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Descriptive Finding

Adult outcomes of teen mothers across birth cohorts

Anne K. Driscoll

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Table of Contents

1	Background	1278
2	Data and methods	1280
2.1	Data and study sample	1280
2.2	Variables	1281
2.3	Analyses	1281
3	Results	1282
3.1	Descriptive results	1282
3.2	Multivariate results	1284
4	Discussion	1288
	References	1290

Adult outcomes of teen mothers across birth cohorts

Anne K. Driscoll¹

Abstract

BACKGROUND

Teen and young adult mothers have lower socioeconomic status than older mothers.

OBJECTIVE

This study analyzes the socioeconomic status (SES) of teen, young adult, and older adult mothers across four five-year birth cohorts from 1956 to 1975 who were teens from 1971 to 1994.

METHODS

Data were pooled from the 1995, 2002, and 2006-2010 National Survey of Family Growth (NSFG). Mothers were categorized by age at first birth and by their birth cohorts. The SES (education, single motherhood, poverty, employment) of teen, young adult, and older mothers was compared across cohorts and within cohorts.

RESULTS

Among teen mothers, the odds of fulltime employment improved across birth cohorts and the odds of educational attainment beyond high school did not vary. Their odds of single motherhood and living in poverty increased across cohorts. The odds of higher education and single motherhood increased across birth cohorts for young adult mothers as did the odds of living in poverty, even if working fulltime. Among older adult mothers, educational attainment and the odds of single motherhood rose for recent cohorts.

CONCLUSIONS

Comparisons between teen mothers and both young adult and all adult mothers within cohorts suggest that gaps in single motherhood and poverty between teen and adult mothers have widened over time, to the detriment of teen mothers. Teen mothers have become more likely to be single and poor than in the past and compared to older mothers.

¹ National Center for Health Statistics, 3311 Toledo Rd., Rm 6228, Hyattsville, MD 20782, USA.
E-Mail: anne.driscoll@cdc.hhs.gov.

1. Background

Age at first birth and adult outcomes

Teen birth rates have decreased over time, but rates are still much higher in the U.S. than in other developed countries. The proportion of births to teens has also declined (National Center for Health Statistics 2012, Martin et al. 2013).

In adulthood, teen mothers differ on various socioeconomic measures from women who delayed childbearing. Teen mothers are less likely to finish high school and attend college than older mothers (Hoffman 2006, Jones et al. 1999, Lee 2010). Because poverty is strongly associated with education, the greater risk that teen mothers face of low educational attainment suggests that they are also at greater risk for poverty. Adult employment also varies for teen and older mothers. Teen mothers are less likely to be working and to be working full-time than are women who were not teen mothers (Lee 2010). However, whether teen mothers are worse off as adults than slightly older mothers is not clear. Some work suggests that they are not worse off on measures such as marital status, wages, and poverty (Hotz, McElroy, and Sanders 2005). Other work suggests that teen mothers are more likely to receive benefits, be less educated, and be a single parent than women who were 20–22 at first birth (Hobcraft and Kiernan 2001).

Research questions

This study focuses on the adult situations of mothers whose first birth occurred during their teens, early twenties, or afterwards between these groups and across birth cohorts. The causal pathways and mechanisms of adult outcomes are not a focus of this study. This study first asks whether the adult SES of women who became mothers at different ages has differed across birth cohorts; that is, are the adult lives of teen, young adult, and older adult mothers from recent cohorts better or worse than those in earlier cohorts? Second, have within-cohort SES differences between groups of mothers changed across cohorts? This question focuses on comparisons between teen and other mothers, first by comparing teen mothers to non-teen mothers, then by comparing teen mothers to women who became mothers in their early twenties.

Societal trends

Recent social, cultural, and economic trends in the U.S. include rising educational attainment, particularly among women, increasing proportions of women joining the work force, and declining proportions of children growing up with both parents which are less likely than single-mother families to be poor. In addition, teen birth rates have been generally declining for decades, thus reducing the percentage of children born to teen mothers (National Center for Health Statistics 2012, Martin et al. 2013).

Women's educational attainment has risen markedly. In 1960, 57.5% of women ages 25 and older had not finished high school; only 5.8% had a college degree. By 2010, only 12.4% of women had not finished high school; 29.6% had finished college (U.S. Census 2011). This trend suggests that the proportion of children raised by high school- and college-educated mothers has increased over time, potentially lowering the proportion at risk for a teen birth (An Haveman and Wolfe 1993).

The families in which children grow up have become more diverse. The proportion of intact two-parent families has declined and the percentage of single-parent, blended and other family types has grown. In 1960, 87.7% of children lived with two parents, declining to 72.5% in 1990. Since then, the proportion of two-parent families has been stable at about 69% (U.S. Census, 2012). Given the link between family structure and teen motherhood (Hofferth and Goldscheider 2010), the rise of single-mother families potentially exposes a greater proportion of children to this risk.

Family structure is associated with parental education and poverty status. Parental education in two-parent families is much higher than in single-mother families (U.S. Census 2011). Changes in female labor force participation are related to gains in female education and changes in family structure. In 1950, 36.8% of women ages 25–54 were in the work force. By 1990, that proportion had increased to three in four, where it has since leveled off (Mosisa and Hipple 2006). Among working women, the less-educated are more likely to live in poverty than their more educated peers. In 2000, 15.5% of working women who did not finish high school were poor, compared to 6.9% of high school graduates and only 1.4% of college graduates. In 2010, those percentages rose to 23.9% of high school dropouts, 10.8% of high school graduates, and 2.1% of college graduates (Bureau of Labor Statistics 2002, 2012). Since teen mothers average lower educational attainment than older mothers, they are more likely to belong to the working poor.

Because of these changes, women who were teens in the 1970s experienced a different economy and society and family backgrounds than those who were adolescents in the 1980s or 1990s. Thus, those who became teen mothers were subject to different penalties or opportunities depending on when they and their child were born. This study examines how adult SES of teen mothers has changed over time and how their SES compares to older mothers, women whose first birth occurred in their early 20s and after.

2. Data and methods

2.1 Data and study sample

Data for this study are from the 1995, 2002, and 2006-2010 National Survey of Family Growth (NSFG) which includes women ages 15-44; the data from all three cycles were pooled. Four consecutive five-year birth cohorts of mothers were constructed. The study sample is restricted to respondents who gave birth at least once. Respondents were categorized by whether their first birth occurred during their teenage years ('teen mothers'), from age 20-24 ('young adult mothers'), or after ('older adult mothers'). Women who arrived in the U.S. after their teen years are excluded. Sample weights from each cycle were applied as instructed in statistical guidelines (National Center for Health Statistics 2011). Because educational attainment is an outcome, the lower age cut-off is set at 25 to ensure that most respondents had completed their education by the time of interview. Table 1 presents NSFG cycle, mean age, and age at first birth by birth cohort and by whether respondents were teen mothers or younger or older adult mothers. Age varies by cohort; more recent cohorts are younger.

**Table 1: Cohort and teen motherhood:
NSFG cycle, mean age, mean age at 1st birth**

Birth cohort	Years aged 15-19	n	NSFG Cycle			Mean age	Mean age at 1 st birth
			1995	2002	2006-2010		
1956-1960	1971-1979	2,204	60.0	40.0	0.0	38.9	
Teen mothers		624	62.1	37.9	0.0	38.8	18.00
Young adult mothers		730	61.9	38.1	0.0	38.8	22.44
Older adult mothers		852	57.0	43.0	0.0	39.1	29.44
1961-1965	1976-1984	2,943	37.1	42.9	20.0	36.9	
Teen mothers		807	41.1	42.3	16.6	36.5	18.03
Young adult mothers		913	42.1	39.9	18.0	36.4	22.29
Older adult mothers		1,223	30.8	45.7	23.6	37.5	29.43
1966-1970	1981-1989	2,843	22.2	37.7	40.0	34.5	
Teen mothers		763	28.1	33.5	38.4	34.0	18.01
Young adult mothers		1,023	31.9	34.1	34.0	33.4	22.27
Older adult mothers		1,057	9.9	43.6	46.5	35.8	29.43
1971-1975	1986-1994	2,002	0.0	45.1	54.9	32.1	
Teen mothers		624	0.0	53.9	46.1	31.5	18.05
Young adult mothers		699	0.0	48.1	51.9	31.8	22.31
Older adult mothers		679	0.0	35.1	64.9	32.8	28.59

Note: The percentages in the three columns under **NSFG Cycle** heading are row percentages.

2.2 Variables

Outcome variables. Several sociodemographic variables that describe aspects of women's well-being and socioeconomic status in adulthood are examined. Education is measured as whether respondents have gone beyond high school. Marital status is measured as currently single (divorced, widowed, never married) versus currently married. Full-time employment is defined as working 35 hours or more per week. For this study, below 200% FPL (Federal Poverty Level) is labeled as 'poor'; 200% or above is labeled 'non-poor'.

Focal independent variables. The first focal independent variable is age at first birth (<20, 20–24, >24). The second is the woman's year of birth (birth cohort). Women were divided into four consecutive five-year birth cohorts. The first cohort spans 1956–1960, the fourth spans 1971–1975.

Control variables. Maternal education is a four-category variable, ranging from less than high school to a bachelor's degree or more. Maternal age at first birth was dichotomized: women whose own mothers' first birth occurred before age 20 comprise one category; those whose mothers were at least 20 comprise the second category. Women raised in a two-parent family were compared to all other women. Racial/ethnic categories are: non-Hispanic white, non-Hispanic black, non-Hispanic other and Hispanic. Age is a continuous variable.

2.3 Analyses

Within-cohort differences between women with teen and older mothers were analyzed for control and outcome variables. Cochran-Mantel-Haentzel (CMH) tests for trend estimated the percentages of the variables across cohorts for each age at first birth category (RTI 2007). Chi-square tests compared teen and older mothers for each variable within cohorts.

For each outcome, the first two sets of multivariate logistic regression models were run separately for teen mothers, young adult, and older adult mothers and included birth cohort, age, and background control variables. Because education and marital status are predicted to affect the odds of the poverty and employment outcomes, they were included in models predicting these three outcomes. For each model, tests for linear and non-linear threshold trends (comparing the first two cohorts to the second two) across cohorts were conducted. The final regressions incorporated interactions

between birth cohort and age at first birth to compare teen and all older mothers and teen and young adult mothers within cohorts.

3. Results

3.1 Descriptive results

Sample description

The proportion of women whose mothers were teen mothers did not vary across cohorts for any group of mothers (Table 2). The proportion of teen and young adult mothers who grew up in intact two-parent families declined across cohorts, whereas the proportion of all mothers whose own mothers had gone beyond high school increased. The proportion of the population that was non-Hispanic white declined across birth cohorts for all mothers, whereas the non-Hispanic black proportion remained stable and the Hispanic proportion roughly doubled for teen and young adult mothers.

Outcomes

Table 3 presents adult outcomes by cohort and age at first birth. The proportion with at least some college education rose across cohorts for older adult mothers only. The fraction of teen mothers who were single mothers rose across cohorts. Trend tests for fulltime employment across cohorts were non-significant for all groups of mothers. The proportion of teen and young adult mothers who lived <200% FPL increased across cohorts, whereas the proportion of fulltime employed mothers who lived <200% FPL rose only for teen mothers. These analyses do not control for age across birth cohorts.

Table 2: Family background descriptors by birth cohort and age at first birth among mothers ages 24-45

Birth cohort	Teen mother	Young adult mother	Older adult mother
Mother was teen mother [^]			
1956–1960	52.2	40.6	23.1
1961–1965	57.4	43.2	29.1
1966–1970	58.9	46.4	30.4
1971–1975	51.8	46.1	26.6
Two-Parent family [^]			
1956–1960	59.6 ***	71.6 ***	74.0
1961–1965	54.0	68.4	76.4
1966–1970	50.5	59.4	70.6
1971–1975	44.3	55.3	68.1
Mother education >HS [^]			
1956–1960	11.9 ***	22.1 ***	29.3 ***
1961–1965	14.3	23.6	36.8
1966–1970	16.8	28.5	42.6
1971–1975	25.7	37.1	49.1
Race/Ethnicity			
Non-Hispanic White [^]			
1956–1960	60.6 **	77.2 ***	84.7 **
1961–1965	54.9	71.6	84.3
1966–1970	52.4	66.3	82.4
1971–1975	49.3	63.4	77.4
Non-Hispanic Black [^]			
1956–1960	26.5	12.9	8.0
1961–1965	26.2	14.1	6.8
1966–1970	25.2	15.2	6.4
1971–1975	24.1	15.2	9.6
Hispanic [^]			
1956–1960	11.5 ***	8.0 ***	5.6
1961–1965	14.1	10.0	6.4
1966–1970	17.2	14.0	6.5
1971–1975	21.6	17.0	8.5
n	9,992		

Note: Cochran-Mantel-Haentzel test for trend was used across cohorts within teen, young adult, and older adult mother categories; asterisks denote results of these tests as follows: **p<0.01; ***p<0.001

[^]Differences between age at first birth categories, using chi-square tests, are significant at the p<0.001 within cohorts.

Table 3: Trend analysis of adult outcomes by birth cohort and age at first birth among mothers ages 24-45

Birth cohort	Teen mother	Young adult mother	Older adult mother
Went beyond high school [^]			
1956–1960	25.2	44.4	67.8 **
1961–1965	22.4	48.0	69.5
1966–1970	23.9	45.8	76.2
1971–1975	28.6	49.6	79.4
Single parent [^]			
1956–1960	42.0 ***	32.2	17.5
1961–1965	42.9	35.1	18.8
1966–1970	52.6	36.4	17.1
1971–1975	52.8	36.1	20.5
Employed fulltime			
1956–1960	53.7	53.4	49.5
1961–1965	49.1	54.3	45.9
1966–1970	50.5	54.3	52.0
1971–1975	53.9	52.6	49.3
<200% Federal poverty level (FPL) [^]			
1956–1960	50.1 ***	33.1 **	21.0
1961–1965	54.3	48.3	20.5
1966–1970	63.2	43.5	19.3
1971–1975	69.0	48.0	22.4
<200% FPL if employed fulltime [^]			
1956–1960	36.4 ***	26.1	18.7
1961–1965	40.9	39.8	17.4
1966–1970	53.2	34.5	16.0
1971–1975	56.6	38.7	20.2

Note: Cochran-Mantel-Haentzel test for trend was used across cohorts within age at first birth categories; asterisks denote results of these analyses as follows: **p<0.01; ***p<0.001

[^]Differences between teen and young adult mothers, using chi-square tests, are significant at the p<0.001 within cohorts.

3.2 Multivariate results

Table 4 presents multivariate results for teen mothers (column 1), young adult mothers (column 2) and older adult mothers (column 3). Patterns in the odds of going beyond high school across cohorts differed between teen and adult mothers. There were no

cohort differences for teen mothers. In contrast, tests for linear and threshold trends were both significant for adult mothers.

Table 4: Odds of adult outcomes among teen and older mothers across birth cohorts among mothers ages 24-45

	Teen Mothers	Young Adult Moms	Older Adult Moms
Went Beyond High School			
1956–1960 (ref)	1.00	1.00 ^{L,T}	1.00 ^{L,T}
1961–1965	0.86	1.34	0.97
1966–1970	0.97	1.41 *	1.35
1971–1975	1.27	1.64 **	1.63 *
N	2,784	3,346	3,792
-2ll (15)	188.8	516.1	579.4
Single Mother			
1956–1960 (ref)	1.00 ^{L,T}	1.00 ^{L,T}	1.00 ^{L,T}
1961–1965	0.97	1.21	1.28
1966–1970	1.45 *	1.34 *	1.28
1971–1975	1.39	1.42 *	1.73 **
N	2,784	3,346	3,792
-2ll (15)	283.0	246.8	256.2
Employed Fulltime^a			
1956–1960 (ref)	1.00 ^{L,T}	1.00	1.00 ^T
1961–1965	0.97	1.15	0.90
1966–1970	1.18	1.32	1.23
1971–1975	1.51 *	1.29	1.17
N	2,784	3,346	3,792
-2ll (19)	269.5	179.3	173.0
<200% Poverty Level^a			
1956–1960 (ref)	1.00 ^{L,T}	1.00 ^L	1.00
1961–1965	1.01	1.96 ***	0.94
1966–1970	1.31	1.51 *	0.98
1971–1975	1.71 **	2.05 ***	1.17
N	2,784	3,346	3,792
-2ll (19)	621.3	573.0	798.2
<200% Poverty if Employed Fulltime^a			
1956–1960 (ref)	1.00 ^{L,T}	1.00 ^{L,T}	1.00
1961–1965	1.05	2.35 **	0.84
1966–1970	1.78 *	1.86 *	0.91
1971–1975	2.14 *	2.70 ***	1.24
n	1,374	1,752	1,894
-2ll (19)	351.1	278.7	320.1

*p ≤ 0.05; **p ≤ 0.01; ***p ≤ 0.001

Note: Models control for age, race/ethnicity, family structure in childhood, respondent's mother's education, respondent's mother's age at first birth, R's age at first birth.

^L test for linear trend across cohorts was significant at p < 0.05.

^T test for threshold trend across cohorts was significant at p < 0.05.

^a Models also control for respondent's marital status, respondent's education.

Tests for linear and threshold trends for single motherhood were significant for teen and adult mothers. Mothers in the most recent cohorts were more likely to be single than those in the first cohort. Linear trends in the odds of working fulltime were significant for teen mothers; threshold trends were significant for older adult mothers but not young adult mothers. Linear tests of changes in living <200% FPL across cohorts were significant for both teen and young adult mothers; threshold trends were also significant for teen mothers. Young adult mothers born after 1960 were more likely to be poor than those born 1956-1960. There were no cohort differences for older adult mothers. The results for models predicting poverty among the fulltime employed echoed those for poverty overall, with the addition of a significant threshold trend found for young adult mothers.

Table 5 presents logistic regression models predicting adult outcomes; the first set contains interaction terms between birth cohort and whether a mother was a teen or older mother, the second compares teen mothers and young adult mothers only. The odds ratios represent the comparison of teen mothers to older mothers within each cohort. Teen mothers were equally less likely than all older mothers and than young adult mothers to have obtained any post-secondary education across cohorts.

The odds of single motherhood between teen and older mothers and between teen and young adult mothers varied across cohorts; they were greater for the last two cohorts than for the first two in both comparisons. There were no changes in odds of fulltime employment between teen and older mothers across cohorts. Teen mothers in the first two cohorts were equally as likely as older mothers to be poor, but those in the second two cohorts were more likely to be poor than their older mother counterparts. Among women employed full-time, the results comparing the odds of being poor between teen and older mothers within cohorts were similar to those for all women.

Table 5: Odds of adult outcomes comparing teen and older mothers among mothers ages 24-45

Birth Cohort	Teen Mothers vs. All Older Mothers		Teen Mothers vs. Young Adult Mothers	
		Interaction p-value		Interaction p-value
Went Beyond High School				
1956–1960	0.34 ***		0.50 ***	
1961–1965	0.25 ***	NS	0.35 ***	NS
1966–1970	0.25 ***		0.39 ***	
1971–1975	0.28 ***		0.45 ***	
N	9,922		6,130	
-2ll (df)	2340.4 (18)		892.2 (18)	
Single Mother				
1956–1960	1.58 **		1.21	
1961–1965	1.44 **	<0.05	1.09	<0.10
1966–1970	2.32 ***		1.67 ***	
1971–1975	2.12 ***		1.67 **	
n	9,922		6,130	
-2ll (df)	1144.8 (18)		552.4 (18)	
Employed Fulltime^a				
1956–1960	1.28		1.27	
1961–1965	1.18	NS	1.03	NS
1966–1970	1.04		1.02	
1971–1975	1.31		1.30	
N	9,922		6,130	
-2ll (df)	439.2 (22)		369.2 (22)	
<200% Poverty Level^a				
1956–1960	1.25		1.30	
1961–1965	1.00	<0.05	0.75	<0.01
1966–1970	1.62 ***		1.42 *	
1971–1975	1.86 ***		1.53 *	
N	9,922		6,130	
-2ll (df)	2809.4 (22)		1285.8 (22)	
<200% Poverty if Employed Fulltime^a				
1956–1960	1.10		1.22	
1961–1965	0.85	<0.05	0.62	<0.05
1966–1970	1.74 **		1.54 *	
1971–1975	1.75*		1.44	
n	5,020		3,126	
-2ll (df)	1159.5 (22)		623.8 (22)	

*p ≤ 0.05; **p ≤ 0.01; ***p ≤ 0.001

Note: Models control for age, race/ethnicity, family structure in childhood, respondent's mother's education, respondent's mother's age at first birth.

^aModels also control for respondent's marital status, respondent's education.

Asterisks denote significance level of teen vs. adult mother comparison within cohorts.

4. Discussion

Previous research has examined the effect of teen motherhood on women's adult outcomes for specific birth cohorts. However, each birth cohort experiences different social, economic, and cultural influences which shape women's opportunities and obstacles as well as their decisions and actions as teens and adults. This study compares aspects of adult SES of teen and older mothers across cohorts as well as within cohorts, providing information on whether the situations of teen mothers have changed.

Teen mothers' odds of working fulltime increased across birth cohorts. However, their odds of poverty and being a member of the working poor also increased, as did the odds for young adult mothers. This result corresponds to general trends in wages and poverty; since the 1970s, wage inequality has increased and income mobility has declined resulting in lower odds of leaving poverty through work (Autor, Katz, and Kearney 2008, Hoynes, Page, and Stevens 2006, Kopczuk, Saez, and Song 2007). The odds of going beyond high school increased across cohorts for adult but not teen mothers. Given the relative growth in returns to education and the stagnation or decline in employment and wages of workers without at least some college (Autor, Katz, and Kearney 2008, Day and Newburger 2002) this pattern suggests that teen mothers may fall further behind adult mothers in economic well-being in adulthood.

The chances of being a single mother rose for all three groups of mothers, paralleling rising proportions of single-mother families in the U.S., but the odds were higher for teen mothers who were adolescents in the 1980s and early 1990s. In part, this pattern reflects the changing nature of teen motherhood. The proportion of teen births to married women has been steadily declining. It dwindled to half in the early 1980s and continued to fall into the 1990s (Ventura, Curtin, and Mathews 1998). Simultaneously, birth rates among unmarried teens rose (Ventura 1995).

Comparisons between teen and older mothers across cohorts suggest that gaps in single motherhood and poverty, between all mothers, and among those working fulltime, have widened across birth cohorts, while gaps in educational attainment have remained stubbornly large, to the detriment of teen mothers. The results suggest that teen mothers in more recent birth cohorts are at an increased risk of being single parents and of being poor, even if working fulltime, compared to both earlier cohorts and to their older mother counterparts.

The teen birth rate has declined since the early 1990s and had been in overall decline for several decades before that. As a result, a smaller percentage and number of women have become teen mothers and fewer families are formed as a result of a teen birth. The findings of this study suggest that women in more recent cohorts who became teen mothers as it is becoming less common will experience greater hardships

as adults in a time of greater economic inequality and greater emphasis on education as a means of economic mobility.

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Driscoll: Adult outcomes of teen mothers across birth cohorts