-report being very stressed or very tired in the past two weeks are also less likely to report sexual activity. The effects of stress and tiredness are also generally larger for women aged 30-34, suggesting that lifestyle inhibitors may be major contributors to the large gap in sexual frequency observed between the two age groups (Table 1).

## Discussion

The biodemography literature identifies coital frequency as one of the main proximate determinants of fertility, along with natural fertility, postpartum infecundability, breastfeeding and waiting time to conception (Bongaarts and Potter 2013). Low levels of sexual activity imply longer waiting times to conception, in a reversal of the quiet sex revolution leading to shorter intervals between marriage and childbearing in Taiwan during the 1950s to early 1970s (Rindfuss and Morgan 1983). Mills et al. (2011) estimates that the mean age of childbearing has increased by approximately one year per decade since the 1970s in OECD countries, in part due to increases in women's education and labor force participation, ideational and value changes and lack of supportive policies. Hence, one of the reasons for Singapore's fertility rate, which hit an extreme low of 1.16 in 2017, may be the incompatibility between long and punishing work schedules and healthy marital sex lives.

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