

Teenage Fertility: Does Place, Race, or Poverty Matter?

By

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Rural areas in the United States tend to be characterized by social isolation, limited medical services, and high poverty rates, all high risk factors for teenage fertility and poor birth outcomes (Darroch and Singh 1999). Approximately a quarter of the nation's youth live in rural areas, but the majority of public health research tends to focus on urban teenagers (Bennett et al. 1997).

This study will focus attention on teenage fertility in rural areas and address the problems that are more severe in rural areas. A spatially comparative approach is used to study the links between space and stratification. The main objective of this study is to identify rural/urban differences in teenage birth rates in counties across the continental United States. We want to determine the significant predictors of teenage birth rates, as well as discuss ways to reduce teenage fertility in both rural and urban areas. We hypothesize that rural areas will have higher teenage fertility rates due to the higher poverty rates and limited access to family planning clinics and other forms of health care providers. For this study, we will answer the following questions: (1) Are there significant differences in the teenage birth rates in rural and urban counties? (2) What role does poverty play in accounting for residential differences in teenage fertility? (3) Does the race/ethnic composition of a county play a part in teenage birth rates?

We improve on the existing literature by (1) focusing attention on teenage fertility in rural areas, (2) examining the differences in teenage birth rates by rural and urban residence, and (3) show how residential differences are affected by compositional differences in race and poverty. The results of this study can be used by family planning clinics to better identify the specific contraceptive needs of rural teenagers.

Background and Significance

Over three-quarters of all teenage pregnancies each year are unintended (Darroch and Singh 1999). Thirty four percent of U.S. teenage girls become pregnant at least once before they are twenty years old (P.C.P.T.P. 2007). Most young females are at risk for unintended pregnancy for over a decade, this reflects an average age of first intercourse of seventeen, while marriage does not occur for most young adults until their mid-twenties or early thirties (The Alan Guttmacher Institute 2007).

Most teenage unintended pregnancies occur because of inconsistent, lack of, or incorrect use of contraceptives (Franzetta et al. 2006). Teenagers have a 90 percent chance of becoming pregnant within one year if they are having sexual

intercourse without using contraceptives (The Alan Guttmacher Institute 2007). The high teenage fertility rate can be reduced by making two important changes: increased and more consistent contraceptive use, and by making changes in sexual behavior (Darroch and Singh 1999). Family planning services are essential for any effort to reduce unintended teenage pregnancies.

The concern about unintended pregnancies and births to teenagers arises from research showing that teenage childbearing is associated with increased risk of poverty, and reliance on public assistance, and weaker attachment to the labor force (Gold 2006). Teenage mothers are more likely to have lower educational and employment goals than those who delay childbearing (Dailard and Richardson 2005). While such mothers are now more likely than they used to be to complete high school or obtain a GED, they remain less likely to go on to college (The Alan Guttmacher Institute 2007). Also, female children of teenage mothers are more likely to become teenage mothers themselves, while sons are more likely to be incarcerated (N.C.P.T.P. 2006).

When teenage mothers live in areas with high unemployment and underemployment rates, this increases their risk of living in poverty. Over the past few decades, rural poverty rates have remained high and persistent (Wells 2002; Lichter and Johnson 2007). A substantially higher proportion of people in the United States who live below the poverty line live in rural areas, 16.4 percent compared to 11.7 percent (Albrecht and Albrecht 2000). Minorities living in rural areas face even higher poverty rates than whites (Lichter and Johnson 2007). These economic conditions lead to limited access to quality health care (Snyder et al. 2004), adequate employment, and public transportation (Lichter and Johnson 2007).

Contraceptive use is critical for preventing unintended pregnancy. Not only does contraceptive use reduce unintended pregnancy, but it also reduces the probability of having an abortion by 85 percent (Gold 2006). Teenage females are beginning to use more effective hormonal birth control methods than in the past. However, while teenage contraceptive choices may be improving, use remains inconsistent. Younger teenagers are less likely than older teenagers to use contraception at first sexual intercourse (Franzetta et al. 2006). Women are considered in need of publicly funded contraceptive services and supplies if they are of childbearing age (13-44) and have ever had sexual intercourse, but do not wish to become pregnant, and those who are below 250 percent of the federal poverty line that are under 20 years of age (The Alan Guttmacher Institute 2007). Between the years 2000 and 2004, there was a 6 percent increase in the number of women in need of publicly funded contraceptive services and supplies; 17.4 million women are in need of these publicly funded services.

Over the past few years, structural changes within the family planning clinic network have resulted in clinic consolidation. Now clinics are serving more clients, but in fewer locations (Frost et al. 2004). Even though more clients per clinic are being served as a result of the consolidation, it has made it hard on women and teenagers who live far from open clinics or in places where clinics have closed. A clinic opening further away not only causes transportation and contraceptive availability problems, but also causes problems with women and teenagers

receiving stable and continuous reproductive healthcare. Women may be forced to seek more expensive contraceptive services through private physicians located close by, settle for using a less effective contraceptive method or no method or care at all (Frost et al. 2004).

The existing literature fails to identify residential differences in teenage fertility rates using a nationally representative sample. This research is important because rural teenagers are about as likely as those from other areas to engage in risky sexual behaviors (Snyder and McLaughlin 2004). Because of the current economic conditions in rural areas, as well as the limited access to family planning clinics, teenage birth rates in rural areas may be as high or even higher than the teenage birth rates in urban areas.

Data and Methodology

Data used in this analysis comes from multiple sources. The county-level birth data comes from the 2005 Area Resource File. The number of births per county is a three year (2000, 2001, 2002) average of births to teenagers under 18 years of age. The number of births for each county is based on the place of residence of the mother, not where the birth took place. Only live births are calculated into the total, stillborns are not included. The average number of births is then divided by an average of the female population ages 15 to 17 years for the years 2000, 2001, and 2002 and then multiplied by 1,000.

The following variables are from the Summary File 1 and 3 of the 2000 Census, unless otherwise noted. Three different measures of rurality are used. The first is a rural dummy variable, where rural =1. The county is considered rural if 50 percent of the total population is classified as rural by the 2000 Census. The second rural measure is the rural rate, which is the rural population divided by the total population, and multiplied by 1,000. The third rural measure is population density, which is the total population per square mile. The population density for each county is calculated using ArcGIS 9.3 by dividing the total population of the county by the area of that county. Unemployment rate, educational attainment, poverty rate, and race/ethnicity independent variables from SF3, are also included in the analysis.

The number of family planning clinics per county and the addresses for these clinics are obtained from the Office of Population Affairs Clearinghouse family planning database.

Teenage birth rates are regressed on the independent variables in separate models using ordinary least squares (OLS) regression. Each model uses a separate measure of rural. These results are joined to a shape file of all counties in the continental United States. Maps are made to show the distribution of clinics across counties and to compare fertility rates. After establishing a regression model, GWR software is used to geographically weight the data to check for variation across space. The results of the regressions are presented in tables and the results of the GWR spatial analysis is presented via maps made on ArcGIS.

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