"Girls Rule"?
Schooling, Work, and Idleness among Immigrant Youth

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Abstract:
This paper uses 2000 census data for youth ages 16 to 18 to analyze gender differences in high school dropout status and labor force participation of first- and second-generation youth relative to native-born youth whose parents were also born in the United States (the "third plus" generation). Preliminary findings suggest significant variation in enrollment propensities both across and within generations. Controlling for other covariates that influence dropout behavior, young women are about 20 percent more likely to be in school than men, although there is significant heterogeneity in the female effect. The strongest female advantage accrues to the second generation, while first-generation women are only slightly more likely to be enrolled in school than males.

I.   Introduction —Objectives and Educational Relevance of the Study

Increased immigration coupled with the relative youth of the foreign born have fueled dramatic growth in the number of immigrant children attending U.S. schools. Children of immigrants (i.e., the foreign born or the "first generation" and native-born children of foreign-born parents or the "second generation") accounted for only 13 percent of children in 1990, grew to over 20 percent by 2003 (U.S. Bureau of the Census, 2005b), and are projected to comprise 30 percent of children by 2015 (Fix & Passel, 2003). Growth in the second generation is driving the generation composition of the nation's youth. The continuing influx of immigrants into the United States ensures that the second generation's share will grow into the foreseeable future (U.S. Bureau of the Census, 2005a).

Patterns of recent immigration coupled with the tendency for ethnic differences in educational attainment to persist over time (Bowles, Gintis, & Groves, 2005) have led to concerns about an increasing educational attainment gap between fast growing immigrant groups and the native population. High school completion is a key educational outcome for youth, either as a transition to postsecondary education or as a conduit to successful integration into the labor market. Economic returns to schooling have risen since the early 1980s (Card & DiNardo, 2002). Recent econometric evidence suggests that each additional year of college attendance increase earnings by as much as 17 percent (Heckman & Masterov, 2005). High school dropouts are unlikely to successfully integrate into the U.S. economy: they have lower incomes, higher unemployment rates, and are more likely to be poor than even terminal high school graduates.

Despite the rapidly rising proportion of immigrant children in the nation's schools, we have a poor understanding of how school participation rates vary by generation status and which individual and family background characteristics influence the likelihood a child completes high school. This study remedies part of this lacuna in the literature by focusing on the interplay of gender, generation status, and family background in determining whether young women are in school, participating in the labor force, or are "idle." I use 2000 census data for youth ages 16 to 18 to compare gender differences in these outcomes of first- and second-generation youth relative to native-born youth whose parents were also born in the United States (the third generation). The census is the only dataset with sufficient sample sizes to detect heterogeneity in enrollment probabilities by disaggregated race-ethnicity and national origin groups within and across generations. This advantage of census data is critical given consistent findings of significant disparities in school enrollment propensities among foreign-born male youth across national origin and race-ethnic groups.

II.   Theoretical Framework

Several competing theories posit very different relationships between generation status and educational attainment. Kao and Tienda (1995) formulate the "immigrant optimism" hypothesis, the transmission of positive family values and attitudes about education from immigrants to their children, to explain their finding of lower high school dropout rates in the second over other generations. The second generation, although born in the United States, differs from the native-parentage third generation by potentially experiencing

immigrant influences on its human capital formation through their parents (Perreira, Harris, & Lee, 2005).

The primary opposing theory, the segmented assimilation model, asserts that the degree of economic incorporation into mainstream American society varies according to the interplay of race-ethnicity, family capital, and community context. Socioeconomic disadvantages accrue to visible "minority" groups that lack strong parental resources and community-specific social capital (Portes & Rumbaut, 1996; Portes & Zhou, 1993; Zhou, 1997). This theory predicts that the educational attainment of immigrant children is positively (negatively) impacted by (a lack of) cohesive communities that preserve ethnic membership, reinforce shared values and parental engagement, and foster economic attachments to the community. I evaluate the predictive content of these models in light of the empirical results of the analysis.

III. Data and Methods

I use the 2000 5 percent Census Integrated Public Use Microdata Sample (IPUMS) data (Ruggles et al., 2005) constructed from the Census of Population and Housing conducted by the U.S. Bureau of the Census. The IPUMS provides detailed sociodemographic and economic information including school enrollment status, completed schooling, and employment status for a representative sample of U.S. residents.

The analysis focuses on youth ages 16 to 18 living in households for two reasons. Since adolescents are subject to compulsory schooling laws until approximately age 16, enrollment is nearly universal for most generation status groups below compulsory school age. Youth subsequently face a critical transition point in their educational histories, when school participation becomes a choice variable. Second, while rates of non-parental household residence rise rapidly at older ages, nearly all youth under 19 live in households. Focusing on this age group reduces unobservable generation status and family background characteristics among youth living independently of their parental households.

The status dropout rate is the fraction of youth who are not enrolled in school and have not completed high school, irrespective of when they dropped out. The distinction is important since a significant fraction of first-generation youth report completing high school by age 18. The first outcome measure I use is a dichotomous variable of school participation, i.e., the inverse status dropout rate, which is coded "1" if the youth is enrolled in school OR has received a regular high school diploma or General Educational Development (GED) credential.

Previous household-based studies of census data have rely on extremely biased samples. They typically include only youth who reside with a parent or step-parent or who are children of the household head. I eliminate sample selection bias by including all children in the IPUMS sample in the analysis, which required correcting IPUMS-defined parent-child links and measured family characteristics. Examination of the original IPUMS family interrelationship variables revealed several serious flaws in parent-child links that overstated the occurrence of independent children and resulted in seriously mismeasured family structure, family composition, poverty, and income characteristics,

as well as the prevalence of multiple-family household.   I have corrected these deficiencies and reconstructed all related family and household-level variables.

I use my augmented IPUMS family interrelationship variables to link a child to co-resident parents (and/or stepparents) in the household, which provides parental birthplace information to identify generation status of native-born youth.   A youth is first generation if he reports a birthplace outside of the United States and its territories to non-U.S. citizen parents. Since previous research indicates the impact of foreign-born status is mediated by length of exposure to U.S. education (Glick & White, 2003), I further distinguish among the first generation who migrated as preschoolers (ages 0-5), preteens (ages 6-12), and teenagers (ages 13-18). The youngest group arrived in the United States before school age and would therefore, like the second and higher-order generations, have received their formal schooling in the United States. A second-generation youth is born in the United States to at least at least one foreign-born parent. A native-born youth is third generation if all co-resident parents are also native born. The absence of higher-order birthplace information precludes identifying the precise generation of native youth of native parents. Hence, the "third generation" refers to third and higher-order generations.

The analysis takes into account the potentially competing effects of individual human capital, family background and residential attainment that have been identified in the literature as key influences on high school dropout. In addition to generation status, key human capital measures include age, gender, marital/cohabitation status, presence of own children in the household, language background and race-ethnicity. I control for the potentially confounding interaction of parental English language ability and youth bilingualism by creating a set of thirteen language background indicators that combine information on self-reported English-speaking ability (speak only English (reference category), very well, well, not well/not at all) and whether a non-English language is spoken in the home (Spanish, other European language, Asian, and other). Race-ethnicity is carefully defined using the child's reported ethnic identity in combination with the child's country of origin (if first generation) or parental birthplace (if second generation) (Harris, 1999). Eleven race-ethnic groups are identified: (1) European-Canadian; (2) African heritage, including Afro-Caribbean; (3) Mexican; (4) Cuban; (5) other Central American; (6) South American; (7) Chinese; (8) Filipino; (9) Asian Indian; (10) Cambodian/Laotian and Vietnamese; and (11) Other Asian. I not only include controls for ethnicity in the full model specifications, but also estimate models separately for several pan race-ethnic groups to examine whether gender differences in enrollment converge over generations.

Family structure has been shown to have a strong influence on children's educational attainment. Four indicator variables are defined for living in a 2-parent household, a single-parent household, or a household with no parents present. Family socioeconomic status has consistently shown to be one of the strongest predictors of achievement. A series of categorical variables captures discontinuities in the impact of parental educational attainment on children's attainment that were identified in bivariate logistic regressions: no formal schooling, completed grades K-4, grades 5-8, some high school, high school graduate, some college, associate degree, and at least a bachelor degree. Poverty status is measured with four indicator variables: family income below the poverty line, income between 100 and 200 percent of poverty, 200 and 300 percent of

poverty, 300 and 400 percent of poverty, and income at least 400 percent of the poverty threshold. Other researchers have found that the presence of more than two children in a household is associated with lower educational attainment. Family size, a proxy for the number of children in the household, and sibship size are measured with four indicator variables to capture the non-linear impacts of family size. I also control for household mobility to capture the impact of school changes on attrition (Rumberger & Larson, 1998).

The analysis first focuses on the interplay of gender and generation status (controlling for individual, family, and neighborhood characteristics) on school participation, which is represented by the dichotomous dependent variable, school enrollment status. This is modeled in a latent variable framework which reflects an underlying utility-maximizing process. The probability that individual i is enrolled in school in year t, S_{it}, conditional on covariates x can therefore be modeled as a logistic regression:

$$P(S_{it} = 1 \mid x) = P(S_{it} {}^* > 0 \mid x) = \text{logit}(x\beta)$$

The baseline logistic regressions model conditions only on generation status. The baseline model is then progressively augmented with the covariates described above, so that partial effect of various explanatory factors can be considered separately.

I then explicitly examine the pathways out of schooling by analyzing how the relative attractiveness of schooling versus the competing activities of labor market work and idleness vary by gender and generation status. Multinomial logistic regression is used to estimate a trichotomous variable representing whether the student is enrolled in school, is working, or is "idle". I then examine how the impact of gender on the three outcomes varies by race-ethnicity across and within generations.

IV. Preliminary Findings

The analysis for this study is in its early stages. Evidence for California suggests significant variation in enrollment propensities by gender both across and within generations. Controlling for other covariates described above, I find that on average, young women are about 20 percent more likely to be in school than men, although there is significant heterogeneity in the female effect. The strongest female advantage accrues to the second generation, while first-generation women are only slightly more likely to be enrolled in school than males. I will continue to explore the relationship between gender, generation status, and race-ethnicity according to the outline above.

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