

Sexual Behaviors Across 9 National Cohorts of Young Males and Females Ages 15-19

Jacinda K. Dariotis¹, Kara Joyner², Sally Curtin³, Freya L. Sonenstein¹, Kristen Moore,⁴ and Elizabeth Peters⁵

¹ The Johns Hopkins Bloomberg School of Public Health

² Bowling Green State University

³ The University of Maryland

⁴ Child Trends

⁵ Cornell University

Extended Abstract

Overview

Although adolescent pregnancy and STI/HIV transmission are *preventable*, (1) youth aged 15 to 24 contribute 18.9 million new STD cases in the US annually, (2) youth under age 20 account for 750,000 pregnancies a year, and (3) youth aged 15 to 24 were responsible for 20,000 new HIV cases, half of the 40,000 total, in 2006. What places these youth at risk are their sexual behaviors, with timing of first sex denoting the length of risk exposure.

Using nine nationally representative cohorts (NSLY79, NSAM88, NSFG88, NSAM95, NSFG95, ADD-Health, NLSY97, NSFG2002, and NLSY79YA), we examine cohort and sex differences in being sexually experienced and corroborate associations and trends across different data sets. Our samples are limited to male and female never-married youth ages 15 to 19 at the time they were reporting on their sexual behavior. We identify trends over time in being sexually experienced for 15 to 19 year old males and females. We find a monotonic decrease in the percent of 15-19 year old males being sexually experienced over cohorts. For females aged 15-19, we find an increase and then decrease from earlier to later cohorts. These results have significant implications for public health sexual outcomes among youth and for studies that examine sexually experienced youth, especially timing of first sex.

Research Questions

We are interested in two main research question domains, one substantive (age at first sex) and one empirical (data quality). First, do young males and females debut sexual activity at the same ages as their earlier and later cohort peers? In other words, for males has the age at first sex increased, decreased, or stayed the same for youth born in the 1960s, 1970s, 1980s, and early 1990s? Similarly, what is the emergent pattern for females? Second, what is the data quality of national surveys asking similar questions within the same time period? In other words, can the associations and trends of age at first sex be corroborated across different data sets for the same cohort or are the estimates different for the same cohort?

Methods

Sample

We use data from nine national surveys (Table 1). We limit the sample to never-married 15-19 year old females and males in each data set (Table 2). As shown, several data sets overlap each other in birth years (NSAM88 and NSFG88; NSAM95, NSFG95, ADD-Health), enabling us to check the data quality of these data sets.

Table 1: Data Set Characteristics

Name	Birth Years	Sex	Total N
NLSY79	1960-1964	M/F	6403/6283
NSAM88	1969-1973	M	1880
NSFG88	1969-1973	F	8450
NSAM95	1976-1980	M	1729
NSFG95	1976-1980	F	10847
NLSY97	1980-1984	M/F	4599/4385
NSFG02	1983-1987	M/F	4928/7643
ADD-Health	1975-1979	M/F	6323/5779
NLSY79YA	1987-1991	M/F	2929/2915

Sexually Experienced – Ever Had Sex by Interview Date

In each data set we were able to calculate the percent of 15-19 year old males and females who ever had sex by date of interview.

Age at First Sex

Age at first sex was calculated using on the date of first sex and birth date. Then the proportion of youth in each data set, for males and females separately, were calculated for each age; this variable is necessary for hazard models.

Analytic Strategy

We use both descriptive statistics for ever having had sex by interview date (Tables 3 and 4) and hazard models based on the proportion of males and females reporting having had sex by each age (Figures 1 and 2).

Results

According to Table 2, most of the data sets used are comparable in age and race/ethnicity distributions for males and females with two exceptions. First, ADD-Health is known to have a younger sample relative to the other data sets. Second, NLSY79 has a larger ‘other’ race/ethnicity category compared to the other data sets.

Table 2. Demographic Characteristics of Never-Married Respondents Aged 15-19, by Survey, Year, and Gender

Characteristic	NLSY79 (Born 60-64)	NSAM&NSFG88 (Born 69-73)	NSAM&NSFG95 (Born 76-80)	NLSY97 (Born 80-84)	NSFG02 (Born 83-87)	Add Health (Born 75-79)	NLSY79YA (Born 87- 91)
Men							
Age							
15	21.0	20.1	21.1	20.4	18.7	24.4	18.2
16	19.0	19.0	20.3	19.5	20.5	23.9	21.6
17	20.4	22.5	20.3	21.0	17.1	24.6	19.1
18	21.0	22.8	19.2	19.6	23.4	22.5	23.1
19	18.6	15.6	19.1	19.6	20.3	4.6	18.0
Race/ethnicity							
White	53.8	73.0	67.8	66.9	64.4	66.1	75.3
Black	15.0	14.6	14.3	14.8	14.5	16.1	13.2
Hispanic	6.4	9.3	12.6	13.6	15.4	12.3	7.6
Other	24.7	3.1	5.4	4.6	5.7	5.5	3.7
N	3440	1880	1729	3664	1086	6936	1054
Women							
Age							
15	21.0	18.5	19.0	20.1	18.6	26.2	21.2
16	19.7	19.6	20.8	20.4	21.9	25.5	19.3
17	21.5	21.1	20.1	21.2	22.1	24.4	18.7
18	19.7	20.7	20.4	19.9	19.7	21.5	19.5
19	18.1	20.1	19.6	18.3	17.7	2.4	21.3
Race/ethnicity							
White	54.7	63.6	66.4	67.3	65.0	66.4	77.1
Black	15.5	15.2	15.6	15.5	14.9	16.9	13.0
Hispanic	5.3	15.5	12.8	12.3	13.8	11.6	6.9
Other	24.5	5.7	5.2	4.9	5.3	5.1	2.2
N	3072	1396	1336	3541	1047	6943	961

Note: Statistics are adjusted to take into account survey design characteristics.

Sexually Experienced – Ever Had Sex by Interview Date

The percent of males and females aged 15-19 who reported ever having sex by interview date are reported in Table 3. Males aged 15-19 report a monotonic decrease in being sexually experienced by interview date from earlier cohorts (NLSY79 – 65.3% and NSAM88 – 60.3%) to middle cohorts (NSAM95 – 55.8%, ADD-Health – 50.6%, and NLSY97 – 49.4%) to later cohorts (NSFG2002 – 44.3% and NLSY79YA – 44.0%). Across a generation (approximately 27 years between NLSY79 and NLSY79YA) the percent of 15-19 year old males reporting ever had sex decreased 20.7 percentage points.

Table 3: Weighted % Ever Had Sex by Interview Date

Survey	Birth Years	Men	Women
NLSY79	1960-1964	65.3%	44.6%
NSAM/NSFG88	1969-1973	60.3%	45.4%
NSAM/NSFG95	1976-1980	55.8%	49.3%
NLSY97	1980-1984	49.4 %	50.0%
NSFG02	1983-1987	44.3%	41.9%
ADD-Health	1975-1979	50.6%	49.4%
NLSY79YA	1987-1991	44.0%	41.6%

Females aged 15-19 report an increase in being sexually experienced by interview date from earlier cohorts (NLSY79 – 44.6% and NSFG88 – 45.4%) to middle cohorts (NSFG95 – 49.3%, ADD-Health – 49.4%, and NLSY97 – 50.0%) and then a decrease in sexual experience in later cohorts (NSFG2002 – 41.9% and NLSY79YA – 41.6%). Across a generation (approximately 27 years between NLSY79 and NLSY79YA) the percent of 15-19 year old females did not change much, only three percentage points. But, females reported similar sexual experience to males in middle cohorts, as noted in the ADD-Health and NLSY97 data, due to both a decrease in males’ reports and increase in females’ reports of sexual experience. Yet, in most recent cohorts females report lower sexual experience than their female counterparts in earlier cohorts, which keeps them below the percent males report in most recent cohorts.

Table 4. Percent of Respondents Aged 15-19 Who Have Ever Had Sexual Intercourse, by Survey, Year, Gender, Age Group, and Race

	Age			Race		
	15-19	15-17	18-19	White	Black	Hispanic
Men						
NLSY79 (60 to 64)	65.3 (1.0) (N=3440)	51.8 (1.4) (N=2051)	85.9 (1.3) (N=1389)	60.3 (1.6) (N=1263)	87.6 (1.1) (N=966)	67.8 (2.1) (N=568)
NSAM88 (69 to 73)	60.3 (1.1) (N=1880)	49.9 (1.4) (N=1214)	76.9 (1.6) (N=666)	56.7 (1.8) (N=755)	80.5 (1.5) (N=677)	59.6 (2.5) (N=386)
NSAM95 (76 to 80)	55.8 (1.2) (N=1729)	43.1 (1.5) (N=1151)	76.3 (1.8) (N=578)	50.5 (2.0) (N=618)	80.5 (1.8) (N=494)	61.2 (2.1) (N=558)
NLSY97 (80 to 84)	49.4 (0.9) (N=3613)	35.2 (1.1) (N=2285)	73.0 (1.4) (N=1316)	44.4 (1.2) (N=1828)	71.1 (1.7) (N=890)	54.7 (2.0) (N=772)

NSFG02 (83 to 87)	44.3 (2.0) (N=1086)	29.9 (2.3) (N=615)	62.9 (3.0) (N=471)	39.4 (2.3) (N=616)	63.5 (4.3) (N=199)	50.9 (4.5) (N=213)
Add Health (75-79)	50.6 (1.6) (N=6936)	44.5 (1.6) (N=5205)	67.2 (2.1) (N=1731)	45.8 (1.7) (N=3583)	73.4 (2.1) (N=1350)	46.4 (2.4) (N=1873)
NLSY79YA (87 to 91)	44.0 (1.8) (N=1054)	28.3 (2.1) (N=624)	66.5 (2.8) (N=430)	37.9 (2.3) (N=484)	67.6 (3.1) (N=292)	56.6 (3.4) (N=244)
Women						
NLSY79 (60 to 64)	44.6 (1.1) (N=3073)	30.3 (1.3) (N=1866)	68.2 (1.8) (N=1207)	41.1 (1.6) (N=1175)	57.5 (1.8) (N=892)	39.6 (2.5) (N=450)
NSFG88 (69 to 73)	45.4 (1.5) (N=1123)	30.3 (1.8) (N=673)	68.8 (2.2) (N=450)	45.1 (2.0) (N=599)	56.9 (3.2) (N=241)	37.4 (3.3) (N=220)
NSFG95 (76 to 80)	49.3 (1.4) (N=1344)	38.0 (1.7) (N=806)	67.9 (1.5) (N=538)	48.5 (1.8) (N=809)	59.3 (2.9) (N=284)	52.7 (3.6) (N=197)
NLSY97 (80 to 84)	50.0 (1.0) (N=3498)	35.6 (1.2) (N=2182)	73.9 (1.4) (N=1316)	49.8 (1.3) (N=1709)	58.2 (1.8) (N=921)	46.0 (2.1) (N=741)
NSFG02 (83 to 87)	41.9 (2.0) (N=1047)	28.6 (2.2) (N=653)	64.1 (3.1) (N=394)	40.9 (2.6) (N=581)	55.5 (3.4) (N=226)	32.4 (4.1) (N=185)
Add Health (75-79)	49.4 (1.7) (N=6943)	44.2 (1.8) (N=5338)	65.9 (2.3) (N=1605)	49.7 (2.0) (N=3548)	61.8 (3.0) (N=1503)	35.4 (2.6) (N=1765)
NLSY79YA (87 to 91)	41.6 (1.9) (N=961)	24.5 (2.2) (N=555)	66.2 (3.0) (N=406)	39.9 (2.3) (N=458)	54.2 (3.2) (N=282)	35.9 (4.3) (N=199)

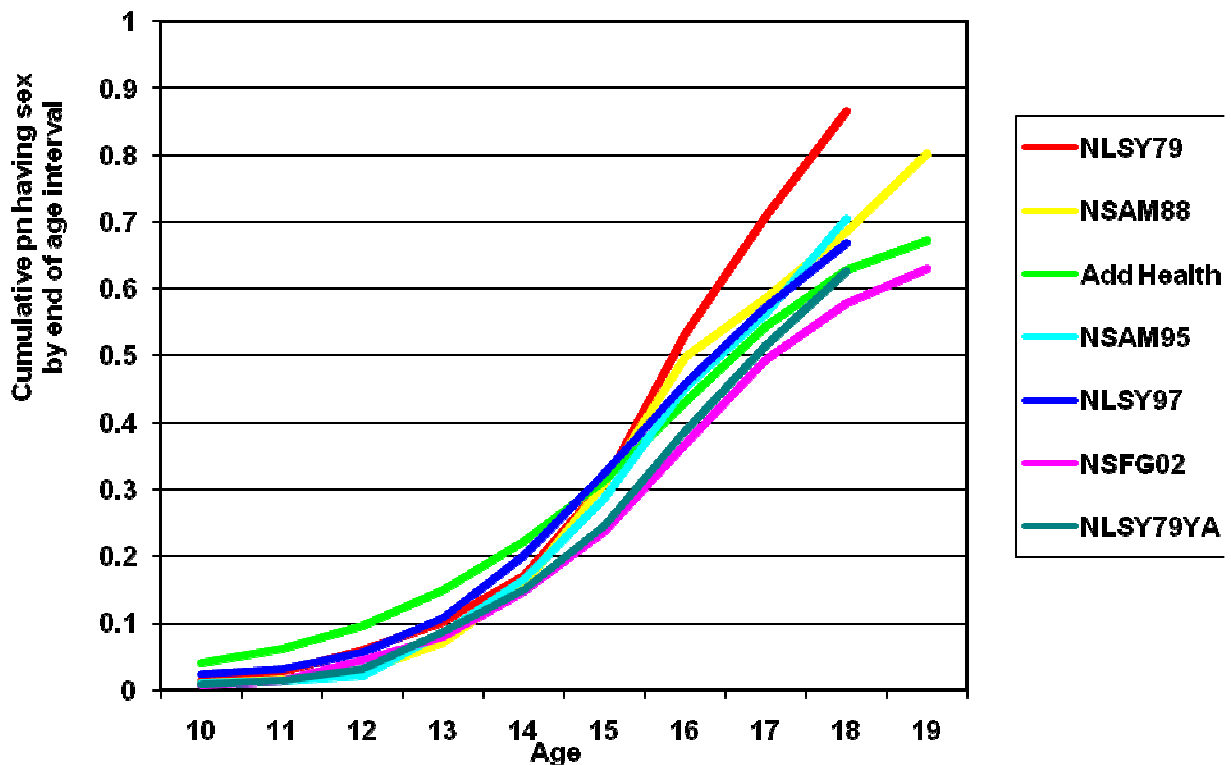
Note: Statistics are adjusted to take into account survey design characteristics. Standard errors are in parentheses next to mean.

Across all data sets, as we would expect, youth ages 18-19 – relative to youth ages 15-17 – drive the percentages of being sexually experienced for both males and females (Table 4). The trends noted above – the monotonic decrease for males and the increase-then-decrease for females – occurs within each age category and each racial/ ethnic group for both sexes.

Age at First Sex

As shown in Figure 1, the hazard of having first sex by a given age is similar across males in each cohort except for the earliest cohort – NLSY79 – which has a higher hazard of first sex occurring at younger ages. This may be explained, in part, by younger ages at first marriage for this earlier cohort.

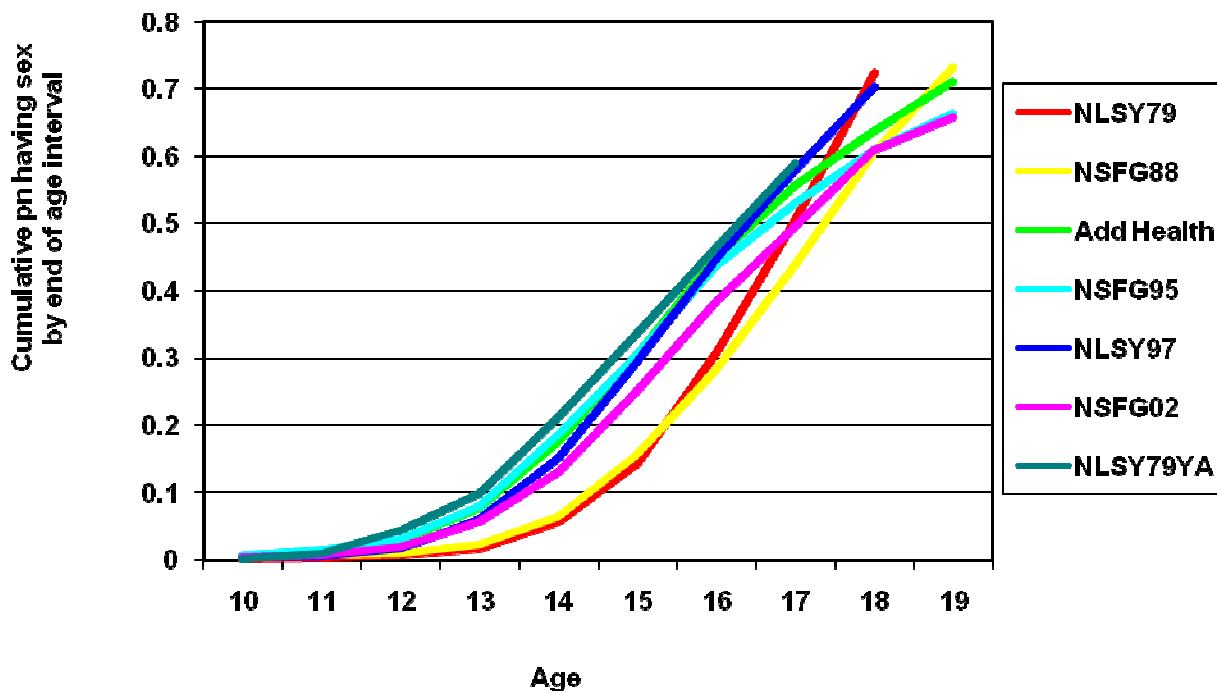
Figure 1: Men's Hazard to First Sex by Age



As shown in Figure 2, females in the earliest two cohorts – NLSY79 and NSFG88 – are characterized by a notably lower hazard of having sex up until age 17. These females report the lowest proportion of having sex at earlier ages. For more recent cohorts, a higher proportion of females report having sex by age 11 and 12 whereas no females in the NLSY79 and NSFG88 report sexual debut by those ages. This may be, in part, due to reporting bias whereby females were less likely to admit to sex at such young ages in earlier cohorts. But, reporting bias is not the only potential explanation. This finding persists until ages 16 and 17, ages at which the reporting bias would not be considered as strong.

The decrease in slope for more recent cohorts at older ages reveals the above noted trend of a decrease in sexual experience by more recent cohorts. This s-shaped curve is especially marked for NSFG2002 (Figure 2).

Figure 2: Women's Hazard to First Sex by Age



Discussion

In this study we document sexual experience and age of sexual debut for nationally representative males and females aged 15-19 across nine studies. We find differences among cohorts by sex. Males report much higher sexual experience and debut in earlier cohorts relative to females in earlier cohorts and males in later cohorts. In other words, males aged 15-19 report monotonic decreases from earlier to later cohorts, ending at percentages similar to females. Females, however, report lower sexual experience in earlier cohorts relative to males in earlier cohorts, but report similar percents as their female counterparts in the most recent cohorts. We found that female reports increased from the earliest cohorts to middle cohorts and then decreased from middle to most recent cohorts who report sexual experience and sexual debut similar to females in the earliest cohorts and males in the more recent cohorts. These findings have implications for understanding cohort and period influences on sexual behaviors (e.g., the public discussion of HIV/AIDS in the 1980s and 1990s; the introduction of anti-retroviral medications for most recent cohorts).

The strengths of this study include the use of multiple data sets for comparisons across both sexes and time as well as within sex and within cohort. Using these nine data sets allows for replication and trend exploration. Furthermore, by using these data sets we examine sexual behaviors for both males and females in the same study.