**Differences Between Coresident and Non-coresident Women
with a Recent Birth**

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ABSTRACT

The American Community Survey (ACS) measures recent or annual fertility by asking a question whether a woman has had a birth in the last 12 months. This was done as an indirect way of measuring recent fertility—tabulating the number of children under age 1 in the household—may lead to an underestimate of fertility if differences in the proportion of mothers coresiding with their infants are related to socioeconomic characteristics. An examination of the differences in the direct fertility item and the household roster of children also permit one to measure how many women are not currently living with their infants. By developing criteria to define coresident living arrangements, I find that 87 percent of women are coresiding with their biological child. This percentage varies when looking at different demographic and socioeconomic characteristics. Relatively large percent differences in coresidency are found by age, disability status, educational attainment, marital status, poverty status, relationship to householder, and school enrollment. The multivariate model shows that these same variables persist in being associated with women not coresiding with their infant after controlling for other variables. These results strongly suggest that the direct fertility question asked in the ACS provides a significant improvement in the estimation of fertility differences over the indirect measure of using the presence of infants in the household.

INTRODUCTION

The American Community Survey (ACS) included an item asking women if they had a birth in the past 12 months (recent birth) because it was assumed that the tabulation of

children under age 1 in the household would not be a sufficient way to measure recent or annual fertility. The following problems would be encountered if we only used a tabulation of infants to measure fertility:

First, when respondents fill out the ACS, the householder is listed as "Person 1." Subsequent members of the household are asked "How is this person related to Person 1?" There are 15 checkboxes provided to capture this relationship (i.e. Husband or wife, Biological son or daughter). The only way of identifying with certainty the characteristics of mothers living with infants in many surveys is if these infants are the children of the householder or spouse of the householder where their relationship is directly linked to the householder. Therefore, newborn children who are not the biological children of the householder may be missed.

Children living in subfamilies—both related and unrelated—are more tenuously linked by inference of relationship to the householder. A subfamily consists of married couples or parents and children of which neither spouse nor parent is the householder. For example, a woman who is a daughter of the householder, and who is living in a household with a grandchild of the householder is assumed to be the mother of that child. She may be, but without a specific indicator "pointing" to a coresident parent, that grandchild might also be the child of an absent daughter of the householder.

Second, construction of fertility rates using the age of children often assumes that no differences are found in the proportion of children absent from the household by the

characteristics of the mother.[1] If there are differences in the proportion of mothers not

living with their children across demographic subgroups, then the construction of fertility

rates by parental characteristics may produce differences not attributable to fertility but to

differences in living arrangements of parents and children. For example, if mothers are

foreign born or have recently moved, their young children may be in other residences

until the mother has settled and established stable housing arrangements.

Third, one assumes that the mortality of both infants and mothers does not differ by

characteristics of the mother. This assumption is not supported by data from the National

Center for Health Statistics. Looking at race, the maternal mortality rate for black

women (36.5 deaths per 100,000 live births) was about 3.3 times the rate for white

women (11.1 deaths per 100,000 live births) in 2005. The maternal mortality rate for

Hispanic women was 9.6 deaths per 100,000 live births.   The infant mortality rate for

black infants (13.73 deaths per 1,000 live births) was about 2.4 times the rate for white

infants (5.73 deaths per 1,000 live births) in 2005. The infant morality rate was 10.92

deaths per 1,000 live births for all other infants.[2] Race for infant births is tabulated

according to the race of the mother.

This paper has two main points: (1) the evaluation of the use "coresident infants" as a

proxy measure for fertility rates compared with the directly asked fertility question, and

(2) are there differences among mothers in the likelihood of living with their newborn

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[1] Shryock, H.S. & Siegel, J.S. 1973. *The Methods and Materials of Demography*.
Washington, D.C.: U.S. Government Printing Office. See page 832.
[2] Kung, H.C., Hoyert, D., Xu, J., & Murphy, S.L. 2008. *Deaths: Final Data for 2005. National Vital Statistics Reports, Vol. 56 No. 10*. Hyattsville, MD: National Center for Health Statistics. See Tables 30 and 33 at http://www.cdc.gov/nchs/data/nvsr/nvsr56/nvsr56_10.pdf

children. Little is known about the differences between coresident and non-coresident women with a birth in the past 12 months.[3] Using the 2006 American Community Survey, I examine differences between these two groups by a number of demographic and socioeconomic characteristics. These characteristics include: age, citizenship status, disability status, educational attainment, labor force status, marital status, poverty status, public assistance, race and Hispanic origin, region, relationship to householder, residence status, school enrollment, and urban/rural residence.

DATA

The 2006 ACS is a national sample of housing units, both occupied and vacant, and group quarters.[4] Data were collected in all 3,141 counties in the United States. The sample was designed to provide estimates of housing and socio-economic characteristics for the nation, all states, and areas of 65,000 or more.

The 2006 ACS interviewed a total of 1,968,362 households.[5] Data were collected continuously throughout the year using a combination of mail-out/mail-back questionnaires, Computer-Assisted Telephone Interviewing (CATI), and Computer-Assisted Personal Interviewing (CAPI). Each month, a unique national sample of addresses received an ACS questionnaire. Addresses that did not respond were telephoned during the second month of collection if a phone number for the address was

[3] Stewart, S.D. 1999. "Nonresident Mothers' and Fathers' Social Contact with Children." *Journal of Marriage and the Family* 61: 894-907.
[4] For more information about the American Community Survey, see http://www.census.gov/acs/www/
[5] For more information about the ACS's quality measures, see http://www.census.gov/acs/www/UseData/sse/

available. Personal visits were conducted during the third and last month of data

collection for a subsample of the remaining nonresponding units. The 2006 ACS

achieved an overall survey response rate of 97.5 percent, calculated as the initially

weighted estimate of interviews divided by the initially weighted estimate of cases

eligible to be interviewed.[6]

METHODOLOGY

The two data items needed to identify coresident mothers with a recent birth are (1) the

ACS fertility question asking women to 15 to 50 if they had a birth in the past 12 months,

and (2) information on the household roster identifying the ages of people and their

relationship to the householder. I limit the analysis to the household population because

the relationship category is needed to ascertain the householder's relationship to the

child, and this information is not provided for the group quarters population.

There are three different living arrangements based on information on the household

roster to define situations when a woman with a birth in the past 12 months is considered

to be coresiding with her biological infant child.

1) The woman is a householder, spouse, housemate/roommate, or unmarried partner

of the householder and has a son/daughter 0 or 1 year old, or if there is a child 0

or 1 year old who could possibly be the son/daughter of the

spouse/partner/roommate/housemate but is not the child of the householder. The

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[6] For a detailed explanation, see the ACS Quality Measures website:
http://www.census.gov/acs/www/acs-php/quality_measures_response_2006.php. For source and accuracy
information about the 2006 ACS, see http://www.census.gov/acs/www/Downloads/ACS/accuracy2006.pdf.

rational for choosing both 0 and 1 year olds will be explained in a subsequent
paragraph.

2) The woman is a parent in a subfamily related to the householder or a relative of
   the householder, and there is a grandchild or other relative of the householder who
   is 0 or 1 year old.

3) The woman is a roomer/boarder or other nonrelative of the householder, and there
   is a child who is a roomer/boarder or other nonrelative of the householder who is
   0 or 1 year old.

If a woman had a birth in the past 12 months and does not meet one of these criteria, she
is defined as not coresiding with her child. If she had a birth in the past 12 months and an
infant could be identified as coresident with her in the household, these births are
categorized as "coresident infant births" thus producing coresident infant birth rates (the
number of women with coresident infants per 1,000 women).

Because it is possible for the child to already be age 1 at the time of the interview, I
included children who were both age 0 and age 1 at the interview. For example, some
women answering the ACS fertility question as "yes" in May 2006 may have given birth
in the early days of May 2005, and hence, may have had their child more than 12 months
prior to the interview date. Not including these potential infants who turned age 1 would
have resulted in more than 20 percent of mothers not living with their infant children, a
highly unreasonable estimate.

According to published numbers from the ACS, there were 4,152,911 women in households who had a birth in the past 12 months.[7] About 13 percent of women in households with a birth in the past 12 past months do not coreside with their child. As a benchmark comparison, the 2006 Current Population Survey (CPS) estimated that 9 percent of children under 1 year were not living with their mothers.[8] Differences in the data collection procedures—for example, the presence of detailed parent-pointers in the CPS and not in the ACS--may explain why the ACS produces higher proportions of non-coresident mothers than the CPS. The current size of the ACS is around 2 million households compared with approximately 50,000 households in the June fertility supplement to the CPS, thus the ACS was chosen for analysis of this more detailed study.

Another cause of non-coresidency of mothers and children in the ACS may result from infant mortality. The most recent National Vital Statistics Report counted 28,440 infant deaths for 2005.[9] Infant deaths include both neonatal (under 28 days) and postnatal (28 days to 11 months) deaths. These children would not be rostered in the ACS universe, as the ACS only collects information on the population alive at the time of the interview. Hence, women who reported an infant that died before age 1 would be tabulated as women with non-coresident infants in the ACS. In addition, if mothers placed their children in an institution or arranged for them to live outside of the country, these

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[7] Source: American Community Survey 2006 Table B13004. The estimated number of children born in calendar year 2006 by the National Center for Health Statistics was 4,265,996. For calendar year 2005, the number was 4,138,349.

[8] Source: 2006 Current Population Survey Table C2.

[9] Kung, H.C., Hoyert, D., Xu, J., & Murphy, S.L. 2008. *Deaths: Final Data for 2005. National Vital Statistics Reports, Vol. 56 No. 10*. Hyattsville, MD: National Center for Health Statistics. See Table D at http://www.cdc.gov/nchs/data/nvsr/nvsr56/nvsr56_10.pdf

children would not be rostered on the ACS form and the mothers would be tabulated as non-coresident parents in the ACS.

HYPOTHESES

The various characteristics and the hypothesized differences in the presence or absence of their children is as follows:

Foreign born women may be less likely to coreside with their children compared with native born women. These women could be in the United States for employment purposes, while their children live in the mothers' native country with extended family. Women with any disability may also be less likely to coreside with their children compared to women with no disabilities. These women may have physical or psychological barriers that limit their ability to care for others.

Women from economically disadvantaged backgrounds (i.e. younger, lower educational attainment, unmarried, not being in the labor force, and living below the poverty level) may be less likely to coreside with their children compared to women from more advantaged backgrounds (i.e. older, higher educational attainment, married, in the labor force, and living at or above the poverty level). These women may not have the means to support themselves or their children due to economic uncertainties.

After presenting a descriptive analysis of the data, a multivariate analysis will be performed in order to evaluate the corelationships between the variables mentioned in this paper and the presence or absence of an infant living with the mother.

RESULTS

Bivariate analysis

Table 1 shows two different measurements of recent births: first from the birth in the past 12 months item from the ACS and second from the birth estimate using coresident infants as described in the methodology section of this paper. I also display the fertility rate (per 1,000 women 15-to 50-years-old) for both of these measurements. Finally, I display the ratio of the coresident infant birth rate to birth in past 12 months rate, plus the corresponding margin of error. This ratio captures the percentage of women with a recent birth coresiding with their infant.

The ACS tabulated about 74 million women between the ages of 15 to 50 years living in households for the 2006 round of interviews. Of these women, roughly 4.2 million responded "yes" to having a birth in the past 12 months. Approximately 3.6 million (87 percent) of these women were coresiding with their infant. However, this ratio is not consistent among all groups, meaning that not all mothers live with their children in the same proportion. Some of the more notable differences will be discussed in the ensuing section.

The extreme age groups, teenagers and women 40 and over, show lower levels of

coresidency than women in the principal childbearing ages in the twenties and thirties; 71

percent of 15-to 19-year-olds and 61 percent of 40-to 50-year-olds coreside with their

child. Conversely, 86 percent of 20-to 24-year-olds, 90 percent of 25-to 29-year-olds, 91

percent of 30-to 34-year-olds, and 89 percent of 35-to 39-year-olds coreside with their

child. One possible explanation for this may be the higher levels of infant mortality for

infants with mothers in these extreme age groups. Research suggests that prevalence of

teenage mothers from disadvantaged backgrounds, plus biological and sociological

factors for older mothers may be related to higher infant morality risk.[10] Thus,

differences in infant mortality may account for lower coresidency rates for mothers in

these extreme age groups.

Disability status also shows a sizable difference in the percentage of women coresiding

with their child: 73 percent for women with any disability and 87 percent for women with

no disability. The results here seem to support the hypothesis that women with a

disability may be less likely to coreside with their children compared to women with no

disabilities. One reason may be physical or psychological barriers that limit the ability of

women with any disability to care for young children. These reasons may also be related

to previous low levels of coresidency noted for teenagers and 40 plus mothers.

The likelihood of coresiding with a child also varies by educational attainment. For

women with a graduate or professional degree, 93 percent coreside with their child. This

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[10] Mathews, T.J., MacDorman, M.F., Menacker, F. 2002. *Infant Mortality Statistics from the 1999 Period Linked Birth/Infant Death Data Set*. National Vital Statistics Reports Vol. 50, No. 4. Hyattsville, MD: National Center for Health Statistics.

percentage decreases as level of education decreases: 92 percent of women with a bachelor's degree, 88 percent of women with some college or an associate's degree, 84 percent of high school graduate women, and 80 percent of women who are less than a high school graduate coreside with their child. Consistent with my hypothesis, women with lower educational attainment may be less likely to coreside with their child compared to women with higher educational attainment as women's educational attainment is related to their earnings and hence the ability to support themselves or their children.[11]

Looking at labor force status, 86 percent of women in the labor force coreside with their child compared to 87 percent of women not in the labor force. Examining differences by urban/rural residence, 88 percent of mothers in rural areas coreside with their infant compared to 86 percent of mothers in urban areas. Although these differences are statistically significant, they are too small to draw any substantive conclusions.

Looking at marital status, only 91 percent of now married women coreside with their child compared with 77 percent of unmarried women and 78 percent of never married women. The unmarried category includes women who are widowed, divorced, and separated. Perhaps the additional economic and social support from a spouse helps to explain the higher percentage of now married women coresiding with their child.[12]

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[11] Source: Table A-3 Mean Earnings of Workers 18 Years and Over, by Educational Attainment, Race, Hispanic Origin, and Sex: 1975 to 2006. See http://www.census.gov/population/socdemo/education/cps2007/tabA-3.xls.

[12] Bennett, T., Bravermna, P., Egerter, S., & Kiely, J.L. 1994. Maternal Marital Status as a Risk Factor for Infant Mortality. *Family Planning Perspectives* 26:252-256, 271.

The likelihood of coresiding with an infant varies by poverty status. While 84 percent of women living below 100 percent of the poverty level coreside with their child, this number increases to 86 percent for women living at 100 to 199 percent of the poverty level, and 88 percent for women living 200 percent or more of the poverty level. Consistent with the hypothesis concerning economic conditions affecting coresidency, poorer women may not have the means to support their children and may have to place their children in living arrangements outside of their household.

Among race groups, 89 percent of White mothers with infants coreside with their children compared with 79 percent of Black mothers. These differences in coresidency directly illustrate the problem with using the coresident infant method for estimating fertility rates from surveys. While the direct fertility question rate indicates higher fertility levels among Blacks than Whites (58.7 compared with 52.9), the coresident infant birth rate indicates no significant difference (46.6 and 46.9). Whether this difference results from any correlations with other variables—for example, educational attainment or marital status—will be discussed in the next section.

Looking at relationship to householder, 90 percent of mothers who report being the householder, and 93 percent of mother who report being the spouse of the householder coreside with their infant. Only 71 percent of women choosing another category to capture their relationship to the householder, such as Daughter-in-law or Unmarried partner, coresided with their child. Again, children not identified as being a child of the

householder or the spouse of the householder may be missed more easily in the tabulation procedure.

School enrollment also shows a sizeable difference in the percentage of women coresiding with their child: 87 percent for women who were not enrolled in school, and 79 percent for women who were enrolled in school. It is possible that these mothers live on campus to attend school or college and entrust the care of their child to other family members.

Multivariate analysis

In Table 2, I used multivariate analysis to predict the odds of mothers with infants not coresiding with their child. The independent variables used have already been detailed in the descriptive tables. Table 2 shows odds ratios for the model as well as the standard error for the parameter estimate. The comparison group for each characteristic is always the group with the lowest percentage of women not coresiding with their infant. The column directly to the right of the odds ratios shows the significance level for the category. The number of asterisks denotes categories that differ from the omitted group at the .10, .05, .01, and .001 levels, respectively.

Similar to the bivariate analysis, women 40 and over had the greatest odds of not being coresident with their infant child—7.2 times that of women 30-to 34-years-old. However, unlike in the bivariate analysis, the odds of a teenager not being coresident with her infant were not significantly different than a 30-to 34-year-old after all

characteristics were controlled for in the model. The odds of Black mothers not living with their infant children are 1.4 times that of White mothers, even after controlling for numerous variables in the model.

As with the bivariate results, women with any disability were more likely than women with no disability to not coreside with their child. Odds of not coresiding with their child for women with any disability were 2.1 times those for women with no disability.

Lower levels of educational attainment were strongly associated with mothers not coresiding with a child. Women who were not high school graduates had odds of not coresiding with their child 2.7 times greater than those with a graduate or professional degree. High school graduates had odds 2.3 times higher, women with some college or an associate's degree had odds 1.9 times higher, and women with a bachelor's degree had odds 1.4 times greater of not coresiding with their child than those women with a graduate or professional degree.

Finally, unmarried and never married women were more likely than married women not to coreside with their child. Odds of not coresiding with their child for unmarried women were 1.5 times those for married women, while never married women had odds 1.4 times higher. Not surprisingly, these characteristics from the logistic regression models are some of the same characteristics that are statistically significant in Table 1.

One different pattern of coresidency emerged when the economic characteristics were examined. After controlling for many of the demographic variables in Table 2, women below or within 200 percent of the poverty level, and who received public assistance had lower odds of non-coresidency than those more economically advantaged women. Poverty level proved different from the bivariate model where no differences in coresidency were found.

CONCLUSION

By examining differences between the use of the "coresident infant birth" measure as a proxy for fertility rates compared with the directly asked fertility question, I discovered that only 87 percent of women with a recent birth are living with their child. This finding lends support to the argument that a simple tabulation of identifiable coresident infants in the household is not a sufficient way to measure births in the past 12 months on the ACS. Additionally, the percentage of women not coresiding with their child varies considerably when looking at different demographic and socioeconomic characteristics.[13] Some major differences in coresiding are found among women by their age, disability status, educational attainment, marital status, poverty status, relationship to householder, and school enrollment status. Labor force status and urban/rural differences were statistically significant but too small to draw any substantive conclusions.

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[13] Shryock, H.S. & Siegel, J.S. 1973. *The Methods and Materials of Demography*. Washington, D.C.: U.S. Government Printing Office. See page 505.

The multivariate model shows that age, disability status, educational attainment, marital status, poverty status, relationship to householder, and school enrollment status persist in being associated with women not coresiding with their infant after controlling for other variables. These results strongly suggest that the direct fertility question asked in the ACS provides a significant improvement in the estimation of fertility differences over the indirect measure of using the presence of infants in the household.