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Consensual conjugal unions among higher educated women: understanding the heterogeneity in the Brazilian context

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Consensual unions have increased greatly in Brazil over the last few decades. Initially, restricted to less-educated groups, they have now been observed in all educational groups, leading some to suggest a diffusion of the Second Demographic Transition (SDT) in the country. In this paper, we examine the characteristics of women choosing consensual unions in Brazil between 1980 and 2010, with a focus on differentials by education. The results show that higher educated women, when compared to the least educated group, prefer marriage over consensual union both in 1980 and 2010. In addition, we show a growing difference between educational groups over time for choosing informal unions, as the probabilities for higher educated women to choose this type of union have increased less than for lower educated ones. For women with high educational levels in 2010, the likelihood of being in a consensual union is greater than among those from lower socioeconomic groups and among blacks, browns, and Catholics. Our results question the explanations given by the SDT for the expansion of consensual unions in upper socioeconomic groups in Brazil.

Keywords: Consensual unions. Marriage. Education. Second demographic transition. Brazil.

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Introduction

Brazil has experienced major demographic, economic, and social transformations over the past few decades. Particularly, this study emphasizes the significant increase in consensual unions (here defined as conjugal unions without a marriage certificate issued by the state) and their association with educational expansion.

Until the middle of the second half of the twentieth century, consensual unions in Brazil (and the rest of Latin America) were observed almost exclusively between groups with lower education and income (CERRUTTI; BINSTOCK, 2009; GARCÍA; ROJAS, 2002). Among other reasons, this type of union was a more economically viable alternative to marriage, in addition to being considered a support network in times of crisis (FUSSELL; PALLONI, 2004). However, the growth of these unions in recent decades has occurred in all socioeconomic groups, including the most educated (CASTRO-MARTÍN, 2002; COVRE-SUSSAI *et al.*, 2015; ESTEVE *et al.*, 2012).

Many have argued that this phenomenon may indicate the diffusion of values described by the Second Demographic Transition (SDT) in Brazil and the rest of the continent (ESTEVE *et al.*, 2012; COVRE-SUSSAI, 2015; CABELLA; SOTO, 2017). Other studies, in turn, question whether some young Brazilians who currently have access to higher education prefer a consensual union simply because they are replicating the behaviour of their parents and relatives (VIEIRA, J. M., 2016, 2020), who had already experienced this kind of conjugal union in less favoured socioeconomic contexts.

Seeking to contribute to this discussion, this study has two objectives. First, to evaluate, in a 30-year interval, the association between type of conjugal union (marriage or consensual union) and levels of education in Brazil. The analysis will be performed on women between the ages of 25 and 29, who were in a union, in the years of 1980 and 2010. We examine whether the educational differentials by types of conjugal union have changed in a period of major demographic and socioeconomic change. A second objective of this paper is to evaluate the heterogeneity in type of union among highly educated women, and how this relates to socioeconomic groups, race/colour, and religion in Brazil. To meet this objective, we consider only the women, aged 25–29, who were in a conjugal union in 2010 and had complete or incomplete higher education. As more women achieve tertiary education, this group grows increasingly heterogeneous. We look to understand what the characteristics of this subgroup are, and how they are associated with the chances of being married or in a consensual union.

The results of this study will contribute to our understanding of the recent increase in consensual unions in Brazil, especially among higher educated women. It will also help us explore how consensual unions are viewed among different subgroups of women in Brazil and whether that has changed over time. Previous research has argued that the social meaning of consensual unions in Latin America largely differs from that in developed

countries, where the Second Demographic Transition has been examined the most. Our results seek to contribute to this discussion considering the Brazilian context.

Consensual unions in Brazil

Consensual unions are an old phenomenon in the Latin American context. Since the colonial period, this type of union was well-established as well as influenced by the racial diversity of the population. In Brazil, for example, indigenous people, whites (European migrants), and Afro-descendants had different behaviours towards monogamy, extramarital relations, and consensual unions (COVRE-SUSSAI *et al.*, 2015; ESTEVE *et al.*, 2016a). Ethnic differences at that time had already led to a negative relationship between the percentage of consensual unions and social class (CASTRO-MARTÍN, 2002; ESTEVE *et al.*, 2016a).

Despite being an old phenomenon, it was in the later decades of the twentieth century that consensual unions significantly increased in many Latin American countries. Table 1, originally presented by Esteve *et al.* (2016b), shows that this increase occurred at different rates across the region. In 1970, for example, in Brazil, 7.6% of women in unions aged between 25 and 29 were in a consensual union, while in 2010, this percentage was 51.1%. Countries such as Argentina and Uruguay experienced faster growth rates of this type of conjugal union, while others like Mexico and Ecuador experienced a slower growth rate. Panama stands out as the country with the highest percentage of women aged between 25 and 29 in consensual unions in both 1970 and 2010.

TABLE 1
Percentage of women ages 25–29 who were in consensual unions (in relation to the total number of unions)
Selected Latin American countries – 1970-2010

Country	1970	1980	1990	2000	2010
Argentina	11.1	13.0	22.5	41.3	65.5
Brazil	7.6	13.0	22.2	39.3	51.1
Costa Rica	16.8	19.4	–	32.6	48.5
Ecuador	27.0	29.4	30.1	37.4	47.4
Mexico	15.3	–	15.2	22.7	37.1
Panama	58.4	52.3	53.2	62.5	73.9
Peru	–	29.2	43.1	–	68.9
Uruguay	9.6	14.1	–	23.6	70.8

Source: Esteve *et al.* (2016b, p. 34-35).

Initially, consensual unions in Brazil were almost entirely observed in the poorest and least educated groups of the population (CASTRO-MARTÍN, 2002; VIEIRA, J. M., 2016). Recently, they have increased in all socioeconomic groups in the country, which may indicate changes in the social meaning of this type of conjugal union in the continent (CASPER; BIANCHI, 2002). The literature has already revealed the coexistence of at least two types

of consensual unions: traditional and modern (CASTRO-MARTÍN, 2002; COVRE-SUSSAI *et al.*, 2015; QUILODRAN-SALGADO, 2011).

The traditional consensual union is generally motivated by material issues (VIEIRA, J. M., 2016) and may be a strategy to deal with economic difficulties (FUSSELL; PALLONI, 2004). Moreover, it is characterized by being an early event and providing a space for raising children. Although it is seen as an alternative to marriage, it is generally less stable (CABELLA; SOTO, 2017; CASTRO-MARTÍN, 2002).

The second type of consensual union is the modern type, commonly referred to as cohabitation in the literature on SDT. It emerges from ideational changes, such as the search for self-realization and the increase of individualism. In this sense, SDT assumes, in a secular context of retraction of state power in individual decisions, that couples prefer conjugal unions with a lower level of commitment and greater ease of dissolution (CASPER; BIANCHI, 2002; LESTHAEGHE, 2010).

Cohabitation emerged and grew in the European context at a time of revolution in attitudes about sex, gender relations, and the role of women in the labour market. The pioneers of the SDT would be those with higher education and income, who often postpone conjugal union and childbirth, and women who demand greater autonomy and gender equality within the household. Currently, the prevalence of cohabitation is higher than marriage as a form of first union in many Western European countries and is accepted for childbearing in many contexts (HIEKEL; CASTRO-MARTÍN, 2014; KIERNAN, 2001; PERELLI-HARRIS; BERNARDI, 2015).

Many authors have argued that cohabitation has been identified in Latin American countries at different intensities (AMADOR, 2016; CABELLA; SOTO, 2017; CASTRO-MARTÍN, 2002; COVRE-SUSSAI *et al.*, 2015; ESTEVE *et al.*, 2012, 2016; PARRADO; TIENDA, 1997; SAAVEDRA *et al.*, 2013). Some of these studies claim that this would be a sign of SDT diffusion in the continent (ESTEVE *et al.*, 2012), although others argue that such diffusion may be limited by historical patterns of class, ethnic group, and religion (see, for example, VERONA *et al.*, 2015). Vieira (2016) suggested that the increase in consensual unions among the most educated in Brazil would be partially due to the replication of the behaviour of past generations. The author questions whether the less advantaged groups, when completing higher education, would be engaging in a consensual union due to the influence of modern values described by the SDT, or because this is common behaviour in their social group of origin.

The expansion of higher education in Brazil

Brazil has experienced an educational expansion over the last two decades, which included a series of social programs aimed at helping people of lower socioeconomic classes to enrol (and remain) in higher education. From the beginning of the 2000s, the

number of enrolments in higher education more than tripled, reaching 8.6 million students in 2019 (SAMPAIO *et al.*, 2017; INEP, 2021). Many young people who are currently in higher education represent the first generation of their families to enter university, helping to close the educational *gap* between generations (MAHLMEISTER *et al.*, 2019; VIEIRA, 2020; ARAUJO NETTO Jr.; SIRQUEIRA, 2022).

The latest expansion cycle of the higher education system in Brazil started in the 1990s and continued until the 2010s, with programs such as *Programa Universidade para Todos* (Prouni), the *Fundo de Financiamento Estudantil* (Fies) and, more recently, the quota system (SALATA, 2018). These programs allowed people of disadvantaged *backgrounds* to access both public and private education, which had previously been mostly dominated by middle and upper class candidates. While the systematic disadvantage of lower class children in secondary education is still a barrier for many of them to reach tertiary educational, it is undeniable that these reforms have helped increase the heterogeneity of the higher education system in Brazil (BAR HAIM; SHAVIT, 2013).

This increased heterogeneity may challenge the association between schooling and type of conjugal union in Brazil. Previous studies have examined this relationship and argued that the age at union formation was expected to increase in the last decades in Latin American during the educational expansion (FUSSELL; PALLONI, 2004). Contrarily, the region exhibited a stable singulate mean age at union formation. Esteve *et al.* (2013) found this apparent stability to be due to contrasting compositional changes: the earlier age at consensual union formation among the least educated groups was offset by the union postponement among higher educated married women.

Hypotheses

Considering the cultural context of consensual unions in Brazil, we expect that for both 1980 and 2010, higher educated women will be less likely to choose consensual unions over formal ones, when compared to women with lower educational attainment (Hypothesis 1).

In addition, we examine if the relationship between education and type of union has changed over time. Between 1980 and 2010, higher educated groups have become more heterogeneous due to the great educational expansion observed in the country. Therefore, we expect the educational differentials by type of conjugal union to be relatively lower in 2010 than in 1980 (Hypothesis 2). A convergence between those differentials could signify a change in values, and could be considered a sign of diffusion of the SDT in Brazil.

We are also interested in a better understanding of the higher educated group. Focusing on the women with at least some tertiary education in 2010, we test for heterogeneity within this group. We expect the likelihood of being in a consensual union will differ between women of different socioeconomic groups and colour (Hypothesis 3).

Data and methods

This work uses data from the Brazilian demographic censuses of 1980 and 2010, originally collected by the Brazilian Institute of Geography and Statistics (IBGE). The data used in this paper was taken from the Integrated Public Use Microdata Series International (IPUMS-I, 2019). The comparison between the 1980 and 2010 censuses allows us to determine how different demographic and socioeconomic characteristics of women in conjugal unions have changed over this period in Brazil. As mentioned above, consensual unions in the country began to grow substantially between the 1980s and 1990s, a period marked by the emergence of important legal changes on the formation of unions (CASTRO-MARTÍN, 2002; MARCONDES, 2011). For this reason, the 1980 census was chosen as the starting point of this research.

The analysis group consists of women aged 25–29 married or in consensual unions, who represented about 72% of all women aged 25–29 in 1980 and 60% in 2010. Women who were never or not currently in unions were excluded from the analysis. The age range from 25 to 29 years was chosen for specific reasons: First, between ages 15 and 24, a significant number of women were not in unions in Brazil. Second, the group of women aged 30 and over include a high proportion of women who have already been in unions, and are currently separated, divorced, or widowed, as well as women who are in unions for the second time or more. Third, the age range of 25–29 years is appropriate as most women at these ages have already completed their educational trajectory. Finally, this age restriction allows for a comparison of findings of the present study with results of recent studies on consensual unions using data from censuses of Brazil and other Latin American countries.

In this paper we decided to compare the same age groups between the two censuses to facilitate comparison against the results as well as with the rest of the literature. However, it is important to mention how the change in the age at marriage between 1980 and 2010 could affect our results. According to official statistics from the Brazilian Population Bureau (IBGE), the mean age at marriage has increase in Brazil from around 23 to 30 between 1980 and 2010. Therefore, it is possible that there is selectivity in our sample, especially for 2010, as some women, who will eventually go on to formally marry, are either single or in an informal union between the ages of 25-29. Vieira and Alves (2016) compared the singulate mean age at union (for consensual union and marriage) and singulate mean age at marriage of Brazilian women in 2000 and 2010. As expected, the former mean is lower than the latter. The singulate mean age at union remained almost stable over the period while the mean age at marriage increased from 28.8 to 31.2

This paper focuses on women only – instead of looking at both men and women in a union – as the analysis of a couple would be methodologically very different. Our main goal is to understand the change in the relationship between education attainment and type of union for women. A couple perspective would be very valuable for answering other questions, and could be something to examine further in the future.

Logistic regressions are used to meet the two objectives of this study. We estimated the odds ratio of being in informal *versus* formal unions (reference category). This information was gathered from the question in the census about nature of union. In 1980, people aged 10 and over, living in the company of a spouse, were asked about the nature of their union. The answer options were: 1) civil and religious marriage, 2) only civil marriage, 3) only religious marriage, or 4) other – where “other” was considered an informal union. In 2010, the question about the nature of union, also for people aged 10 and over, offers a specific category for informal conjugal (consensual) unions, in addition to the first three options offered in the 1980 Census. These three responses were grouped into a formal union group, and the fourth option continued as an informal union.

This analysis was run separately for 1980 and 2010. An interacted model with education by year with pooled data was also tested. To further explore this higher educated group, another logistic regression model was used, with the same dependent and explanatory variables, but the sample was limited to women with higher education (at least some tertiary) in the 2010 census. The results of this model allow us to evaluate the heterogeneity within the group of women with higher education, who are potential diffusers of the SDT.

Our main explanatory variable is educational attainment, which was divided into four categories: 1) less than complete primary education – up to 8 years of schooling (reference group), 2) complete primary education or incomplete secondary education – 9 or 10 years of schooling, 3) complete secondary education – 11 years of schooling, and 4) complete or incomplete higher education – 12 or more years of education.

Our other control variables include age, ethnic group, religion, place of residence (rural/urban), region, parental *status*, and socioeconomic groups. The choice of controls was based on the literature review of factors known to be associated with decisions about the type of conjugal union (some examples are: CASTRO-MARTÍN, 2002; COVRE-SUSSAI, 2016; COVRE-SUSSAI *et al.*, 2015; ESTEVE *et al.*, 2016; VERONA *et al.*, 2015).

The socioeconomic groups variable was constructed based on the Brazil Criteria (Brazilian Association of Research Companies, ABEP 2016), which takes into account data on the household where the woman resides, including possession of goods, access to public services, and level of education of the household head. A description of how this variable was constructed can be found in the appendix.

One-year age intervals were considered for analysis, with the age of 25 as the reference category. In the 1980 census, the race/colour variable is divided into four categories: 1) white, 2) black, 3) brown, and 4) yellow. The indigenous population did not receive a specific category, and an important part of this population was probably reported as ‘brown’ (DIAS Jr.; VERONA, 2018). The 2010 Census includes this fifth category as ‘indigenous’. In our analysis, we are only looking at 1) white, 2) black and 3) brown, as the sample for indigenous and yellow groups is not consistent between both years and is also very small (less than 2% of total sample combined).

The religion variable is divided into the following categories: 1) Catholic (reference group), 2) Evangelical, 3) other religions, and 4) non-religious. The great regions include: 1) South, 2) Southeast (reference group), 3) Central-West, 4) Northeast, and 5) North, while the area of residence variable includes: 1) urban (reference group) and 2) rural. The parental *status* variable is binary and indicates if a woman has at least one child or if she is childless (reference group). It serves as a way to signify changes in informal unions as an acceptable environment for raising children and allows for controlling the model for the associations between childbearing and type of conjugal unions. Finally, the socioeconomic group variable is divided into the following categories: 1) group A (reference group, with the highest socioeconomic level), 2) group B, 3) group C, and 4) group D-E.

This study has some methodological limitations due to the type and nature of the data used. The use of a cross-sectional database such as the demographic census does not allow us to infer the direction of the causality of events or to know the conjugal trajectory of women studied. In the latter case, it is not possible to know whether a woman who is currently married has been in an informal union in the past, or the other way around. Another limitation spans from the use of schooling and socioeconomic groups reported at the time of the study. As these variables change throughout life, they may not reflect the education or socioeconomic group of the woman at the time the union was established. Moreover, the socioeconomic group variable, as constructed in this research, is limited, being a *proxy* for the true socioeconomic *status* of these women.

Despite these limitations (and in the absence of longitudinal data), the Census data are of great relevance and quality, and perhaps the main source of information for studies on the association between marital unions and demographic and socioeconomic variables in Brazil and most other Latin-American countries.

Results

Descriptive analysis

Table 2 presents the descriptive analysis of women in unions aged 25–29 according to our dependent variables for 1980 and 2010 and by marital *status* (informal or formal union). Women in unions at the age of 25 in 1980 represented 20.7% of the total number of women in unions between 25 and 29 in Brazil. Among 25-year old women who were in unions, 13.9% were in an informal union in 1980, while the remaining ones were in formal unions.

As seen in Table 2, women with higher education in 2010 (complete or incomplete tertiary) were choosing mostly formal marriages over consensual unions (67.8% vs 32.2% respectively). Results presented in Table 2 also confirm a significant increase in women ages 25–29 in consensual unions during the period analysed; this percentage rose from 12.8% in 1980 to 51% in 2010. Relative to race/colour, women who self-classified as white had the lowest percentage of consensual unions among their own groups, but the increase over time was significant, going from 8.9% in 1980 to 44.1% in 2010. Black women maintained the highest percentage in both years, with brown women not far behind.

TABLE 2
Percentage distribution of independent variables for women aged 25–29 in formal and informal unions
Brazil – 1980-2010

Independent variables	1980			2010		
	% of sample	Consensual union	Marriage	% of sample	Consensual union	Marriage
Total percentage	100.0	12.8	87.2	100.0	51.0	49.0
Age						
25	20.7	13.9	86.1	17.8	56.0	44.0
26	20.0	12.7	87.3	18.5	53.6	46.4
27	19.9	12.7	87.3	20.5	51.0	49.0
28	20.3	12.7	87.3	21.7	49.1	50.9
29	19.0	11.9	88.1	21.5	46.8	53.2
Ethnic group						
White	60.0	8.9	91.0	46.9	44.1	55.9
Black	4.9	26.0	74.0	7.4	60.1	39.9
Brown	35.1	17.7	82.3	45.7	56.7	43.3
Education						
Less than primary	71.3	14.8	85.2	18.2	66.2	33.8
Complete primary or incomplete secondary	14.8	10.6	89.4	31.2	59.3	40.7
Complete secondary	8.4	5.5	94.5	32.8	45.0	55.0
Complete and incomplete tertiary	5.5	4.3	95.7	17.8	32.2	67.8
Socioeconomic group						
A	6.3	5.6	94.4	12.8	30.6	69.4
B	18.4	8.4	91.5	37.6	47.8	52.2
C	33.3	12.3	87.7	38.4	57.2	42.8
D-E	42.0	16.2	83.8	11.2	64.0	36.0
Religion						
Catholic	89.4	13.0	87.0	60.6	55.6	44.4
Evangelical	6.8	7.3	92.7	27.0	35.9	64.1
Other	2.5	15.4	84.6	4.3	44.4	55.6
Non-religious	1.3	27.9	72.1	7.7	73.0	27.0
Area						
Rural	29.1	11.0	89.0	15.3	53.2	46.8
Urban	70.9	13.6	86.4	84.7	50.6	49.4
Region						
South	17.8	7.5	92.5	15.1	51.1	48.9
Southeast	46.4	12.1	87.9	39.8	44.0	56.0
Midwest (1)	6.7	13.5	86.5	8.8	51.0	49.0
Northeast	24.5	16.4	83.6	28.0	56.3	43.7
North	4.6	20.2	79.8	8.3	66.6	33.4
Parent status						
Childless	9.7	13.5	86.5	23.5	42.6	57.4
Parent	90.3	12.7	87.3	76.5	53.7	46.3
Weighted sample size	3.340.030	428.280	2.911.750	5.119.056	2.611.601	2.507.455

Source: Data from the 1980 and 2010 Brazilian Demographic Census, IPUMS-I.

(1) Tocantins is categorized as part of Goiás.

Note: Two-sample t-tests show that mean differences between 1980 and 2010 are significantly different from zero for all variables and uncorrected chi-square tests show correlation between our controls and our dependent variable .

As emphasized earlier, the growth of consensual unions in Brazil has been accompanied by an educational expansion, which is confirmed by the results in Table 2. In 1980, 5.5% of women in unions aged 25–29 had at least entered higher (tertiary) education, while in 2010, this percentage was 17.8%. The largest relative increase was observed among women who completed high school.

In 1980, although a relatively small percentage of women in unions were in consensual unions, education differences were already evident (14.8% of the women who had less than complete primary education *versus* 4.3% who were already in university). These differences remained in 2010: among those with the highest level of education, 32.2% were in informal unions, while among those with the lowest level of education, this percentage was 66.2%. Socioeconomic groups follow the same pattern: the percentage of women of all groups in unions increased, but the higher groups (A and B) were still mostly composed of women in formal unions.

Regarding religion, evangelicals comprise the group with the highest percentage of women in formal unions, aged between 25–29, both in 1980 and 2010. The opposite is true among those who are not religious. The North has the highest percentage of women in informal unions in the two Censuses analysed. Finally, when considering the place of residence, more women in informal unions lived in urban areas than in rural areas in 1980, while in 2010, an inversion was observed.

Regression results

In this section we explore the factors affecting the likelihood of women in our sample to be in formal *versus* informal unions. Specifically, we are interested in changes in educational differences over time and heterogeneity amongst the higher educated women.

Table 3 presents the results separate for each year and with a pooled sample, with an interaction term between year and educational attainment. The separate models allow us to test our first hypothesis and see the effects of our controls on type of union in each year. The pooled model allows us to test our second hypothesis, and see the changes in the effect of education over time.

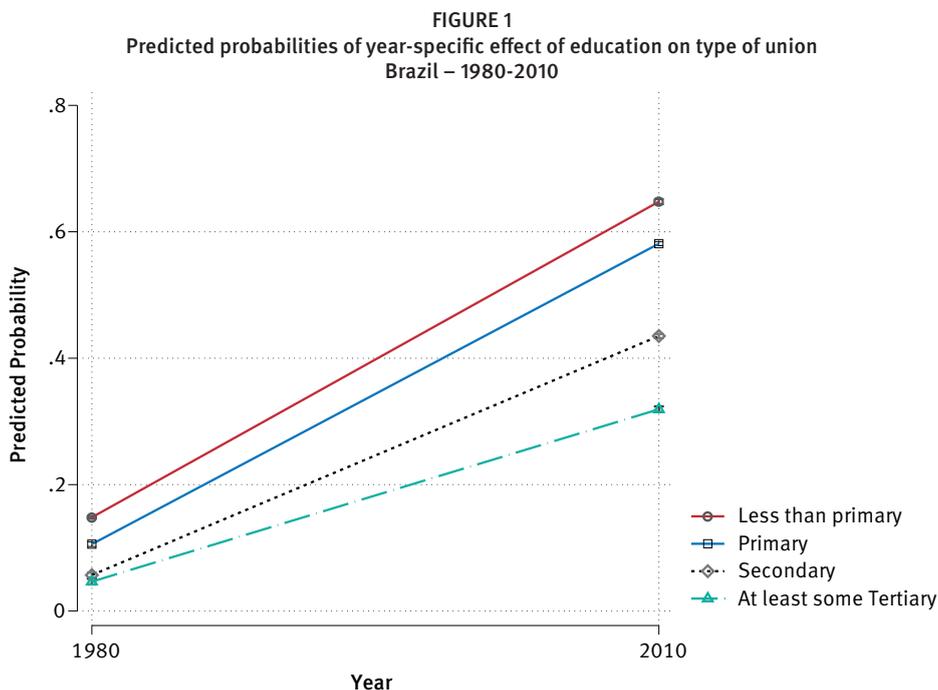
The results of the separate models corroborate previous findings and show that both in 1980 and 2010, the higher the level of education, the lower the likelihood of a woman in union, aged 25–29, to prefer an informal rather than a formal union. The pooled model shows the interaction is significant for all educational groups. The effect is better observed in Figure 1, which shows that the differences in the predicted probabilities between educational groups actually grew between 1980 and 2010, where the effect of being higher educated grows less across the two census when compared to the lower educated. This indicates a growing difference between educational groups over time relative to their probabilities of choosing informal unions.

TABLE 3
Odds ratio of being in an informal versus formal union (reference category), models separated by year
and with a pooled sample, women aged 25–29
Brazil – 1980-2010

Variable	Odds ratios		
	1980	2010	Pooled
Age			
25	1	1	1
26	0.922 ***	0.920 ***	0.923 ***
27	0.924 **	0.841 ***	0.864 ***
28	0.928 **	0.774 ***	0.812 ***
29	0.872 ***	0.705 ***	0.743 ***
Ethnic group			
White	1	1	1
Black	2.651 ***	1.645 ***	1.878 ***
Brown	1.637 ***	1.301 ***	1.375 ***
Education			
Less than primary	1	1	1
Complete primary or incomplete secondary	0.724 ***	0.792 ***	0.705 ***
Complete secondary	0.380 ***	0.458 ***	0.384 ***
Complete and incomplete tertiary	0.334 ***	0.311 ***	0.363 ***
Socioeconomic group			
A	1	1	1
B	1.017	1.382 ***	1.357 ***
C	1.278 ***	1.561 ***	1.583 ***
D-E	1.803 ***	1.944 ***	2.079 ***
Religion			
Catholic	1	1	1
Evangelical	0.541 ***	0.427 ***	0.431 ***
Other	1.480 ***	0.823 ***	0.915 ***
Non-religious	2.785 ***	2.155 ***	2.203 ***
Area			
Rural	1	1	1
Urban	2.153 ***	1.874 ***	1.974 ***
Region			
Southeast	1	1	1
South	0.689 ***	1.449 ***	1.241 ***
Midwest	1.036	1.331 ***	1.242 ***
Northeast	1.148 ***	1.272 ***	1.232 ***
North	1.619 ***	2.233 ***	2.036 ***
Parent status			
Childless	1	1	1
Parent	0.739 ***	1.067 ***	1.000
Year			
1980			
2010			11.999 ***
Education x year (ref.: less than primary and 1980)			
Complete primary or incomplete secondary x 2010			1.138 ***
Complete secondary x 2010			1.205 ***
Complete and incomplete tertiary x 2010			0.868 **
N	171,078	257,402	428,480

Source: Data from the 1980 and 2010 Brazilian Demographic Census, IPUMS-I.

Note: *** p<0.001, ** p<0.01, * p<0.05.



Source: Data from the 1980 and 2010 Brazilian Demographic Census, IPUMS-I. Figure constructed on STATA 16.

Now, looking at our other controls, a similar pattern is observed for different socioeconomic groups. In the two Censuses, women from the lower groups are more likely to be in informal unions as compared to women of group A. As for ethnic differences, brown and black women are more likely than white women to be in informal unions, even after controlling for education and socioeconomic group.

Older women are less likely to be in informal unions when compared to women aged 25, and this difference is relatively larger in 2010. Regarding religion, Evangelicals were much less likely to be in informal unions when compared to Catholics in both census, but the difference is relatively larger in 2010. Non-religious women were more likely to prefer informal unions than Catholics in both years.

Differentials in place of residence increase significantly when the other independent variables are controlled. Women living in rural areas are much less likely to be in formal unions than those in urban areas. It is important to mention that although the analysis of regions is complicated due to great inter-regional heterogeneity, emphasis should be given to the fact that women living in the south in 1980 (an economically developed region, with a high concentration of immigrants of European descent) had smaller odds than women living in the southeast (the most economically developed region of the country, but with a much more heterogeneous population) of being in an informal union. In 2010, however, the odds are higher for the women in the south. Moreover, in both censuses, the North remains as the region with women more likely to be in informal unions.

Finally, we take a closer look at the women at the top of the educational ladder to test our third hypothesis and see if the choice of type of union is also influenced by socioeconomic *status*, race and other socioeconomic and demographic characteristics among highly educated women. Table 4 presents the odds ratio of being in formal unions over an informal union according to the same variables present in Table 3, but only for women with complete or incomplete university (tertiary) education.

TABLE 4
Odds ratio of being in an informal versus formal union (reference category), women aged 25–29 with complete and incomplete higher education
Brazil – 2010

Variable	Odds ratios
Age	
25	1
26	0.953
27	0.843 ***
28	0.790 ***
29	0.728 ***
Ethnic group	
White	1
Black	1.342 ***
Brown	1.112 ***
Education	
Incomplete tertiary	1
Complete tertiary	0.639 ***
Socioeconomic group	
A	1
B	1.330 ***
C	1.350 ***
D-E	1.838 ***
Religion	
Catholic	1
Evangelical	0.441 ***
Other	1.357 ***
Non-religious	2.496 ***
Area	
Rural	1
Urban	1.236 ***
Region	
Southeast	1
South	1.776 ***
Midwest	1.245 ***
Northeast	0.974
North	2.102 ***
Parent status	
Childless	1
Parent	0.887 ***

Source: Data from the 2010 Brazilian Demographic Census, IPUMS-I.

Note: *** p<0.001, ** p<0.01, * p<0.05.

The findings in Table 4 show important differences by type of union even for highly educated women. First, women in unions who have already completed higher education are much less likely to be in an informal union compared to those women who have not yet completed their higher education. Second, women of socioeconomic groups B, C and D/E are more likely to prefer informal unions compared to women in group A. These results may shed light on reasons for the percentage increase in informal unions among women with high levels of education in Brazil. The next section discusses these reasons.

In addition, even among those who have already begun or completed higher education, evangelicals are less likely to be in informal unions than Catholics, and black and brown women are more likely to be in informal unions than white women.

Discussion

This paper had two main objectives: The first was to investigate the change in different types of conjugal unions (formal or informal) primarily according to the levels of education between 1980 and 2010. If these groups had become more similar over time, it would be possible to suggest more acceptance of informal unions for the overall population, and even to see it as a hint of the diffusion of the SDT in Brazil.

The first findings show, however, that women with high levels of education are still more likely to be in formal unions (vs. informal ones) when compared to women with low education, supporting our first hypothesis. More surprisingly, the differentials in type of union by education remained high and in the same direction over time. Results of the interacted modelled show that differences between educational groups grew over time, going against our second hypothesis. In other words, among women in unions, those with higher education were less likely to be in an informal than in a formal union (when compared to the group with lower education) and this relationship doesn't seem to be decreasing over time.

Secondly, this paper also evaluates differences in type of union among highly educated women specifically. With the educational expansion in Brazil in the last few decades, it is not possible to consider this group as homogeneous. The results showed that even between this more selective group, women in higher socioeconomic groups were much more likely to be in formal unions (vs. informal) than those of lower socioeconomic groups. Results by race/colour also show that blacks and browns are less likely to be in formal unions than white women with the same level of education. That is, even among the most educated, the odds of being in an informal union are greater among lower socioeconomic groups and among blacks and browns .

These results are in line with what was hypothesized by Vieira (2016), about the intergenerational replication of conjugal behaviour. However, in our data, we do not have information on parental origin and, therefore, are unable to test if these higher educated women of lower socioeconomic groups, are indeed replicating union patterns observed in

their social group. This would be an important research for the future, to help us further understand this heterogeneity among higher educated women.

Our results also question the explanations given by the SDT for the expansion of consensual unions to upper socioeconomic groups. Informal unions are much more institutionalised in Brazil than they are in other contexts where the SDT has been explored previously. Although the emergence and diffusion of the SDT assume a decrease in the power of the State in individual decisions (LESTHAEGHE, 2010), the equality of rights and duties between types of conjugal unions ensured by the Brazilian State may have encouraged the increase of informal unions in the country.

Brazilian law has recognized informal conjugal unions as marriage since 1996 (ESTEVE *et al.*, 2016b), and the 1988 federal constitution included laws that extended protection to various family arrangements, including informal unions (MARCONDES, 2011; VIEIRA J. M., 2016). In 2002, the new Civil Code ensured equal rights and duties to spouses in formal and informal unions. Considering this characteristic of Brazilian legislation, Vieira (2016) draws attention to the fact that part of the significant growth of informal unions in Brazil coincides with the period of recognition of the rights of spouses in such unions by the State.

Regarding religion, our results show that even among the most educated, evangelicals are much more likely (compared to Catholics) to be in formal unions (VERONA *et al.*, 2015 found similar results). Brazil has experienced a significant increase in the number of evangelicals, who represented, in 2010, 22% of the country's population. This religious group is known for its moral conservatism towards marriage and the formation of the family, having, for example, norms and values that explicitly disapprove informal conjugal unions. The findings of this study corroborate the assumption of the SDT that religion (or secularization) greatly influences decisions about the conjugal union. At the same time, they suggest the potential difficulty of the diffusion of the SDT in Brazil considering the increase of evangelicals.

Different studies have analysed what some call the "cohabitation boom" in Latin America (ESTEVE *et al.*, 2012, 2016b) and its differences according to education level. These studies mainly argue that there is a partial convergence with part of the populations of Latin American countries to the pattern described by the SDT, considering that informal unions started to be observed more frequently among the most educated. These authors argue that the beginning and pace of this potential conversion vary according to the context and geographical region.¹

In Uruguay, for example, Cabella and Soto (2017) analysed the recent increase in informal conjugal unions and noted that education level had lost relevance in cohabitation decisions among younger cohorts. Thus, the authors suggest that there is evidence of value changes as described by the SDT. Another example is the work of Saavedra *et al.* (2013), who evaluated the Colombian context, characterized by a very significant increase in informal

¹ For an analysis of different countries in the Americas, see Esteve *et al.* (2016b).

unions. Among university women in unions, the percentage of cohabitants reached 43.9% in 2005. The authors also call attention to potential value changes and greater tolerance in aspects related to family formation, as described by the SDT. Amador (2016) found that in Mexico, the cohabitation boom occurred later, starting in the 2000s. The author found that, for the most educated, informal union is still a transitional period, which usually ends in marriage dissolution.

In general, results of the present article suggest that the increase in informal unions among the most educated is not sufficient to indicate an increase in cohabitation in Brazil as described by the SDT. This is because educational expansion occurred in a very heterogeneous way and some subgroups that achieved a higher level of education in 2010 are more likely to be in a kind of informal conjugal union that is not described by the SDT.

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Resumo

Unões conjugais consensuais entre mulheres com educação de alto nível: entendendo a heterogeneidade do contexto brasileiro

As uniões consensuais têm crescido muito no Brasil nas últimas décadas. Este aumento tem sido observado em todos os grupos educacionais, o que pode sugerir sinais da difusão da segunda transição demográfica (SDT) no país. Neste artigo, são examinadas as características das mulheres em uniões consensuais no Brasil, entre 1980 e 2010, com foco nos diferenciais segundo escolaridade. Os resultados mostram que as mulheres com maior nível de escolaridade preferem o casamento formal (e não a união consensual) tanto em 1980 quanto em 2010. Além disso, observou-se uma diferença crescente entre os grupos de escolaridade ao longo do tempo, ou seja, a chance de as mulheres mais escolarizadas escolherem a união consensual cresceu menos do que entre as menos escolarizadas. Para as mulheres com maior escolaridade em

2010, a chance de estar em união consensual é maior entre aquelas de grupos socioeconômicos mais baixos e entre pretas, pardas e católicas. Os resultados questionam as explicações dadas pela STD para a expansão das uniões consensuais entre grupos socioeconômicos com maior escolaridade no Brasil.

Palavras-chave: Uniões consensuais. Casamento. Educação. Segunda transição demográfica. Brasil.

Resumen

Uniones consensuadas entre mujeres con mayor educación: comprender la heterogeneidad del contexto brasileño

Las uniones consensuadas han aumentado mucho en Brasil en las últimas décadas. Inicialmente restringidas a grupos menos educados, ahora se observan en todos los grupos educativos, lo que lleva a algunos a sugerir una difusión de la segunda transición demográfica (STD) en el país. En este artículo, examinamos las características de las mujeres que eligen uniones consensuadas en Brasil entre 1980 y 2010, con un enfoque en las diferencias por educación. Los resultados muestran que las mujeres con mayor educación, en comparación con el grupo menos educado, prefieren el matrimonio a la unión consensuada tanto en 1980 como en 2010. Además, mostramos una diferencia creciente entre los grupos educativos a lo largo del tiempo para elegir uniones informales, ya que las probabilidades de que las mujeres de mayor educación opten por este tipo de unión crecieron menos que para los de menor educación. Para las mujeres con altos niveles educativos en 2010, la probabilidad de estar en una unión consensuada es mayor entre las de grupos socioeconómicos más bajos, y entre las negras, morenas y católicas. Nuestros resultados cuestionan las explicaciones dadas por la STD para la expansión de las uniones consensuales a grupos socioeconómicos más altos en Brasil.

Palabras clave: Uniones consensuadas. Matrimonio. Educación. Segunda transición demográfica. Brasil.

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Appendix

Table A. Variables and measurements

Variable	Categories	Measurements
Marital Status	Formal union*	Civil and/or religious marriage
	Informal union	Other type of cohabiting union
Educational attainment	Less than primary*	Educational attainment international recode from IPUMS. Based on questions of grade currently attending or highest grade passed
	Complete primary or incomplete secondary	
	Complete secondary	
	Complete or incomplete tertiary education	
Age	Single years, between ages 25*-29, inclusive	Age during census reference date
Race/Colour	White*	Self-declared race/colour. Yellow and Indigenous were also response options, but were not included in our sample
	Black	
	Brown	
Religion	Catholic*	Catholic (1980) and Brazilian/Roman/Orthodox catholic (2010)
	Evangelical	Protestant/Pentecostal (1980) and Pentecostal, Assembly of God, Baptist and other 20 denominations (2010)
	Other religion	All other religions not included above
	Non-religious	No religion
Region	Southeast*	Geographical region of residence during census reference date
	South	
	Central-West	
	Northeast	
	North	
Area of residence	Urban*	Area of residence during census reference date. Rural areas are those outside cities and towns
	Rural	
Socioeconomic group	Group A*	Constructed based on Criterio Brasil/Brazilian Criterion. More information in tables A and B
	Group B	
	Group C	
	Group D-E	
Parent status	Childless*	Constructed based on the information of "number of children born alive". Women were considered childless if this number was zero.
	Parent	

* Reference category.

Source: data from the 1980 and 2010 Brazilian Demographic Census, IPUMS-I.

Table B. Definition of the socioeconomic group criteria, based on the Brazil Criterion (Brazilian Association of Research Companies, ABEP, 2016)

Group	Variables	Punctuation
Ownership of assets	Radio, television, telephone	1 point for owning at least one of each item
	Refrigerator	2 points for owning at least one refrigerator
	Automobile	3 points for owning at least one automobile
Access to public services	Drinking water	8 points for having access to piped water 4 points for having potable water from a well or general system without piping
	Basic sanitation	8 points for having access to a general sewer system 4 points for having a septic tank
	Electricity	2 points for having electrical energy
	Education of household head	Less than primary Education 0 points Complete primary education 2 points Complete secondary education 4 points Complete higher education 8 points

Source: Brazil Criterion (2016).

Table C . Scores for categorization of group criteria

Group	Points
A	34–30
B	29–23
C	22–13
D-E	12–0

Source: Brazil Criterion (2016).