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Union Formation Implications of Race and Gender Gaps in Educational Attainment: The Case of Latin America

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Short abstract.-

We use census microdata to examine the impact of race and gender gaps in educational attainment on union formation patterns in six Latin American countries: Brazil, Costa Rica, Chile, Ecuador, Mexico and Venezuela. Most of research focuses on net and relative measures of assortative mating to control for the unequal frequencies of various levels of educational attainment. However, we argue that in societies where an educational expansion has occurred but substantial inequalities of access to schooling persist (i.e. in Latin America), explicit trends on union formation are more relevant for social stratification and gender relations analysis than underlying trends. This implies that race and gender gaps in educational attainment must be taken as primary and key indicators for both absolute and relative measures of union formation. Therefore, we propose and test a series of hypotheses to examine the relationship between educational attainment inequalities and assortative mating.

Background.-

Partner and spouse selection is one of the most relevant decisions people have to face during their lifespan. Although common sense suggests that this phenomenon is limited to our preferences and needs, the influence of religious, politic, economic and social institutions on assortative mating confirms that there are more than biological or personal factors involved. In this sense, there is a large amount of sociological and anthropological literature concerning the role of marriage on the transmission of social inequalities, by matching people of similar social backgrounds either in terms of wealth, jobs, social status or education.

More recently, some authors (Smits, Ultee, & Lammers, 1998; Mare, 1991; Esteve & McCaa, 2007; Kalmijn, 1998; Blossfeld & Timm, 2003) have stressed the significance of education as a key variable for understanding mating preferences, highlighting its crucial role in our modern job markets. Researchers

agree that the expansion of educational opportunities together with economic development confers upon schooling a preponderant role in the configuration of conjugal preferences. Given the evident correlation between educational attainment and socioeconomic status, especially in developing societies, interaction between educational groupings may be read as code for the degree and rigidity of social stratification.

When thinking of modern societies, it is central taking into account the educational expansion process experienced in recent decades. This change has made possible the progressive equalizing of men's and women's educational levels. The way in which this structural change affects assortative mating patterns shed light not only on our understanding about gender relationships within couples, but also on the transmission of social inequalities through marriage. Technically speaking, educational homogamy occurs when the spouses' educational levels are the same. When the spouses have different educational levels, we use the term heterogamy.

One of the regions where this research field has been weakly developed is that of Latin America. Union patterns and couple relationships in Latin American countries must be analyzed in the context of significant changes tied to modernization processes and, more specifically, to changes in women's social position during the last decades. Generally speaking, these changes can be summarized in terms of: a) an acceleration of the demographic transition process; b) increase in female labor participation; c) progressive reduction in differences by gender in educational attainment. However, in spite of substantial progress social inequalities continue to be reproduced due to unequal access to education (see Figure 1 and 2). In Latin America, access to the benefits of modernization (including education) is influenced by the same dimensions that originate social hierarchy (i.e. social class, ethnic group, race, gender).

Hypotheses.-

Several hypotheses (or expected findings) emerge regarding the interaction between educational expansion and union formation patterns. As a result of the expansion of education, (i) global homogamy will diminish both in absolute and relative terms. Homogamy rates will differ across educational groups. (ii) The less permeable barriers arise at the higher end of the educational distribution, blurring progressively the distinctions among those educational categories below university, except for those individuals with none or very few years of schooling. Homogamy rates among the highest educated will increase. Our expectation is based on the hypothesis of major gender

symmetry in partner choice (Oppenheimer 1994) – either men and women would share the same preferences for higher educated candidates in the marriage market - and major homogeneity of the marriage market for the higher educated (Mare 1991). However, all these changes are in fact implied in the same educational expansion. In other words, in the process of educational expansion are already embedded the causes that will later drive the educational mating process, especially in those societies where social inequalities continue to be reproduced due to unequal access to education, like in Latin America. For instance, (iii) in a society in which women's schooling is not appreciated as much as men's schooling and, therefore, there are significant gender gaps in educational attainment, gender symmetry in partner choice will not take place.

The validity of the hypotheses (i), (ii) and (iii) sketched to this point is conditioned by the ethno-demographic context of the marriage pool. In heterogeneous contexts, due to ethnicity or religion, education conforms with other individual characteristics in the configuration of conjugal preferences, which in turn are highly influenced both by individual decisions as well as by the affinity between groups and the direct influence of families (Kalmijn 1998). The previous hypotheses are directly applicable to each of the race and ethnic groups under two opposite scenarios: absence of ethnic intermarriage or full intermarriage. If there is no intermarriage, ethnic groups can be regarded as independent societies where hypotheses (i), (ii) and (iii) should be observed. If there is complete intermarriage, neither race nor ethnicity will have an effect on assortative mating. However, none of these scenarios are representatives of Latin American societies. In consequence, (iv) if the propensity to intermarriage of race and ethnic groups is equally distributed by educational attainment and does not alter the preferences of individuals for a spouse with one or another educational profile, the resulting patterns of educational homogamy will be exclusively conditioned by the unequal distribution of frequencies of various educational groups across race and ethnic groups. However, (v) if a greater or lesser propensity to intermarriage of race and ethnic groups varies by the level of schooling, as predicted by the classic model of assimilation or the social exchange hypothesis, the patterns of educational homogamy will be altered by this fact.

Data and research methods.-

Our research focuses on culturally significant categories rather than arbitrary numerical equivalences to compare patterns of assortative mating by educational attainment in six Latin American countries: Brazil, Chile, Costa Rica, Ecuador, Mexico, and Venezuela. Our sources are high density integrated,

anonymized census microdata samples obtained from <https://www.ipums.org/international> for the period 1990-2000¹. The structure of our dataset is simply a cross-classification of all marital unions, consensual as well as official, for each census by ethnicity or ethnic origin of husband and wife and by years of schooling completed. The levels upon which years of schooling are grouped are 'Less than Primary', 'Primary Completed', 'Secondary Completed' and 'University'. Years of schooling refers to educational attainment at the moment of the census, and therefore could have varied since the date of union. To restrict this possible bias, we have adopted a practice common to this sort of study, limiting our analysis to couples where one of the spouses is aged 30-39 years at the time of the census. Limiting our research to a ten year age group has the added advantage of avoiding the overlapping of cohorts in successive censuses.

The analysis of the results is based on absolute and relative measures of homogamy. Homogamy rates taken as absolute indicators are contrasted with relative ones obtained from a series of log-linear model. Log-linear models control for the unequal frequencies of various levels of educational attainment to reveal striking changes in the propensities of marriage within and between these groups. To assess goodness of fit we use the *Likelihood Ratio* (G^2) statistic and the *Bayesian Indicator Criteria* (*BIC*, Raftery 1986).

Selected References.-

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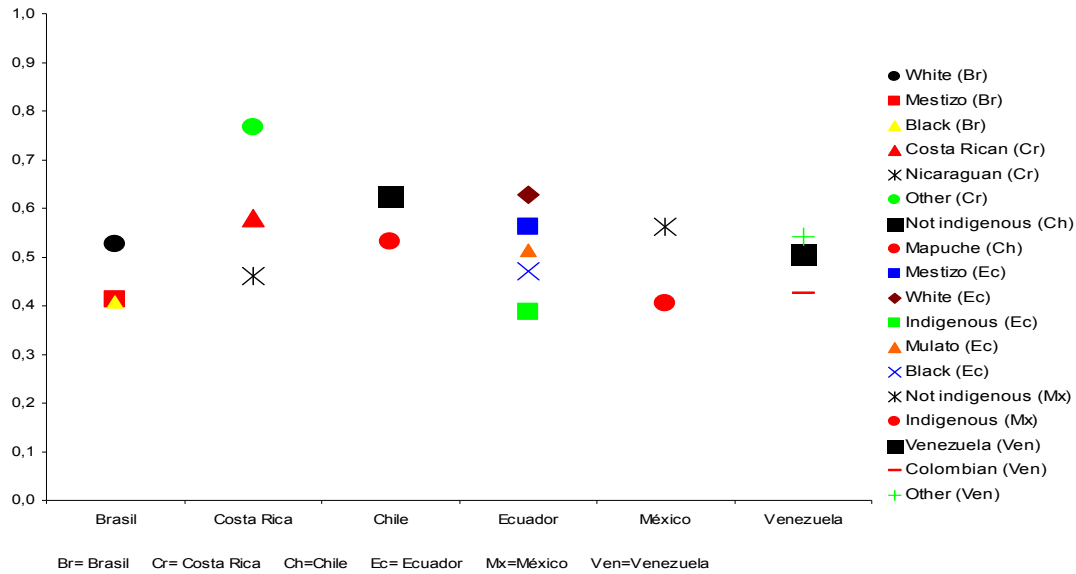
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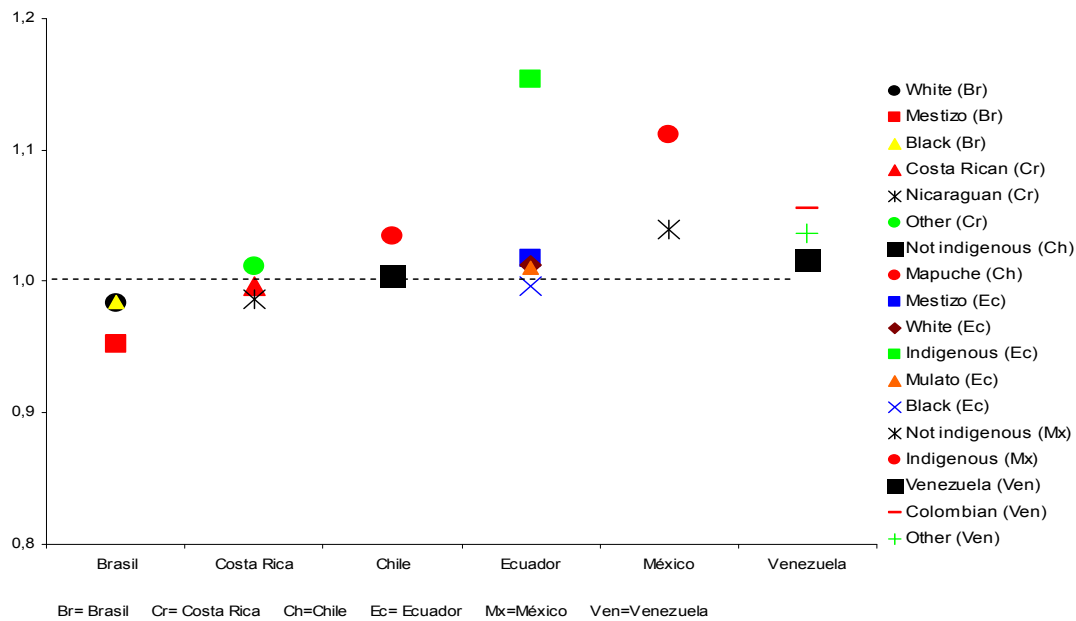
¹ Brazil (1990-2000), Chile (1990-2000), Costa Rica (1984-2000), Ecuador (1990-2000), Mexico (1990-2000), and Venezuela (1990).

Figure 1. Average educational attainment by racial and ethnic groups¹. Latin America, selected countries. Censuses 1990-2000 (Population age 30-39).



1. We have excluded all racial and ethnic groups constituting less than 2 per cent of the total population.
 Note: The average educational attainment is based on the following weights: Incomplete Primary: 0.25; Complete Primary: 0.50; Complete Secondary: 0.75; University: 1.
 Source: From authors' calculations based on samples of census microdata from IPUMS-International, 2007.

Figure 2. Gender gap in educational attainment by racial and ethnic groups¹. Latin America, selected countries. Censuses 1990-2000 (Population age 30-39)². (Gender ratio)



1. We have excluded all the racial and ethnic groups constituting less than 2 per cent of the total population.
 2. Gender Ratio: males / females.
 Source: From authors' calculations based on samples of census microdata from IPUMS-International, 2007.