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(No) Babies without Sex?
Exploring the Link between Couples' Sexual Frequency and Parity

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INTRODUCTION AND BACKGROUND

Humans, like all mammals, reproduce sexually. Thus, sexual intercourse is a necessary prerequisite for human reproduction (Wilcox et al., 1995), and sexual activity, or "sexual exposure", is coined a key proximate determinant of fertility (Bongaarts, 1978). Moreover, sexuality (i.e. sexual desire, attraction, activity, and satisfaction) is a defining component of human romantic relationships and mating processes—likely even *the* relational component, which distinguishes intimate relationships, in which reproduction usually occurs, from other types of relationships (Donnan & Magowan, 2020; Impett et al., 2014). Yet, in demographic research on fertility and family dynamics, sexuality and sexual behaviours are usually mentioned in passing only, if at all. This means that, astonishingly, demographers have not yet systematically examined whether, and if so how so, variation in sexual behaviours may be linked to the variation in human reproduction that is observed between individuals, social groups, and across space and time.

Evidence from other disciplines, however, shows significant linkages between sexual behaviours in general and sexual frequency in particular on the one hand and aspects if human fertility on the other. For instance, the biomedical sciences document that age-related differences in the frequency and timing of sexual intercourse are a decisive factor underlying age-variation in conception rates among human couples. (Konje & Ladipo, 2021; McDONALD et al., 2011; Stanford & Dunson, 2007). Lower conception rates of women aged 30-35 compared with conception rates of women aged 25-29 were explained by lower sexual frequency among the older age group (McDONALD et al., 2011).

While it is hardly surprising that the frequency of sexual intercourse is related to conception rates among couples (medically assisted reproductive technologies aside), It furthermore emerges that sexual frequency may even have an additional and perhaps causal effect on human fertility by enhancing fecundity. Shorter time windows between ejaculations have been linked to some improved semen parameters and higher in vitro conception success (Hanson et al., 2018). Also, sexual frequency among women aged 42-52 predicted their subsequent age at menopause, supporting the hypothesis that higher rates of sexual frequency may trigger prolonged windows of ovulation among women who enter the end of their reproductive life span (Arnot & Mace, 2020). Finally, low sexual frequency and low sexual satisfaction appear to accelerate union dissolution, especially among cohabiting couples (Masoumi et al., 2016; Veroff et al., 1995; Yabiku & Gager, 2009), thereby serving as a potential determinant of fertility via affecting union stability.

Sexual frequency thus appears to be essential for couples' conception rates and reproduction, all else equal. However, demographic research is yet to examine this link to date with representative data. This study sets out to make a first descriptive step into closing this research gap. It investigates the association between couples' sexual frequency, their number of children, and transition rates to first births in the German Panel Analysis of Intimate Relationships and Family Dynamics (pairfam). This sample follows adults of childbearing aged adults for 12 years and offers measures on union- and fertility histories, fertility preferences, and the sexual lives of respondents. It allows to control for a variety of measures which may affect both a couples' sexual frequency and fertility, such as fertility motivations, contraceptive usage, socio-economic background etc. It is therefore well suited to address this question.

RESEARCH QUSTION AND HYPOTHESES

The aim of this study is to address two basic research questions:

First, does sexual frequency vary between couples of various parities? If so why so? Do sexually more active couples select into (continued) childbearing? Does the number of children a couple has affect its sexual frequency? Do fertility preferences and plans (or other factors such as aspired or lived work family divisions) affect both sexual frequency and fertility outcomes?

Second, does sexual frequency predict a couples' transition rate to the first birth, all else equal?

It is well known that, on average, sexual frequency declines over a couples' lifetime. From a life course perspective, sexual frequency is expected to decline after the birth of a first child, a finding that is well documented in the literature. How sexual frequency changes with subsequent birth transitions is, however, less well known. It can be expected to decline further if the demands of parenting and life stresses hamper a couples' sexual activity. On the other hand, couples' who engage in more frequency sexual intercourse, for instance because they may have stronger childbearing preferences or desire a higher number of children, may be more likely to transition to a subsequent birth (sooner). The following hypotheses can be derived:

H1 Sexual frequency declines after the birth of a first baby. Nulliparous couples are therefore expected to have a higher sexual frequency than parents (life course perspective)

H2 Among parents, sexual frequency further declines with each subsequent child, due to life stresses and lack of opportunity for sexual activity, unless a couple actively tries to conceive another pregnancy (life course and stress perspective).

H3 Alternatively, sexual frequency is expected to increase with increasing number of children couple has because couples who engage in sexual intercourse often more often, for whichever reasons, are more likely to move to higher parities sooner.

H4 The higher the sexual frequency the faster the transition to first birth among couples, net of fertility intentions and contraceptive usage.

DATA and METHOD

Data

We draw on data from the Panel Analysis of Intimate Relationships and Family Dynamics (pairfam), a panel survey from Germany[1]. Yearly waves were collected since 2008/09. We use data release 13.0, but limit our sample to waves 1-11 (collected up to 2019) because of non-trivial changes to the data collection procedure during the pandemic. The pairfam has a three-birth cohort design. It includes focal individuals born in the years 1971-73, 1981-83, and 1991-93. In addition to focal individuals, partners and other family members were surveyed. However, partners' response rates were only around 50%, we therefore use information provided by the focal individuals only, e.g. on sexual frequency, fertility intentions, and contraceptive usage.

Analytic Sample and Sample Descriptives

We restrict the analyses to heterosexual co-residential couples living together for at least two panel waves. We formed two different samples. First, we include both childless couples and parents to understand the association between sexual frequency and parity across the life course. The second sample includes childless couples only, to estimate first birth hazards as a function of sexual frequency. For the first sample estimating the association between sexual frequency and parity, we chose the focal individual's relationship with the longest duration if there was more than one co-residential relationship observed. This sample consists of 5524 couples, and 20,672 couple year observations; 51.2 % of focal individuals are women. We include observations from the 'DemoDiff' sample, an oversample of

[1] *This paper uses data from the German Family Panel pairfam, coordinated by Josef Brüderl, Karsten Hank, Johannes Huinink, Bernhard Nauck, Franz Neyer, and Sabine Walper. pairfam is funded as long-term project by the German Research Foundation (DFG).*

individuals from East Germany added in 2011, constituting 13.9 percent of the sample. In total, almost a third of couples in our sample reside in East Germany (30.2%). 38.5% of the couple years are spent childless, 23.4% with one child, 28.3 with two children, an around 10% with three or more children (Table 1a). Table 1b cross tabulates the number of children with and the sexual frequency in sample 1. A curvilinear relationship emerges, as can be seen in the cells of table 1b. Couples with no children have the highest average sexual frequency (3.90, please see below for description of the units of this measurement), couples with 1 or 2 children the lowest frequency (3.28, 3.27), and frequency rises again with each additional child (3.42 with 3 children, 3.54 with 4 children, 3.87 with 5 or more children).

The second sample consists of 3316 childless couples, of which 322 make the transition to first birth during the panel. About 8 percent of couples say they are definitely intending a baby in the next two years, 18% say they will probably intend a pregnancy, 25% say they will probably not intend a pregnancy and 37% definitely do not want to become a parent. Please see tables 2a and 2b for more details, including descriptive statistics on the distribution of sexual frequency by fertility intentions.

Measures

Sexual frequency is measured on a scale from 1 (not in the last three months) to 7 (daily), with 3 meaning 2-3 times per month and 4 meaning once per week. We use information on sexual frequency provided by the anchor individual and control for the sex of the anchor to adjust for systematic reporting differences between men and women in all models.

The couples' number of children is taken from the fertility histories pairfam provides. To estimate sexual frequency as a function of the couples' number of children, we entered the number of children as a categorical variable to the models, topcoding number of children at 7. However, couples with more than 3 children are rare (2% of couple years are spent with 4 children or more), we therefore experiment with top coding the number of children at 6, 5, and 4 children, to test if results are being driven by outliers.

We control for various socio-demographic characteristics. These are the sex of the focal person, the woman's age, the focal individual's birth cohort, marital status of the couple, an indicator for East/West German residence, and a DemoDiff sample indicator. Women are on average 35 years old (the man's age was highly correlated, not significant, and was therefore excluded), couples in sample 1 have 1.3 children, and that the two older cohorts make up over 90% of the sample. We also control for his and her education in the analyses that predict the sexual frequency by parity. Education is measured in 4 mutually exclusive categories: up to lower secondary, upper secondary (reference group), tertiary, and currently enrolled in education. We coded education enrolment as a separate education category, because a significant proportion of this rather young sample is being enrolled in education (2.9% of male observations, 4.4% of women's). The analyses predicting first birth do not control for education.

Method

To address the first research question, namely how sexual frequency varies among couples at various parities, we estimate linear panel regression to predict a couples' sexual frequency over time, with and without couple fixed effects. All models employ clustered standard errors. The number of children the couple currently has is the main predictor.

To address the second research question, whether sexual frequency predicts the time to conception leading to a first live birth, we estimate piecewise constant event history models.

RESULTS

Sexual frequency and parity

Figures 1a-1d and 2a-2d address the first research question (and H1-H3). They show the predicted frequency of sexual intercourse among couples at various parities in sample 1 comprising 5524 German couples of childbearing age at all parities. Predictions shown in Figure 1 are estimated using linear panel regression models; predicted values shown in Figure 2 are estimated using linear panel

regression with couple level fixed effects. Predicted probabilities are estimated holding the other covariates constant at their mean.

In Figure 1 panels a-d, a curvilinear relationship between number of children and sexual frequency emerges. Panel a of Figure 1 indicates that childless couples have among the highest predicted sexual frequency, engaging in sexual intercourse about once per week. Sexual frequency significantly declines after the first birth, to about 2-3 times per month (3.4), remaining at that value for couples with two and three children. Thereafter, sexual frequency rises again with each additional child, is the highest among couples with 6 children (more than once per week), and slightly declines again among couples with 7 or more children. Panels b-d estimate the same model, top coding the number of children at 6,5, and 4 respectively. The curvilinear result remains unchanged: Sexual frequency declines after the first birth, is very similar among couples with 1, 2, or children, thereafter increases again. Couples with 4 or more children (panel d) engage in sexual activity significantly more often than couples with 1,2, or 3 children ($p<.01$). Yet, in the model shown in panel d, the average predicted sexual frequency of couples with 4 or more children still remains below that of childless couples (3.6 vs. 4, $p<.001$).

Figure 2, panels a-d estimate the same models using couple fixed effects. As in the models without fixed effects, sexual frequency significantly declines after the first birth, remaining similar among couples with 1, 2, and 3 children. While the predicted sexual frequency slightly increases again with each additional child, the differences between couples wth 4 or 5 children are now statistically insignificant. Couples with 6 or 7 children still have significantly higher sexual frequency than other couples with children, however, these predicted values are estimated on a very low number of couple years, as families with 6 or more children are very rare in Germany. Panel d, in which the number of children is top coded at 4, does not indicate a significantly higher sexual frequency among couples with 4 children compared to parents with fewer children. This indicates that the higher sexual frequency of high-parity couples may be rooted in unobserved factors, hence, unobserved heterogeneity between higher parity couples and other parents.

Sexual frequency and transition to parenthood

Tables 3-6 and Figure 3 present results speaking to the second research question, whether sexual frequency predicts the transition to parenthood.

Table 3 cross shows descriptive statistics of the number of first birth occurring during the panel by fertility intentions of the focal person. About 30% of those who say they definitely intend to become a parent do have a first live birth during the panel; the corresponding percentage for those who probably want a child, probably don't want a child and definitely didn't want a child are 11%, 3% and 2% respectively. Note that more than half of births occur to couples in the latter three groups, hence to couples who did not definitely intend a birth, as they are much larger than the group definitely intending parenthood.

Table 4 indicates that sexual frequency, here entered as a linear predictor, has a positive and highly significant effect on experiencing a conception leading to a first live birth, net of contraceptive usage, and a control for in fecundity. Each unit increase in sexual frequency increases the odds of a conception by .23. Once fertility intention are entered into the model (Table 5), the positive effect of sexual frequency on first conception remains, however, it is now only marginally significant and the coefficient reduces to 1.11. Table 6 shows a model, which interacts sexual frequency with the fertility desire. Figure 3 plots predicted probability of a conception leading to a first live birth. Sexual frequency does not seem to affect contraception chances among those who definitely are intending a pregnancy, or those who definitely don't intend a pregnancy. However, higher sexual frequency significantly increases the chances of a contraception among those who probably intent a pregnancy: In this group, the probability of a first live birth rises from 5% among those who have sex once per month or less to 15% among couples who have sex daily, net of contraceptive usage and infecundity. There are also small increases in the predicted probability of conception among couples who probably don't want a child with increases in sexual frequency, however, they are statistically insignificant.

DISUCSSION AND OUTLOOK

Taken together, our results indicate a significant association between couples' sexual frequency and their fertility. Our first finding shows clear differences in sexual frequency by the number of children a couple has. Unsurprisingly, sexual frequency drops after the first birth, confirming prior research, and offering support for H1. Less is known on how sexual frequency develops once couples have more than once child. We show that sexual frequency remains at the same lower level at parities two and three but is significantly higher among couples with four or more children, suggesting a curvilinear relationship between sexual frequency and the number of children. Fixed effects models further show that the drop in sexual frequency after the first birth is robust for controlling for unobserved couple level heterogeneity, while the increase in sexual frequency among couples with four or more children is not. This indicates that couples at high parities differ from couples who have fewer children on unobserved characteristics, which may underlie both their higher sexual frequency and higher parity. These could be unobserved factors such as relationship quality, general family size desires, sexual behaviors, cultural background, or other factors. Controlling for relationship duration does not change these results (not shown), hence, higher sexual frequency of couples with 4 or more children should not be due to shorter relationship duration/multi-partnered fertility. We thus reject H2, as we don't find that sexual frequency further drops with each additional child. There is rather partial support for H3, which suggested that sexual frequency may increase with each parity, but this only holds for couples with four or more children, and seems to be due to unobserved characteristics of these couples. More research is needed to understand why sexual frequency is higher among parents with four or more children compared to other parents.

Addressing our second research question, we also find a positive relationship with higher sexual frequency and a faster transition to first birth, even net of contraceptive usage. Interestingly, this relationship varies by fertility intentions. Sexual frequency appears to make a significant difference for the occurrence and timing of a conceptions only among couples who perhaps would like a child in the next two years but are not definitely sure about it. As the models control for contraceptive

usage, these couples perhaps unwittingly adjust their sexual frequency to the strength of their 'perhaps' fertility intention, so to make a conception either more or less likely according to their subconscious wishes. IN any case, the findings indicate that sexual frequency is an important factor in the transition to parenthood, especially among those with uncertain fertility intentions. This group only comprises 19% of couples but contributes 29% of births which we observe in our sample. The relevance of sexual frequency for the transition to parenthood is thus not trivial, even in a high income context that provides easy access to contraception and sexual education. These findings support our fourth hypothesis, namely that sexual frequency predicts time to a contraception leading toa first birth, even though this results only applies to the sub group of those who 'perhaps' will intend a pregnancy in the next two years.

In sum, first results indicate that variation in sexual activity among humans may be linked to variation in fertility in meaningful ways, a finding that may be important to investigate more deeply for demography going forward. Studies show that the sexual lives of humans in high income countries have significantly changed over recent decades. Sexual satisfaction has increased, especially among women (Haavio-Mannila & Kontula, 1997; Rausch & Rettenberger, 2021), at the same time, sexual activity and frequency notably declined across the global north among young adults. It is not known whether and how these shifts in sexuality may be related to pressing yet poorly understood demographic trends, like recent declines in fertility rates (which seem to occur to a large part among young couples (Hellstrand et al., 2022), ongoing postponement of marriage, or (too slow) changes in gendered work divisions. It seems to be time for family demography to examine the linkages between sexuality and fertility- and family dynamics on a larger scale.

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TABLES AND FIGURES

Table 1a: Analytical Sample Characteristics Sexual Frequency and Parity Sample (N=20,672 couples years; 5524 couples)

Kids	Freq.	Percent	Cum.
0	7,965	38.53	38.53
1	4,835	23.39	61.92
2	5,845	28.27	90.19
3	1,633	7.90	98.09
4	322	1.56	99.65
5	51	0.25	99.90
6	10	0.05	99.95
7	9	0.04	99.99
9	1	0.00	100.00
10	1	0.00	100.00
Total	20,672	100.00	

Table 1b

	Häufigkeit Geschlechtsverkehr letzte drei Monate (Frage 137)		nkidscat5					
		0	1	2	3	4	Total	
0	Ich hatte noch nie	48	0	0	0	0	48	
	0.60	0.00	0.00	0.00	0.00	0.23		
1	Nicht in den letzte	362	421	525	135	22	1,465	
	4.54	8.71	8.98	8.27	6.83	7.09		
2	Einmal im Monat ode	911	936	1,139	267	53	3,311	
	11.44	19.36	19.49	16.35	16.46	16.02		
3	Zwei- oder dreimal	1,710	1,377	1,712	428	73	5,312	
	21.47	28.48	29.29	26.21	22.67	25.70		
4	Einmal in der Woche	1,947	1,220	1,371	444	93	5,119	
	24.44	25.23	23.46	27.19	28.88	24.76		
5	Zwei- bis dreimal i	2,104	741	899	303	65	4,122	
	26.42	15.33	15.38	18.55	20.19	19.94		
6	Mehr als dreimal in	726	124	167	42	13	1,072	
	9.11	2.56	2.86	2.57	4.04	5.19		
	7 Täglich	157	16	32	14	3	223	
	1.97	0.33	0.55	0.86	0.93	1.08		

	Total	7,965	4,835	5,845	1,633	322	20,672
		100.00	100.00	100.00	100.00	100.00	100.00

	Häufigkeit Geschlechtsverkehr letzte drei Monate (Frage 137)	nkidscat5 5	Total
0	Ich hatte noch nie	0	48
	0.00	0.23	
1	Nicht in den letzte	0	1,465
	0.00	7.09	
2	Einmal im Monat ode	5	3,311
	6.94	16.02	
3	Zwei- oder dreimal	12	5,312
	16.67	25.70	
4	Einmal in der Woche	44	5,119
	61.11	24.76	
5	Zwei- bis dreimal i	10	4,122
	13.89	19.94	
6	Mehr als dreimal in	0	1,072
	0.00	5.19	
	7 Täglich	1	223
	1.39	1.08	
	Total	72	20,672
	100.00	100.00	

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Table2: Sample2 Descriptives (Childless Couples, Predicting First Conception Leading to Live Birth Sample)

Conception leading to live birth	Freq.	Percent	Cum.
0	3,083	92.97	92.97
1	233	7.03	100.00
Total	3,316	100.00	

Sexual activity past 3 months	Freq.	Percent	Cum.
1. <1p/m	225	6.79	6.79
2. 1p/m	285	8.59	15.38
3. 2-3p/m	649	19.57	34.95
4. 1p/w	775	23.37	58.32
5. 2-3p/w	914	27.56	85.89
6. >3p/w	468	14.11	100.00
Total	3,316	100.00	

Contraceptive use past 3 months	Freq.	Percent	Cum.
0. No	479	14.45	14.45
1. Inconsistent	386	11.64	26.09
2. Consistent	410	12.36	38.45
3. Very consistent	2,013	60.71	99.16
4. Missing	28	0.84	100.00
Total	3,316	100.00	

Intent to become parent next 2 years	Freq.	Percent	Cum.
1. Definitely not	1,234	37.21	37.21
2. Probably not	844	25.45	62.67
3. Yes perhaps	630	19.00	81.66
4. Yes definitely	352	10.62	92.28
5. Missing	256	7.72	100.00
Total	3,316	100.00	

Table3: Descriptive Statistics of conception Leading to live birth by fertility intention

Intent to become parent next 2 years	Conception leading to live birth 0	1	Total
1. Definitely not	1,206	28	1,234
	97.73	2.27	100.00
2. Probably not	820	24	844
	97.16	2.84	100.00
3. Yes perhaps	562	68	630
	89.21	10.79	100.00

4. Yes definitely	244	108	352
	69.32	30.68	100.00
5. Missing	251	5	256
	98.05	1.95	100.00
Total	3,083	233	3,316
	92.97	7.03	100.00

Table 4: Event history model of first conception leading to a live birth as a function of sexual frequency (controlling for in fecundity and contraceptive usage)

Logistic regression — Number of obs = 3,316; Wald chi2(18) = 190.25; Prob > chi2 = 0.0000; Log pseudolikelihood = -739.25794; Pseudo R2 = 0.1234

(Std. Err. adjusted for 1,089 clusters in id)

situation_conc1_tv	Odds Ratio	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
sex8_new	1.231211	.0701411	3.65	0.000	1.101134	1.376654
sex7_cat						
1. Inconsistent	.3155385	.0777894	-4.68	0.000	.1946286	.5115619
2. Consistent	.3915503	.0925431	-3.97	0.000	.2463801	.6222566
3. Very consistent	.1815309	.0335722	-9.23	0.000	.1263369	.2608381
4. Missing	.1789476	.1844886	-1.67	0.095	.0237229	1.349846
infertile_new						
1. Yes	.2387991	.0969315	-3.53	0.000	.1077753	.5291099
sex						
Female	1.014868	.1457436	0.10	0.918	.7658962	1.344774
cohort						
1970	.4446096	.2534562	-1.42	0.155	.1454585	1.358997
1990	.3394467	.1156727	-3.17	0.002	.174064	.6619638
age_start_first	.9930781	.0352896	-0.20	0.845	.9262655	1.06471
time_tv						
2	1.885928	.3818632	3.13	0.002	1.268159	2.804637
3	1.944312	.4396483	2.94	0.003	1.248223	3.028585
4	1.499354	.4305155	1.41	0.158	.8540738	2.632165
5	3.329151	.944026	4.24	0.000	1.909694	5.803677
6	2.638039	.9561147	2.68	0.007	1.296513	5.367666
7	2.250687	1.113407	1.64	0.101	.8535493	5.934739
8	2.056863	1.305321	1.14	0.256	.5929501	7.13498
9	3.262428	3.657617	1.05	0.292	.3624355	29.36644
_cons	.1357842	.1587613	-1.71	0.088	.0137281	1.343041

Note: _cons estimates baseline odds.

Table 5: Event history model of first conception leading to a live birth as a function of sexual frequency (controlling for in fecundity, contraceptive usage and fertility intentions)

Logistic regression — Number of obs = 3,316; Wald chi2(22) = 307.08; Prob > chi2 = 0.0000; Log pseudolikelihood = -670.97895; Pseudo R2 = 0.2044

(Std. Err. adjusted for 1,089 clusters in id)

situation_conc1_tv	Odds Ratio	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
sex8_new	1.116209	.0703281	1.74	0.081	.9865399	1.262922
sex7_cat						
1. Inconsistent	.5408004	.1421489	-2.34	0.019	.3230721	.9052624
2. Consistent	.6692819	.1675177	-1.60	0.109	.4097867	1.093101
3. Very consistent	.3592687	.0717197	-5.13	0.000	.2429386	.5313029
4. Missing	.2654012	.2622044	-1.34	0.179	.0382784	1.840144
frt7_cat						
2. Probably not	1.337498	.3895843	1.00	0.318	.7557127	2.367172
3. Yes perhaps	4.421195	1.114472	5.90	0.000	2.697573	7.24613
4. Yes definitely	12.37826	3.378169	9.22	0.000	7.250315	21.13305
5. Missing	.8265273	.430363	-0.37	0.714	.2978836	2.293336
infertile_new						
1. Yes	1.321003	.5595141	0.66	0.511	.5759377	3.029928
sex						
Female	.785752	.116742	-1.62	0.105	.587245	1.05136
cohort						
1970	.6037769	.352846	-0.86	0.388	.1920596	1.898091
1990	.6121582	.2111507	-1.42	0.155	.3113581	1.203559
age_start_first	.9851324	.0370377	-0.40	0.690	.9151499	1.060466
time_tv						
2	1.456969	.3060037	1.79	0.073	.965327	2.199005
3	1.257941	.2994018	0.96	0.335	.7889804	2.005646
4	.9899573	.3074707	-0.03	0.974	.5385696	1.819663
5	2.092729	.6015181	2.57	0.010	1.191379	3.676003
6	1.469087	.5531778	1.02	0.307	.7023147	3.073007
7	1.273652	.6360766	0.48	0.628	.4785756	3.389618
8	1.316291	.8475253	0.43	0.670	.3726364	4.649629
9	1.395373	1.802396	0.26	0.796	.1109679	17.5462
_cons	.0557484	.0722153	-2.23	0.026	.0044015	.7060917

Note: _cons estimates baseline odds.

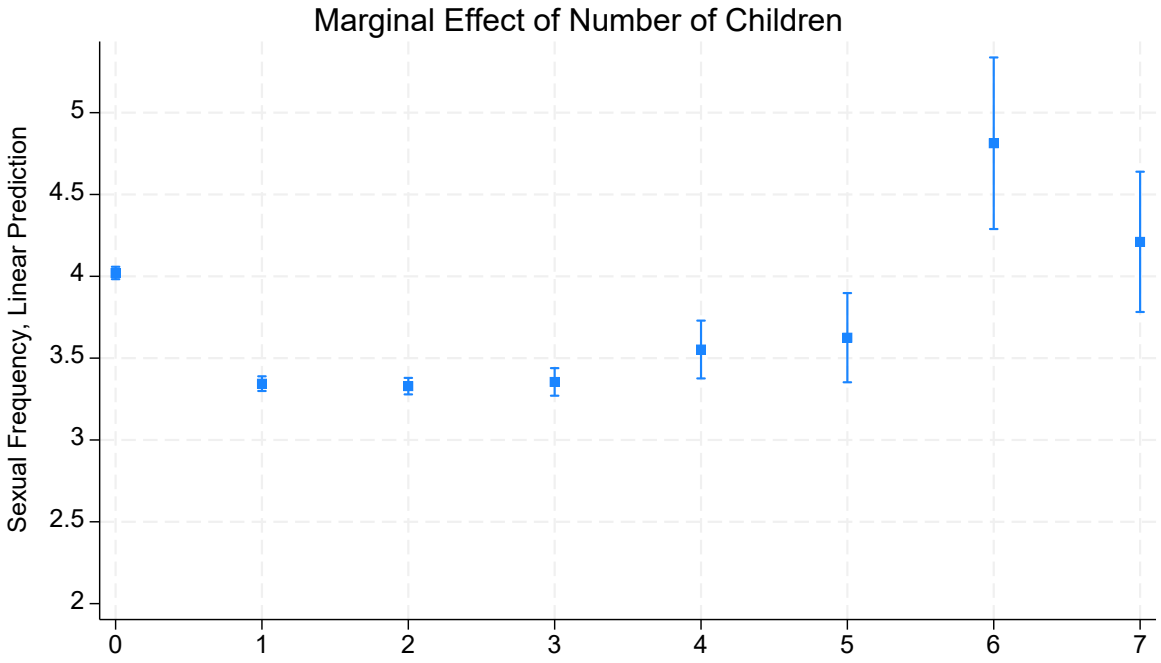
Table 6:

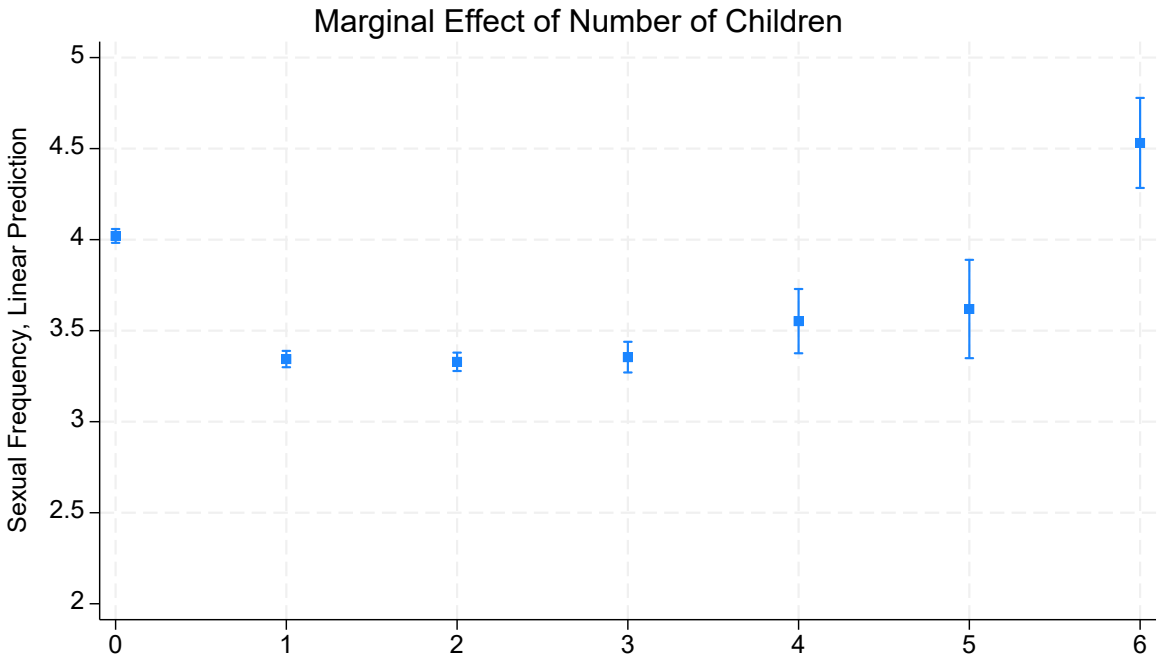
Logistic regression — Number of obs = 3,316; Wald chi2(26) = 321.78; Prob > chi2 = 0.0000; Log pseudolikelihood = -668.15743; Pseudo R2 = 0.2077

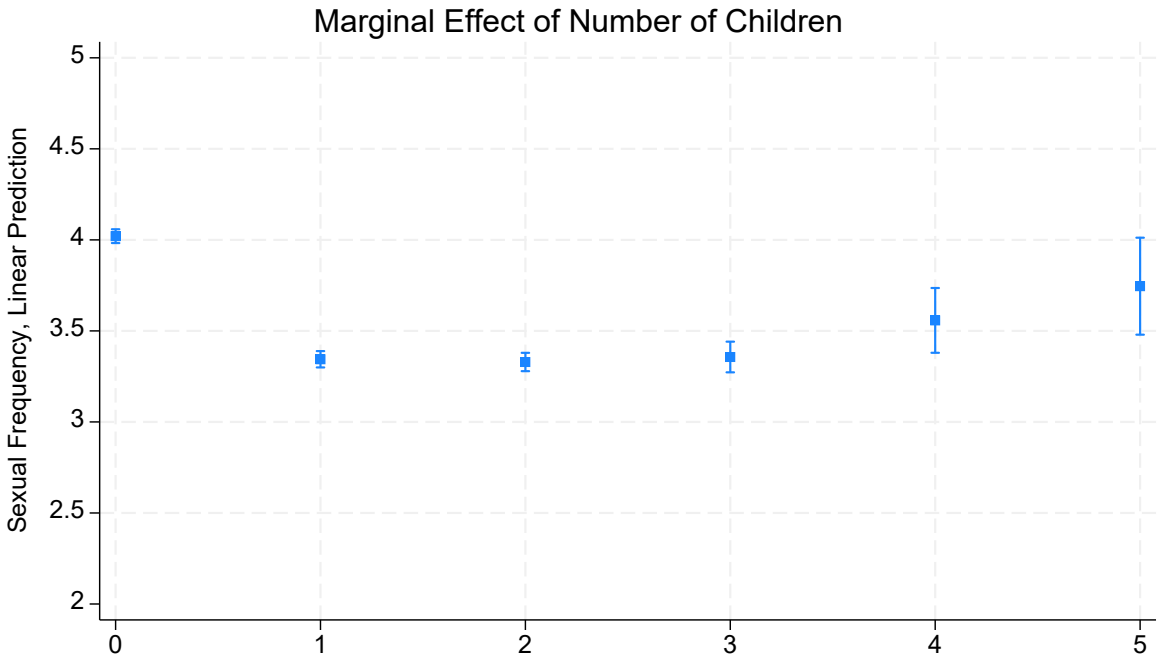
(Std. Err. adjusted for 1,089 clusters in id)

situation_conc1_tv	Odds Ratio	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
sex8_new	.9544081	.1469449	-0.30	0.762	.7057963	1.290592
frt7_cat						
2. Probably not	.4613321	.4729472	-0.75	0.450	.0618559	3.440696
3. Yes perhaps	1.187907	.8686767	0.24	0.814	.2833527	4.980095
4. Yes definitely	9.368221	7.127643	2.94	0.003	2.108801	41.61775
5. Missing	.8452804	1.045923	-0.14	0.892	.0747741	9.555428
frt7_cat#c.sex8_new						
2. Probably not	1.297974	.3108544	1.09	0.276	.8117274	2.075497
3. Yes perhaps	1.374293	.2432514	1.80	0.072	.9714394	1.944209
4. Yes definitely	1.075018	.1975669	0.39	0.694	.7498627	1.541167
5. Missing	.9808058	.3107128	-0.06	0.951	.5271425	1.824896
sex7_cat						
1. Inconsistent	.5280557	.1394798	-2.42	0.016	.3146623	.8861653
2. Consistent	.6683154	.1692147	-1.59	0.111	.4068748	1.097747
3. Very consistent	.3563182	.0715744	-5.14	0.000	.2403562	.5282271
4. Missing	.2561719	.2560893	-1.36	0.173	.0361081	1.817433
infertile_new						
1. Yes	1.317617	.5581848	0.65	0.515	.5743713	3.022633
sex						
Female	.7937159	.1180185	-1.55	0.120	.5930604	1.062261
cohort						
1970	.6104987	.3555694	-0.85	0.397	.1949504	1.911813
1990	.604551	.2092806	-1.45	0.146	.3067383	1.191511
age_start_first	.9833869	.0367808	-0.45	0.654	.9138767	1.058184
time_tv						
2	1.487357	.3110396	1.90	0.058	.9872106	2.240889
3	1.283818	.304535	1.05	0.292	.806473	2.043701
4	1.025011	.3160336	0.08	0.936	.5601243	1.875741
5	2.137394	.6069705	2.67	0.007	1.225076	3.729118
6	1.513606	.5737667	1.09	0.274	.7200215	3.181853
7	1.323365	.6648927	0.56	0.577	.4943264	3.542789
8	1.318252	.8486137	0.43	0.668	.3732887	4.655349
9	1.315891	1.726614	0.21	0.834	.1005395	17.22277
_cons	.1085966	.1490599	-1.62	0.106	.0073698	1.600211

Figure 1a, 1b, 1c:, 1d Sexual frequency and number of children, top coded at 7, 6, 5, and 4 children. Panel regression model






Marginal Effect of Number of Children
Sexual Frequency, Linear Prediction
5
4.5
4
3.5
3
2.5
2
0
1
2
3
4
5

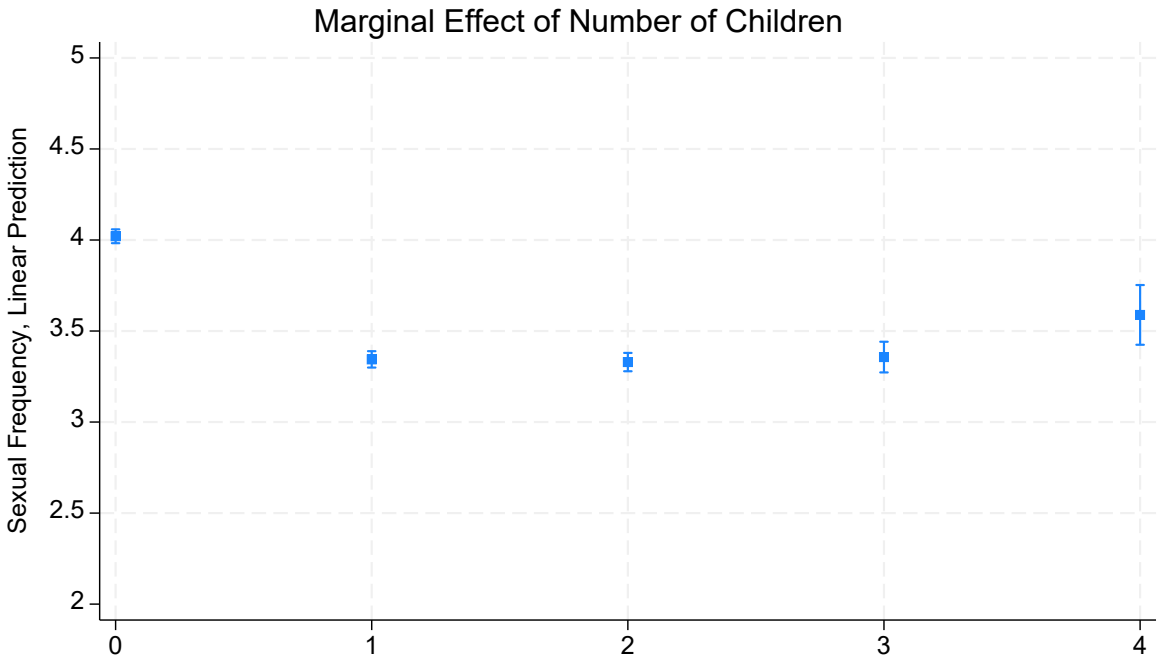
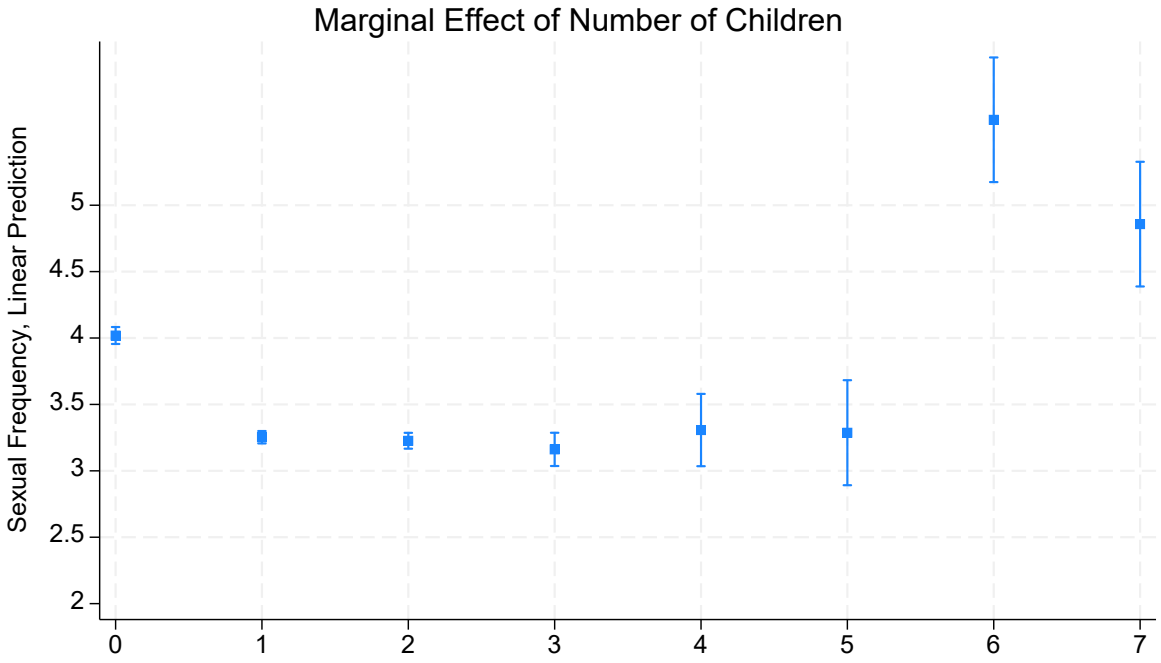
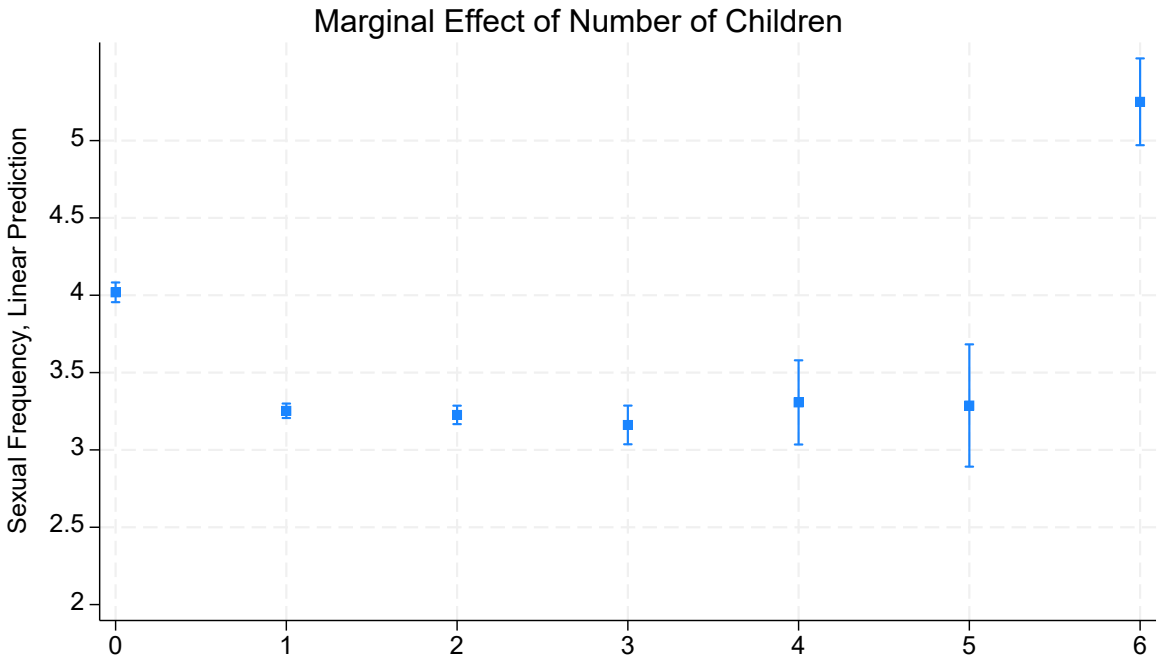
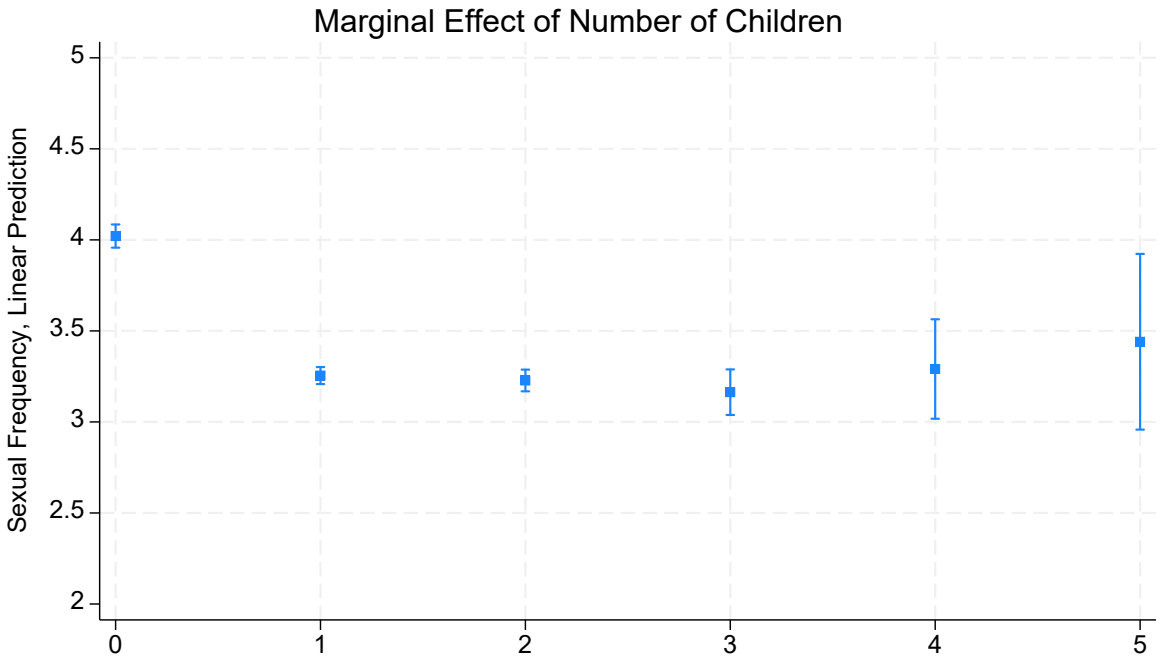

Marginal Effect of Number of Children
Sexual Frequency, Linear Prediction
5
4.5
4
3.5
3
2.5
2
0
1
2
3
4

Figure 2a, 2b, 2c, 2d: Sexual frequency and number of children, top coded at 7, 6, 5, and 4 children. Panel regression model couple fixed effects






Marginal Effect of Number of Children
Sexual Frequency, Linear Prediction
5
4.5
4
3.5
3
2.5
2
0
1
2
3
4
5

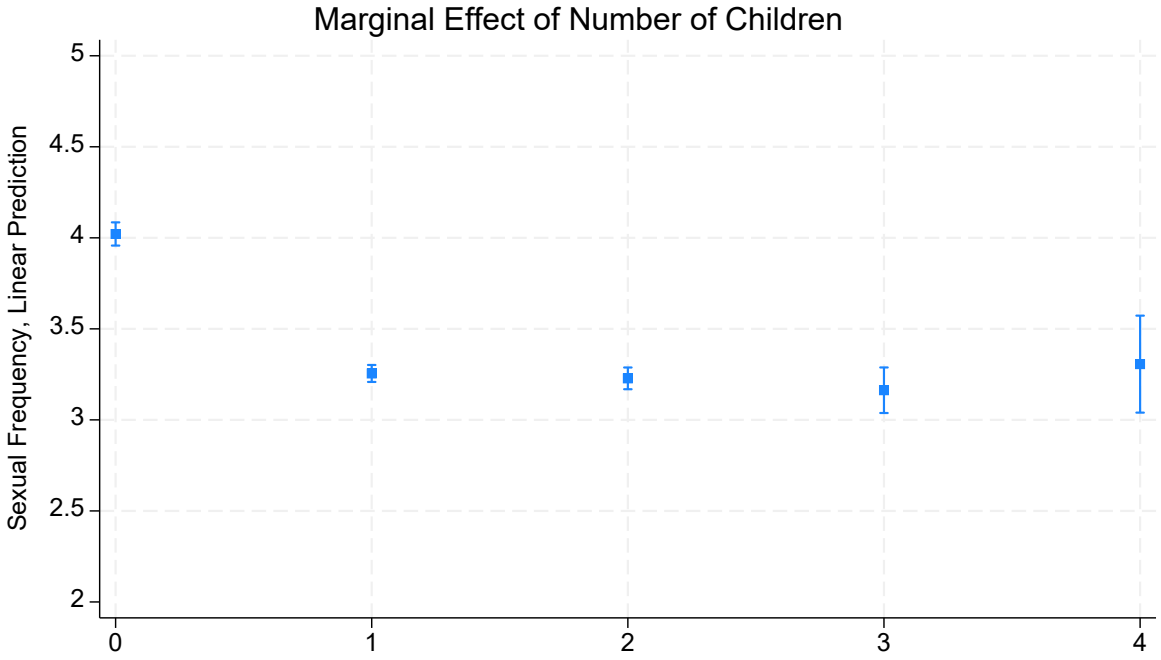

Marginal Effect of Number of Children
Sexual Frequency, Linear Prediction
5
4.5
4
3.5
3
2.5
2
0
1
2
3
4

Figure 3a & 3b: Predicted Probability of Conception Leading to a First Birth by Sexual Frequency and Fertility Intention (without and with confidence intervals)