

DOMESTIC LABOR EXCHANGE? INTERACTIONS BETWEEN GENDER, RACE, AND INTERRACIAL MARRIAGE IN BRAZIL

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Abstract

This paper analyzes whether there is any difference in weekly hours spent on domestic labor among women and men in interracial and intraracial unions in Brazil. The results show that brown women married to white men do more household chores, as well as, black and brown men married to white or brown women. Other variables are also important for explaining number of weekly hours spent in household chores. The main implications of these findings suggest the need to include the couple's racial composition in the analysis of the division of labor, and to be cautious when interpreting intermarriage as a way to overcome discrimination.

Key-words: gender roles, sexual division of labor, interracial marriage, Brazil

1.Introduction

When considering the economic theory (Becker 1981), the division of labor is a central part of the explanation of gains to marriage because the achievements are higher when one spouse specializes in domestic labor, while the other one specializes in the labor market. Therefore, in this framework, heterogamy, in terms of potential earnings, can be considered a successful match to this concept. However, most unions are homogamous in terms of education, race, and religion. Because of that, some authors (i.e.: Fu, 2001; Gullickson and Fu, 2010; Longo, 2011; Ribeiro and Silva, 2009) consider exogamy to be an exception and use the status exchange theory, formulated by Davis (1941) and Merton (1941) to explain intermarriage. In this approach, a person from a lower status group (i.e. black) would need to trade another status characteristic (i.e. higher education) in order to marry a spouse from the higher status group (i.e. white). Most studies in Brazil consider education and religion as an asset to be traded in the marriage market (Heaton 2010; Longo 2011; Ribeiro and Silva 2009; Silva 1987). However, this theory seems ill-fitted to Brazil because there is evidence that the nonwhite spouse only has more education than the white spouse among white men and black women (Berquó 1987; Silva 1987). In addition, Ribeiro and Silva (2009) concluded that education and race are part of two different processes of partner choice.

Grossbard-Shechtman (1981, 1984) proposed a more general theory based on the marriage market theory, while also using the status exchange idea in a different way. The author uses the compensating differentials as the main aspect of intermarriage. The main difference between status exchange and compensating differentials is that the first idea relates to the concept of bargaining power in which the spouse with the lower status needs to exchange/pay with another higher status indicator. For example, a higher educated black man would be married to a less educated white wife. The second theory (compensating differentials) turns the previous concept around and indicates that the black man would need to materially compensate for his wife (Grossbard-Shechtman and Neuman 1988)¹. In this framework, each spouse is willing to devote a certain amount of time to the marriage. This results in each spouse demanding and offering domestic labor to their partner, and based on the individual's opportunity cost of being in the labor market, each individual devotes a specific amount of time to domestic labor. For this author, the domestic sphere and the labor market are complementary markets.

The gender and race relations framework are fundamental for understanding how couples divide domestic labor. Although, women usually have lower status than men, evidence has found that even more educated women do more household chores than men. One explanation comes from the "doing gender" framework. This concept defines gender identity as being socially constructed and related to other people's expectations (West and Zimmerman 1987). Thus, highly educated women do household chores in order to construct their gender identity. In addition, although the participation of women in the labor market has increased, families have become smaller, and technology has helped to decrease the amount of time people devote to domestic labor (see for instance, Bailey 2006; Goldin and Katz 2002; Goldin 2006; Souza, Rios-Neto, and Queiroz 2011). However, women still do more household chores than men (i.e.:

¹ In this sense, I understand that intermarriage may happen without status exchange (the couples are educationally homogamous, for instance) or that the exchange is not sufficient enough to make the distribution of the gains to marriage more equal.

Bianchi and Raley 2005; Bianchi and Casper 2000). It is worth noting that increased female labor force participation should decrease the gains to marriage, however, this does not appear to be true because the division of labor has remained unequal.

It is also necessary to consider racial dimension. Men and women do not represent a unique group. Important differences exist within each group and one significant characteristic to consider is race. Historically, nonwhites are highly associated with domestic labor, especially black women. In contrast, whites have higher social prestige. This means that besides bargaining power and individual status characteristics (education and income) the division of labor may be associated to cultural norms and values systems. This would even explain why the division of labor has been so historically gendered based. In this sense, interracial marriage serves as a good forum for considering the division of labor, gender, and race relations. If the effect of the differences in bargaining power is eliminated, such as higher education or higher income, race maintains its importance in regards to the number of hours women and men devote to domestic labor. This explanation is not solely based on status exchange, since the exchange does not assure the same decision power in the marriage. Moreover, if the differences are upheld for both nonwhite men and nonwhite women, the explanations using gender relations are not sufficient and the racial dynamics need to be added to the analysis. Therefore, the main proposal of this paper is to look to interracial unions, using domestic labor as a potential exchangeable asset in the marriage market.

In sum, this paper represents an important theoretical contribution to the analyses of intermarriage, especially in regards to the context that an exchange is not clearly explained by education. Moreover gender roles are associated to a series of marriage outcomes. The way in which couples share their responsibilities may influence their marital satisfaction. Some studies have shown that changing gender roles inside of a marriage are associated with lower marital satisfaction for women (Amato and Booth 1995). On the other hand, the relationship between intermarriage and the level of satisfaction has contradictory findings. Troy et al. (2006) found higher levels of satisfaction and no differences were found in regards to reported conflicts or attachment style. However, others authors, like Bratter and Eschbach (2006), concluded that interracial couples have lower levels of marital satisfaction due to higher rates of distress than same race couples. Interracial marriage is associated with increases in severe distress for Native American men, white women, Hispanic men, and women married to non-white spouses, compared to endogamous members of the same groups. Higher rates of conflict are observed for intermarried persons with African American or Native American husbands or wives, and for women with Hispanic husbands. A lower socioeconomic status explains approximately half of the increased distress experienced by white women, while higher socioeconomic status partially suppresses increases in conflict for Hispanic men and women.

The main questions to be addressed are whether men and women in different types of unions (intra or interracial) have different opinions about who should do what tasks in the household and whether they effectively devote different amounts of time to domestic labor. This paper has two parts with different data analyses. In the first part, I discuss whether people in same race and in interracial unions tend to classify household chores differently in terms of being a female, male or gender neutral activity. The focus is to explore the intersection between race and gender, in the context of the racial composition of the couple. This process uses how females and males and whites and nonwhites in interracial or same race unions classify household and childcare tasks.

More generally, this analysis questions whether individuals in different types of unions have a different opinion about gender roles associated with household chores, when controlling by gender and race. For this part of the study, I used data from the Brazilian Social Survey (PESB - *Pesquisa Social Brasileira*) for the year 2002 and employed an exploratory and descriptive analysis. The results show that overall there is an agreement about what activities are considered female, male or more gendered neutral. However, there are important differences in the classifications between individuals in interracial relationships and individuals in racially endogamous unions. These differences are mainly among whites. This means that whites in exogamous marriage are more likely to report higher levels of gender based answers (both for female and male activities) than whites married to whites. This relationship is not strong among nonwhites.

Given the results of this first analysis, I investigate whether an individual's actual behavior, meaning the number of weekly hours they devote to domestic labor, is also different between whites and nonwhites in intra or interracial unions. This is the second component analyzed in this paper. I explore the possible differences in the amount of hours per week each partner spends doing household chores. For this analysis, I used data from the Brazilian Household Survey (PNAD - *Pesquisa Nacional por Amostra de Domicílios*) for the year 2009. The surveys are from different years and have distinct samples. In the PESB the smallest representative area is region and in the PNAD the smallest measurement is by state. Although both are nationally representative, the PNAD's sample size is much larger than the PESB's. The main difference from the first analysis is the racial classification that is used. For the first analysis, I used only the categories of white and nonwhite due to sample size. In the second analysis, I used three official categories: white, brown, and black. Any spouse's racial combination among these categories is considered a mixed race union.

The results are consistent with the first analysis (with very few exceptions). They show that both nonwhite men and nonwhite women in interracial marriages spend more time doing household chores. Overall, nonwhite women (mostly brown) in interracial unions spend, on average, 52 more minutes per week doing household chores and nonwhite men in interracial unions do, on average, 17.64 more minutes of domestic labor than nonwhite men in same race unions. Characteristics such as earnings, education, and family size also matter in terms of how much time people spend doing household work. This result is very interesting because it shows that the cost of opportunity, usually measured by potential earnings, is not the only important factor for deciding which individuals are responsible for domestic labor. In fact, other family characteristics, such as the racial composition of the couples that can indicate an existence of some level of discrimination in the family, also need to be considered. The interaction between differences in bargaining power (differences in spouses' education and spouses' income) and race is overall not relevant. A higher income or more education among women both have a negative effect. In other words, they do less domestic labor regardless of their race. However, race has a significant and independent effect. Therefore, customs, social norms, and pre-marital experiences (i.e. socialization) regarding gender and race are important for explaining the division of labor in the household. In addition, it is worth highlighting that nonwhite men also do more domestic labor. This is not a female characteristic and suggests that the main explanation is not only related to gender. The fact that nonwhite men also do more domestic labor when they are in an interracial union does not mean that men and women do the same household chores. The inability to identify the activities in the survey data is one of the main limitations of the study.

Therefore, I argue in this paper that it is not enough to consider the gender dimension when analyzing the division of labor, but the racial composition of the couple is also a factor. For example, even controlling for the other spouse's race and the family's characteristics, race has an independent effect on the number of hours men and women devote weekly to domestic labor and this evidence indicates discrimination inside the family.

This paper is divided into five parts, including this introduction. The second section discusses the racial categories and gives a brief overview on interracial marriage in Brazil. The following part approaches the relationship between interracial marriage and the division of labor. I present the data and the methods utilized in the fourth section, which is followed by the results and conclusion.

2. Race Categories and Interracial Marriage in Brazil

For the sake of clarity and the self-containment of each paper, I am reproducing a similar debate about racial classification and interracial marriage presented in papers two and three. Racial identity and racial classification in Brazil are known for being loose due to a lack of descent rule, the confounding effect with social class (see Schwartzman 2007), and the fact that racial identity is greatly related to skin color (S. R. Bailey 2008). These factors make part of racial identity subjective and therefore unstable. Public policies can also influence how people identify themselves. Bailey (2008) shows that the proportion of people self declaring as black, when given only two options—black and white—nearly doubles when mentioning the existence of quotas. Since 1940, the Brazilian Institute of Geography and Statistics (IBGE) has used the terms: *branco* (white), *pardo* (brown), *preto* (black), and *amarelo* (asian). The term *indígena* (indigenous) was added in 1991.

One of the main discussions around the official categories is whether they actually reflect racial terms that people consider on a daily basis, such as *moreno* and *negro*. *Moreno* is a popular term that represents the fluidity of the racial system in Brazil, it includes: 1) light skinned persons with dark hair; 2) a person of mixed color or parentage who generally has dark hair; and 3) a dark skinned person. *Negro*, on the other hand, is defined by the combination of blacks and browns (*pardos*) and has the objective to clearly delimit the Afro-descent population. Proponents of the use of this term were mainly members of the Black Movement (S. R. Bailey and Telles 2006; S. R. Bailey 2008; Telles 2004). Bailey and Telles (2006) concluded that there is a negative correlation between education and the choice of using the term *moreno*, while the opposite is true for *negro*. There is also an age effect. This means that the odds of choosing to use the terms *moreno* or *negro* are greater for younger individuals than for older people.

Bailey and Telles do not recommend the addition of the *moreno* or *negro* terms to official data collection, because the use of the multiracial *moreno* term could result in a very large *moreno* population. This would result in difficulties when analyzing racial inequality because the inclusion of *negro* could confound estimates of the racially disadvantaged by pushing many nonwhite into the white category. Therefore, the use of the black (*preto*) and brown (*pardo*) terms is more appropriate than the incorporation of the popular *moreno* and the activist *negro* term.

Although racial classification is unclear in Brazil, people seem to consistently identify themselves with one of the official categories, since the racial distribution in Brazil was very stable between 1980 and 2000. The proportion of blacks was between five and six percent, the proportion of browns was between 39-42 percent, and the proportion of whites was between 54-52 percent. The 2010 Census data show that whites are 47.73 percent of the population; browns are 43.13 percent, and blacks are 7.61 percent. Therefore, there was a slight decline of the white population between 2000 and 2010.

Race relations in Brazil are marked by a high level of intermarriage, which can be perceived by the high percentage of mixed race people. This process started during slavery, when white men outnumbered white women and they began having relationships with nonwhites, especially as informal partners (Pacheco 2006; Samara 1989). The high levels of race mixture produced the idea that Brazil was a racial democracy (Freyre 2006). However, other authors (i.e. Burdick 1998; Twine 1998) have claimed that this mixing has been used to reinforce racism and to inhibit the advancement of the black movement and to make specific actions by the government in reference to race more difficult. The argument also exists that the main motivation for a mixed union was the eroticization of brown women. In this sense, these relationships are the realization of a sexual desire (Moutinho 2004; Pacheco 2006). Telles (2004) and Telles and Sue (2009) discuss that racial mixture comfortably coexists in Brazil with a racial hierarchy and ideologies of whitening. The authors consider two types of relationships—the vertical one, meaning inequality and discrimination; and the horizontal, which refers to sociability, including interracial marriage. Because horizontal relationships are quite common, which include racially mixed friendships and marriage, racial mixture has been central to the meaning of the nation.

Intermarriage is increasing in Brazil. In 1960, ten percent of marriages were racially exogamously, in 1980 this number increased to one in five marriages, and in 2000 this number was one in three marriages (Ribeiro and. Silva 2009). However, most of these unions were between browns and whites. Although endogamy is preferred, which is higher among blacks, followed by whites, and lower among browns (Petruccelli 2001; Silva 1987), the levels of interracial unions in Brazil are higher than in the United States and South Africa. Both of these countries also have a significant proportion of blacks and a history of segregation and intense race relations. However, marriage is far from being randomly formed and the probability of marrying exogamously is not the same for all racial groups. There is less resistance to marriage between persons of proximate color in comparison with the much higher resistance to marriage between whites and blacks (Telles 1993, 2004). In an interracial union, white people are ten times more likely to marry a brown spouse than a black one. In 1991, about 14.2 percent of white men had brown wives and only 1.3 percent had black spouses (Telles 2004). Gender asymmetry also exists. This means that nonwhite women are more likely to marry a white spouse than nonwhite men. This is especially true for a brown woman (i.e Berquó 1987; Silva 1987; Telles 2004). In the marriage market, browns seem to be more closely related to whites than blacks. This is different from their social economic situation, in which they are more closely related to blacks (Silva 1987).

3. Intermarriage and the Sexual Division of Labor

Different theories are used for explaining the partner choice process and the division of labor is an important aspect to be considered when analyzing marriage and intermarriage. The economic

theory of marriage (Becker 1976, 1981) considers that the decision to marry is based on the weight of costs and benefits, and marriage happens when the person's benefits are maximized. In other words, when the gains of marriage exceed the sum of each spouses' gains of being single. In the weighting process of costs and benefits, people consider marriage market characteristics, including partner availability, which is usually measured by the sex ratio, the social stigma associated to being single, the cost of divorce, which includes religiosity, and social network pressures. The gains to marriage that are considered come from the division of labor, but also from love, companionship, the economic scale of the household, public goods (e.g. children), and other factors.

For the economic theory of marriage, the traditional division of labor in the household is what drives the process of partner choice and is the main indicator of gains to marriage. Men usually specialize in market activities and women in nonmarket activities; therefore, the gender based division of labor can benefit each spouse because each individual would utilize one another's skills. This allows each spouse to fully develop one skill, resulting in a greater return and more efficiency in the marriage. In this sense, a successful assortative process is when the man has the potential for a high income and the woman has a lower earning capacity. Utilizing this approach, it follows that positive assortative mating is when the couple has similar characteristics, or complimentary traits. Negative assortative mating means that the spouses have opposite characteristics, or substitutes. In this sense, an explanation for intermarriage is the fact that black women are highly associated with a lower earning capacity and more with household tasks, and white men are associated to financial prosperity. Therefore, interracial unions would be more gender based than others.

On the other hand, it is also possible to consider race as representing status groups, so people may prefer to marry someone with the same background (social norms, cultural aspects, and expectations). This is positive assortative mating and the process is better explained by the sociological approach of social groups and their reproduction (Bourdieu 1976; Haller 1981). The main argument is that through marriage, higher status groups maintain their privileges by marrying people from their own social circle. In this sense, the less educated white men would be the ones who marry nonwhite women. However, this practice does not mean that these white men have lower earning power than their respective wives.

Another important concept is the status exchange theory (Davis 1941; Merton 1941). This model is largely used among sociologists to explain intermarriage in the United States, although some authors (see Rosenfeld 2005) claim that the evidence is weak for supporting this framework. In relation to Brazil, Telles (2004) argues that black women, unlike brown women, usually have more education when they are married to a white men. They also have more education when married to a brown husband, which indicates a lower status for black women in the Brazilian marriage market. This suggests that they would need to trade a higher social status (education) for racial status (lighter skin color). However, Silva (1987) highlights the importance of not generalizing the explanation of intermarriage using the status exchange theory because there is no consistency in the findings. In other words, there is no clear pattern that the darker skin color spouse has more education than the lighter skin color spouse. This is not even consistent when analyzing the relationship by gender, meaning nonwhite women have more education than their white spouses.

Ribeiro and Silva (2009) also find interesting results in this regard. Their work shows that from 1980 to 2000, endogamy decreased in all three racial groups. The main difference is that among black women, in 1980, endogamy was higher among the more educated, and in 2000, racial endogamy among black women was similar at any educational level. In addition, endogamy among whites is higher within more educated groups and endogamy among browns is higher within lower educated groups. The same pattern is observed among blacks. This result would lead to the conclusion that there is a status exchange going on in the marriage market. However, the effects add to each other, but there is no interaction between them. In other words, there is almost no racial effect regarding marriage between two people with very different educational levels. In this case, the educational barrier is the factor that defines the marriage. However, for marriages with close educational levels (two or three educational barriers) the race effect is relevant. Finally, Ribeiro and Silva (2009) find that the educational and racial components of marriage are independent to each other. They highlight that the increase in interracial marriage is not a reflex of the decrease in educational inequality among whites, browns, and blacks. They also do not believe this increase is a result of the decrease in the educational barriers influencing intermarriage.

Another possible exchange is between racial and the religious backgrounds. There are few analyses on religion (Heaton 2010; Longo 2011) investigating how religion and racial assortative mating influence each other. Ninety percent of couples are in a religious endogamous relationship and interracial unions are more prevalent among spouses from different religious groups. Because the results for education and religion are not consistent or robust enough to generalize the exchange, there may be a need to analyze different potential trades within the marriage market. In this sense, I discuss the role of domestic labor in the context of intermarriage. Although the economic and status exchange theory are usually discussed separately, the idea of status exchange is highly related to the gains of marriage in Becker's concept. Becker's theory indicates that people marry because the sum of the spouses' utilities is higher than the sum of their utility when single. Moreover, most studies that tested this framework used education, and the trade could utilize another characteristic like domestic labor. Considering both the marriage market and the status exchange approaches, Grossbard-Shechtman (1981) formulated what she calls a General Theory of Marriage (GTM). In this framework the exchange between spouses is considered a type of labor, so people in a marriage situation demand and supply labor. For her, the marriage and the labor markets are mutually related (or interdependent) and the value of the time of a married woman varies according to the number of single men and single women in their marriage market. A woman is in a better position if there are more women within the marriage market than men.

The author assumes that marriage is an exchange of household labor between spouses and includes tasks like child care, cooking, gardening or counseling. This means that men demand female domestic labor and vice-versa. People can spend time in three different ways: labor, household labor, and self-dedication. Both categories of labor benefit others (employers and spouses) and can provide direct utility or disutility to the individual (worker). They also produce non-pecuniary rewards and these rewards may vary across forms of labor, the amount of time devoted to an activity, and individual preferences (Grossbard-Shechtman 1984).

In this sense, wages within labor markets affect marital behavior and also affect conditions in the markets in relation to household labor (Gossbard-Shechtman 1984: 869). If the supply of labor at

home is seen as a particular type of labor, the higher the wages are in alternative occupations and the lower the satisfaction a spouse derives from the household activities, will decrease the amount of work done by that spouse at home (Grossbard-Shechtman 1981). Unlike the compensation for other types of labor, household work has a nonmonetary compensation, which includes the other spouse's services. Therefore, "[i]n a monogamous society marriage tends to occur when at the equilibrium male's value of time and female's value of time, a man demands the amount of household labor a woman wants to supply and that woman demands the amount of labor supplied by the man" (869).

This view of marital relations differs from previous economic analyses in its emphasis on the time spouses devote to each other's service. Changing outside factors can lead not only to changes in income redistribution between the spouses or to marital breakup (as in Becker 1973, 1981), but also to new marital labor relations. Thus, a married woman's sudden realization that attractive labor market opportunities are open to her could possibly lead to a new spousal employment contract, resulting in the wife reducing her burden of household labor. This stems from the idea that marital and labor markets are complementary. The main difference from the sociological status exchange approach is discussed by Grossbard-Shechtman and Neuman (1988), where the authors address the concept of compensating differentials. Compensating differentials are based on the idea that the nonwhite spouse would materially compensate his/her white partner. Thus, whites in this situation would have a lower probability of working and may work fewer hours at home. The explanation for spending fewer hours in the labor market is based on the fact that the spouse would materially satisfy all of his wife's needs (Grossbard-Shechtman and Neuman 1988), and the case of compensating with domestic labor is a nonmonetary compensation. In the case of domestic labor, Grossbard, Gimenez-Nadal, and Molina (2010) found that the darker partners devote more time to domestic labor. This means that both intra-household bargaining and hedonic marriage markets, operating with the help of an implicit price mechanism, can lead to a premium for individuals who perform chores, work in households, and have lighter skin than their partners. Conversely, those with darker skin need to pay a compensating differential.

The hypotheses about intermarriage that follow this theory are based on the extent to which group norms regarding intermarriage have been internalized by individual men and women. This shapes the individual's preferences in terms of who to marry. These preferences are primarily based on group relations and family socialization. Each person will be more or less likely to provide more or less household labor to his/her partner depending on his/her preference for homogamy or heterogamy (Grossbard-Shechtman 1981). Furthermore, because the amount of time is also related to earning capacity, if nonwhites expect to have (or actually have) a lower income, they may dedicate more time to household chores than whites. Moreover, according to the traditional economic theory of the marriage market (Becker 1981), a successful assortative mating (meaning the type with higher expectations regarding the gains of marriage) is between a woman with a lower earning capacity and a man with a higher income potential. In this sense, the marriages between white men and nonwhite women would follow expectations of the more traditional gender roles, as was previously discussed. Finally, it is worth highlighting that if race is indicative of potential earnings, the nonwhites in interracial marriages will tend to devote more time to domestic labor. This is especially true for the nonwhite women, who have the lowest earning capacity in the labor market (Abramo 2006; Cacciamali and Hirata 2005; Carvalho, Néri,

and Silva 2006). Another aspect that may add to this status difference is the historical place of whites, blacks, and browns. This concept is the topic of next section.

3.1 Gender and Race Issues

The main importance of discussing intermarriage and the division of labor lies in the fact that although a woman's place in society has always been secondary to a man's, there are important differences among black and white women (Collins 2000) and black and white men (Connell 1995; Gutmann 1997; Pascoe 2007). Therefore, the context of intermarriage makes the analysis of gender, race relations, and their intersection possible. Men in Latin America are perceived as being *machistas* (Gutmann 1997). Family in Brazil has been based on the patriarchal system in which men are the breadwinners and women take care of the house (see for instance, Durham 1982; Samara 2002). Although women have increased their participation in the labor market, and this model has lost force (for example, Goldani 1994; Goldani 1994; Oliveira 1996), many differences between women and men persist.

Moreover, emotions and affection are related to cultural and historical aspects of society. The historical context of Brazil designates as blacks a lower status group and whites as having higher social prestige. Black women have a marginalized social position in the marriage market and are the least desired (Berquó 1987). They are also mostly associated with household work (Steedman 1987). In contrast, white women are identified more with feminine forms of expression and are also associated with better socioeconomic conditions. This suggests that they delegate household tasks to other women (bell hooks 1999; Berger 1972; Williamson 1986) and that these responsibilities usually go to a black woman. During slavery, even breastfeeding was something allocated to black women (Quintas 2009); and today, most domestic workers are poor women who are mostly nonwhite (Reichmann 1995). On one hand, white men are associated with a higher status, and serve as the role model of a good husband—someone who is successful and earns enough income to support their family. On the other hand, black men are usually identified as having a lack of income and less successful occupations in the labor market. The lower earning capacity of black men has been associated with a worse marriage market for black women because white men prefer white women, and black men have lower earnings and higher instability in the labor market (see for instance, Lichter et al. 1992; Raley 1996).

Given these differences between racial groups and the historical context, one would expect that men married to nonwhite women would attribute more domestic labor to them regardless of their bargaining characteristics. In addition, traditional male roles would also be more often attributed to white men in mixed relationships. It is worth highlighting that evidence has shown that earnings (or earning capacity, as discussed previously) are not the only reason for differences, but differences in human capital and experience are also important factors to consider (Bertocchi et al. 2012). In addition, Stratton (2012) argues that preferences also play an important role in explaining gender differences in time use, although the opportunity cost of time for women matters substantially more than for men. Men's preferences also play a greater role than those of women. In the face of these differences, one would expect that nonwhite women, in general, devote more time to domestic activities than white women due to a historical association with a lower status and socialization that involves more training in domestic labor. Studying *machismo* in Mexico, Gutmann (1997) calls attention to the importance of primary socialization. In his study, the author was concerned about *machismo* and how parents, especially fathers, teach their

sons how to treat a woman. This process is an important element in the son's process of constructing his masculinity. In many countries, fathers are responsible for initiating the sexual lives of their sons. This was especially true in the past. In this sense, socialization may be important for the construction of both a gender and racial identity, which is going to influence the children's adult behavior.

Besides utilizing discriminatory and historical approaches, a behavioral framework may also help explain the division of labor by couples. The "doing gender" approach (West and Zimmerman 1987) would predict more time spent on household chores for all women. This time would increase for nonwhite women, not because of a lower bargaining power or earning capacity, but because black women are associated with being less feminine and they may do more housework in order to compensate for this view. This framework is similar to the marginal man approach used to explain the riskier behaviors of mixed race adolescents. In this case, mixed race adolescents do not have a natural peer group, and therefore have a need to engage in more risky behaviors in order to gain acceptance (Fryer et al. 2012). The question behind both approaches is how far or what the stigmatized group needs to do in order to be accepted? On the other hand, if nonwhite men also do more household chores, it is first necessary to qualify which chores they do more than women. Secondly, the argument based on "doing gender" may not be sufficient for explaining this variation or the significance of considering race in the analysis. Moreover, this evidence also raises questions about the union context. This context addresses the fact that intra or interracial marriage also matters, and that perhaps something that is intrinsic to this choice helps explain the difference in how much time is dedicated to household activities.

3.2 Bargaining Theories and Race

The division of labor can be perceived of as being a result of bargaining between spouses. Becker's demand and supply model in the marriage market implicitly addresses the concept of the price and gains to marriage. This means that each spouse has a price in the market and that the gains are the income from marriage that men and women receive (Grossbard 2006). An individual's price and the difference between these prices play an important role in defining who is going to be responsible for household chores, which is directly related to each spouse's gains in marriage. Bargaining theories usually use income (or potential income) or educational differences between spouses as a measure of the power for negotiation. In the case of intermarriage, the implicit price is the status of the racial group. In the marriage market, whites have a higher price (status) than blacks. This framework does not determine how the gains to marriage are distributed between husbands and wives, which leaves room for bargaining theories (Grossbard 2006). In this sense, in racially exogamous marriages, spouses have different bargaining power and the spouse with the higher racial status would have higher gains to marriage. Therefore, the lower status (darker) spouse would do more household chores.

The status exchange theory is related to the bargaining theory in the sense that partners have exchanged different status characteristics, such as being white (higher racial status) for higher education. This exchange means that spouses have equal power in the household, because they already compensated for their differences during the partner choice process. In this case we would not expect differences in how many hours spouses devote to household chores. However, if the status exchange or the unions are homogamous in other characteristics (such as education), then spouses would need to compensate for their differences, and doing more household chores

is one form of compensation and a source of distributing the gains of marriage. Thus, the differences in interracial marriage can be interpreted as bargaining power differences between spouses, considering race as a measure of price. Another possible explanation is discrimination, which is unexpected given the fact that interracial marriage is usually interpreted as the ultimate act of crossing boundaries. However, one may also think that the difference is due to pre-marital investments and socialization, even if controlling for education and income (or potential income).

It is worth thinking that although income and education may be very important for the negotiation process of spouses, other issues, such as cultural norms, and discrimination are also important. In the first case, these two factors define higher/lower status in the marriage market, and secondly, they define what is more “natural” or expected from each individual member of the group. Finally, it is important to clarify and state the hypotheses that the previous discussions raise. First, considering race as an indicator of status in the marriage market, the darker partner has lower bargaining power and would need to compensate for his/her lighter skin spouse by doing more household chores than if s/he were in a same race union. This is even true after controlling by other couples’ characteristics. Secondly, if intermarriage is a locus where there is no discrimination we could expect no difference in the time devoted to domestic labor between who is in an interracial situation and who is in an intra racial union. Thirdly, we would not expect differences, even if darker people would need to trade a status characteristic in order to be married to a white person, because the fact that s/he had already traded another status characteristic, such as education, would mean that the relationship is more equal. Fourthly, even in a more equal relationship considering the “doing gender” approach, we could expect that women do more household chores than men, even with a higher bargaining power, and among nonwhite women this would be even greater.

4. Data and Methods

4.1 Household Chores Classification and Interracial Marriage

For the first part of the analysis, meaning the gender classification of household activities, the data are from the Brazilian Social Survey (PESB - *Pesquisa Social Brasileira*) for the year 2002. The reference period is between July 7, 2002 and September 5, 2002. The PESB is a nationally representative household survey and includes a sample of 2,364 people. Only one person above 18 years-of-age in each household answered the questionnaire. Consequently, there is information about the parents of only one spouse.

The sample is a multistage stratified sampling and considers the following Brazilian geographical divisions: 5 regions, 26 states plus the Federal District, and 5,507 municipalities. In the first stage, 102 municipalities were probabilistically selected considering their population size. In the second stage, 280 census tracts were selected in each municipality. In the third stage, the households were selected proportionally to their family size. Lastly, an adult in each household was randomly selected. The lowest level of representativeness is the geographical regions: North, Northeast, Southeast, Central, and South. Although it is very important to consider the local marriage market, as discussed in paper one, there is no way to use a smaller geographical area in the analysis, which would have been ideal.

The research focuses on values, perceptions, and world views, which includes questions about race relations. This research followed the standard of the General Social Survey (GSS) conducted annually in the United States. The PESB is the first research in Brazil to treat certain issues. Although the original plan was to implement an annual study, the survey was only conducted in 2002 in Brazil. Therefore, there is no time series information about these issues in Brazil and parental information was reported by the interviewees. The survey was coordinated by Alberto Carlos Almeida, Andréia Schroeder, and Zairo Cheibub, all of whom are professors at Rio de Janeiro State University. This survey is important for this research because of the fact that it is the only national survey with information about the race of parents and spouses.

I adopted an exploratory analysis using chi-square statistics for two-way tables to analyze whether being in a racially endogamous or exogamous union is associated to classifying a household or childcare task as female, male or the responsibility of both spouses.

The chi-square statistic aims at testing whether the variables are independent or not. The null hypothesis (H_0) is that the variables are independent and the alternative hypothesis (H_1) is that they are dependent. The test is based on the comparison between the observed joint distribution of the variables. The calculated chi-square (Equation 1) is compared to the chi-square distribution for each degree of freedom and at each level of significance. Considering χ^2 the chi-square statistics, O the observed counts, and E the expected counts, the formula for calculating the statistic is:

$$\chi^2 = \sum \frac{(O - E)^2}{E} \quad (1)$$

Considering n the sample size, the degrees of freedom are calculated by $(n - 1)$.

The variables I used are some typically female household responsibilities, such as, sewing, house cleaning, cooking, and changing diapers. Some of the male tasks include painting, washing the car, cleaning the yard, and small home repairs. Other included tasks are more gender neutral.

4.2 Hours Spent in Household Chores and Interracial Marriage

In the second part of the study, I used the Brazilian National Household Survey (PNAD - *Pesquisa Nacional de Amostra Domiciliar*) for the year 2009. This survey is conducted annually by the Brazilian Census Bureau (IBGE - *Instituto Brasileiro de Geografia e Estatística*). The main objective of the survey is to collect socioeconomic data about the Brazilian population.

The sample is nationally representative, except for the rural area of six states in the North Region (Rondônia, Acre, Amazonas, Roraima, Pará and Amapá). The sample is stratified into three stages. The first stage is the municipalities. The municipalities that are part of metropolitan areas have the probability of being selected once, and the others are selected by their size. The second stage is the census tracts, which are also selected by their size. The last stage selects households according to the number contained in each census tract. Finally, everyone in the household answers the questionnaire.

As opposed to the other survey, there is no way to know what household activities people are doing, because the question about how many hours the person dedicated to household chores in the survey is referred to by week. The main disadvantage of this variable is the fact that it is impossible to know whether there are differences between the kinds of chores men and women are doing. I used interracial marriage and whether the person is lighter, darker or of the same race of his/her partner to test the influence of type of union on the number of hours spent on household chores. The other variables included in the model are 1) work income or potential earnings, which is an important indicator of bargaining power and opportunity cost (for individuals who do not participate in the labor market I predicted hourly wages using Heckman's (1979) Maximum Likelihood selection model. The variables for the wage's equation are education, age, and age squared. For the participation equation the variables are age, squared age, education, partner's age, partner's squared age, and family size for both men and women); 2) number of hours each spouse spends doing paid work, which is directly related to how much time people can dedicate to activities other than work; 3) each spouse's education - men with higher education tend to dedicate more time to domestic labor; 4) total family income; 5) age and age squared; 6) partner's age difference (older men) - older husbands offer higher material compensation and wives are less likely to be in the labor market, the expectation is that older husbands do more household chores (Grossbard et al. 2010); 7) family size; 8) urban/rural; and 9) state of residence.

In order to analyze the influence of intermarriage in hours spent on household activities, I used Linear Regression Models because I obtained the same results when using Tobit Regression Models, if left censored (zero hours per week), and also if both sides are censored (zero and 52 hours a week). Equation 2 presents the Linear Regression model, in which Y= the dependent variable - the weekly number of hours dedicated to household chores and the Xs are the independent variables.

$$Y_i = \alpha_i + \beta_{1i}X_{1i} + \beta_{2i}X_{2i} + \beta_{3i}X_{3i} + \beta_{4i}X_{4i} + \varepsilon \quad (2)$$

In Model 1, the only independent variable is the dummy for interracial union. In the second model, I included all of the other variables. For the third model, instead of using interracial as a variable, I used lighter versus darker spouse. I also ran the equations for the spouse's race,

controlling by individual's race, in order to analyze possible differences in time allocation by a couple's racial composition.

4.3 Potential Limitations

There are potential problems when using the data from PESB and PNAD for analyzing marriage. First, the analysis only includes successful marriage at the time of the survey, and if intermarriage is associated with more instability and dissolution (see for instance Ho and Johnson 1990; Kreider 2000; Bratter and King 2008) the homogamous unions are more likely to be better representative. Another problem is the interpretation of only one period in time. Hence, no conclusions about changes over time can be made. Lastly, there is no information about whether the children's and parent's relationship is formal or informal.

5. Results

5.1 Household Chores Classification and Interracial Marriage

The main objective of this analysis is to investigate whether spouses in interracial unions classify the household chores differently than spouses in same race unions. The analysis considered the individual's gender and race, in order to investigate whether a white woman, for example, in an interracial marriage has a different opinion than a white woman in a racially endogamous union.

Using the data from the PESB for the year 2002, the final sample is 1,247 people, of which 48.68 percent are men and 51.32 percent are women. There are 650 nonwhite and 597 white individuals; 326 are nonwhite males and 324 are nonwhite females; 281 individuals are white males and 316 are white females. There are no important differences in the average education, age, and sex distribution between people in same race unions and interracial marriages. The distribution across regions is slightly different, especially in the Northeast and South (Table 1). This is important because the analysis is descriptive when only including a few control variables (only sex).

Table 1 - Descriptive statistics of selected variables, Brazil, 2002

Variable	Interracial		Same Race	
	Mean	Std.Dev	Mean	Std.Dev
Schooling	6.27	4.00	7.43	4.02
Age	40.68	13.20	42.81	13.93
Male	53.3%	0.50	52.5%	0.50
North	4.9%	0.22	4.7%	0.21
Central	8.1%	0.27	5.9%	0.23
Northeast	35.3%	0.48	20.3%	0.40
Southeast	40.8%	0.49	46.4%	0.50
South	10.9%	0.31	22.7%	0.42

Data source: PESB, 2002.

The results for the two way tables confirm that sewing, house cleaning, cooking, and changing diapers are considered typical female tasks. On the other hand, painting, washing the car,

cleaning the yard, and making small home repairs are designated to men. Other activities, such as, buying groceries, taking the kids to school, and taking the children to the doctor, are viewed as more gender neutral chores, because these tasks have a more balanced distribution between being an activity for both spouses. Overall, there are important differences in the classification between individuals in interracial relationships and individuals in racially endogamous unions. These differences are mainly among whites, meaning that whites in exogamous marriages are more likely to report higher levels of gender based answers (both for female and male activities) than whites married with whites. This relationship is not strong among nonwhites.

The results for each activity are as follows:

a) Sewing

Overall, sewing is considered a female activity. More than 70 percent of the interviewees answered that it is a typically female task. Considering the whole sample, people in interracial unions are more likely to report higher levels of the task being a female activity (75.1 percent in contrast to 73.8 percent). However, the main difference is that they are also more likely to report it as a male activity (3.2 percent in contrast to 1.3 percent). There is no significant difference among males and females depending on the type of relationship. Between whites and nonwhites, it is worth highlighting that whites in interracial unions have higher levels for female or male (meaning it is a more gender based activity) than whites married with whites, who have higher levels of reporting sewing as an activity for both men and women. This is regardless of whether the respondent is a man or a woman. In sum, sewing is considered a female activity and white people in interracial marriages are more likely to report it as a gendered based task than a gender neutral activity, as is more common among whites married with whites.

b) House Cleaning

Overall the sample identified cleaning the house as a female activity by about 74.5 percent. The significant difference in the answers from people in different types of unions in the top part of the table is due to significant differences among whites, regardless the respondent's gender. Looking at the bottom part of the table we observe more than a ten percent difference in reporting house cleaning as a female activity (68.8 percent among whites in endogamous unions and 80.3 percent among whites in interracial marriages). The outcome that really demands attention is the fact that no whites in an interracial marriage consider cleaning to be a male activity, and there is a striking difference in reporting this task as a gender neutral activity compared to whites in racially endogamous unions.

c) Cooking

Cooking is also considered a female chore (65.8 percent of the whole sample had this response). In general, there is no important difference between being in an intra or inter racial union, as well as for being a man or a woman. The only statistically significant difference appears among white people. Whites in interracial marriages are more likely to consider cooking as a more female role than male or neutral. While 59 percent of whites in racially endogamous marriages considered it a female task, 72.3 percent of whites in interracial unions had the same opinion. Only 26.1 percent of whites married to nonwhites considered cooking an activity for both spouses, while 38.7 percent of whites married to whites shared the same opinion. This relationship is significant for women and men when analyzed separately (bottom of the table).

d) Changing Diapers

Changing diapers is another task that is mainly considered female for about 66.6 percent of the total sample. Overall, there is no significant difference between people in inter and intra racial marriages, while the proportion in the first group that considers changing diapers to be a female role is 64 percent, and in the second group the proportion is 70 percent. Among males and females and nonwhites there is no significant difference in these two kinds of unions. The main difference is among whites. While 59.6 percent of whites married to whites consider changing diapers to be a female task, 74.5 percent of whites married to nonwhites have the same opinion. No whites in interracial marriages consider it to be a male role; and there is a 7.5 percent difference in considering it an activity that both spouses should do. It is important to highlight that the results maintain statistical significance when analyzed by race and gender. Some other activities that involve childcare are more gender balanced, including taking the kids to school and taking the children to the doctor, as I discuss below.

e) Painting

Painting the house is considered to be a male task by about 80 percent of the whole sample. There are important differences between being in a same race union and in an interracial union. Overall, individuals in interracial marriages are more likely to report painting as a male activity (84.2 percent in contrast to 77.3 percent among individuals in racially endogamous unions) and less likely to report it as a task for both spouses (13.3 percent in contrast to 20.3 percent). This relationship is statistically significant for men and women. However, there is no important difference among nonwhites who are in a different type of relationship. Among whites, especially white males, there is an association between the classification of painting and being in a same race or interracial marriage.

f) Washing the Car

Washing the car is another male activity, according to about 80 percent of the sample. There is no significant association between its classification and the type of marriage among all individuals and among whites. When analyzing only white interviewees, similar to other activities, individuals in interracial marriages classify the activities in a more gendered way (85 percent of them in contrast to 73.9 percent). This relationship is not significant when analyzing white women separately, but it holds statistical significance at the 5 percent level when analyzing white males; the difference is about 15 percent in considering it a male activity and -15 percent in considering it a neutral task.

g) Cleaning the Yard

Almost 66 percent of the sample considers cleaning the yard to be a male activity. This includes a majority; however, compared to washing the car and painting, it is a much less gender based task. Overall, there is no significant difference between respondents in interracial or same race marriages. The differences appear when doing an analysis by individual's race. In both cases, there is an association between the variables. Among nonwhites, in general, the tendency of being in a mixed race relationship increases the probability of classifying cleaning the yard as a male activity (62.7 percent in contrast to 59.9 percent), not as a female task (13.6 percent in contrast to 20.8 percent), and more as an activity for both men and women (23.7 percent in contrast to 19.4 percent). This relationship is statistically significant for nonwhite females, but not for nonwhite males, when analyzed separately. Among whites, the opposite occurs. The relationship is statistically significant among white men and there is no association among white

women. Another difference is that, although individuals in mixed race unions are more likely to report cleaning the yard as a male activity, they are less likely to classify it as a task for both genders.

h) Small Home Repairs

Men are expected to do small home repairs. This is determined by more than 90 percent of the sample. Even with this high level of agreement, differences between being in a mixed or same race marriage exist. The main difference is the overall alterations in classifying it as an activity for both sexes (9.6 percent of individuals in a racially endogamous marriage and 5.2 percent of individuals in a mixed race marriage). Among all men, the difference is even greater, nine percent of men in same race unions reported that making small home repairs is an activity for both sexes, while only three percent of men in mixed race marriages had this same opinion. It is interesting that when analyzing the association by race, it is only significant among whites, with larger differences among white men: 12.7 percent of men in endogamous relationships classified small home repairs as a task for both sexes; while only 1.4 percent of white men in mixed race unions felt this way. Among white women, the proportion in endogamous marriages is quite similar to that of white men (12.6 percent), but much higher for interracial marriages (5.1 percent).

i) Buying Groceries

Buying groceries seems to be a more gender balanced activity. Overall, 44.6 percent of the sample considered it to be an activity for both men and women. However, 21.4 percent considered it to be a male activity and 34 percent considered it a female task. There are no important differences between type of union and gender. The only group in which there is an association between mixed or same race union and the classification of buying groceries is among white men. White men in interracial marriages tend to classify it as a more male task (35.7 percent compared to 20.7 percent) than gender neutral or female activity.

j) Taking the Kids to School

Taking the kids to school is also a more gendered balanced task. Overall, it is perceived as being a female activity by 35.5 percent of the sample, a male task by 16 percent, and 48.2 percent of the sample classify it as a gender neutral activity. Among nonwhites, the association is only statistically significant among women. Women in interracial unions tend to report taking the kids to school as a more gender neutral activity (56.5 percent in contrast to 42.2 percent of women in same race marriages). The difference is totally compensated by the decrease in reporting it as a female task: 28.8 percent, while women in racially endogamous unions report 42.9 percent. Among whites, the relationship between type of union and the classification of taking kids to school is statistically significant at the one percent level, and holds significance with the same pattern for females and males. People in mixed race unions tend to classify taking the kids to school as a more female role; 46.3 percent have this opinion in contrast to 29.4 percent of whites in a racially endogamous relationship. In addition, 54.4 percent of interviewees reported taking the kids to school as an activity for both men and women.

k) Taking the Children to the Doctor

In general, taking the children to the doctor is an activity for women or for both spouses. When analyzing the sample, 40.5 percent considered it to be a task for men and women; 10.5 percent as

a male activity, and 49 percent classified it as a female role. When analyzing only nonwhites, there is no association between type of relationship and classifying the activity as either female or male. On the other hand, whites in interracial marriages tend to classify this task as more female (58 percent in contrast to 44.6 percent) than male (11.7 percent in contrast to 7.8 percent among whites in racially homogenous marriages); and are less likely to consider it an activity for both sexes. This pattern is also statistically significant among white males and at the 10 percent level of significance for white females.

In summation, there is a great level of agreement when classifying certain tasks and the main differences are among white men in an interracial marriage. These variations point to a more gender based opinion regarding the classification of tasks as both female and male specific chores. This result indicates that not only does a gender difference exist, but a racial issue is present as well. Therefore, the justification of discrimination (Grossbard et al. 2010), based on the historical ideas about the position of blacks within society (Moutinho 2004; Pacheco 2006), may be more appropriate for explaining the differences in the classification of household chores. In the next section, I present the results of the number of weekly hours devoted to domestic labor, in order to analyze whether the same pattern is observed.

5.2 Analysis of Number of Hours Spent on Household Chores and Intermarriage

The main objective of this second analysis is to investigate whether the pattern identified in the first component is the same when considering the actual time spent by people doing household chores. The first analysis identified the expectations about which individuals should do what. In this section I discuss which spouses, more specifically the darker spouses in interracial couples, do more household chores. The dependent variable is the reported weekly number of hours that each individual indicates as the time dedicated to household chores.

Using the Household Survey (PNAD) for 2009, the final sample is 49,995 couples between 20 to 64 years-of-age. The average female age is 40.22 years old and the average male age is 43.54 years old. Women, on average, dedicate 28.7 hours per week to household chores and men spend 5.12 hours per week on domestic tasks. On the other hand, women work in the labor market 17.16 hours per week and men work 32.47 hours per week (Table 2). The descriptive analysis also shows that brown women are the ones who dedicate more time to domestic labor (30.05 hours per week) and among men, the blacks are the ones who follow this pattern (5.39 hours per week).

Table 2 - Mean and standard deviation of selected variables, Brazil, 2009

	Mean	Std. dev
<i><u>Women's characteristics</u></i>		
hours in household actv	28.72	17.68
age	40.22	10.61
hours in paid work	17.16	17.22
schooling	8.19	4.43
ln income if work	1.99	0.81
<i><u>Men's characteristics</u></i>		
hours in household actv	5.12	7.70
age	43.54	10.74
hours in paid work	32.47	15.91
schooling	7.58	4.55
ln income if work	3.23	0.65
older than women	0.37	0.48
<i><u>Other characteristics</u></i>		
Urban	0.84	0.37
Family size	3.66	1.26
ln family income	7.82	3.55
Men is lighter	0.15	0.36
Men is darker	0.18	0.39

Data Source: PNAD, 2009

In Table 3, depending on the spouse's race, it is possible to observe that there are important differences in the amount of hours women and men devote to domestic labor. While a white woman married to a white man spends on average 27.05 hours per week on household chores, a brown woman married to a white man spends 29.88 hours on the same tasks. Brown women do the most domestic labor. On the other hand, women married to brown men do more household chores, than women married to white men. This may reflect socioeconomic conditions that do not allow for a domestic worker, especially because white woman married to white men are the ones who do less domestic labor. Moreover, the bargaining theory would predict that darker women would do more household chores, especially when married to lighter men, given their higher potential earnings.

When analyzing the men's weekly hours dedicated to household chores we observe that black men, especially the ones married to white women, commit more time to domestic labor and that white men married with brown women spend less time on household chores. Because asymmetry is present in both situations—women's and men's hours spent on domestic labor—the main explanation may not be the “doing gender” approach (West and Zimmerman 1987). This is because this framework better explains men's and women's differences, and in this case, the racial component seems to be more important than the gender dimension. In this sense, the exchange status and discrimination frameworks probably provide a better explanation. The differences between these two theories will become more clear in the next section, when I analyze the regression results.

Table 3 - Descriptive analysis of weekly hours by couples' racial composition, Brazil, 2009

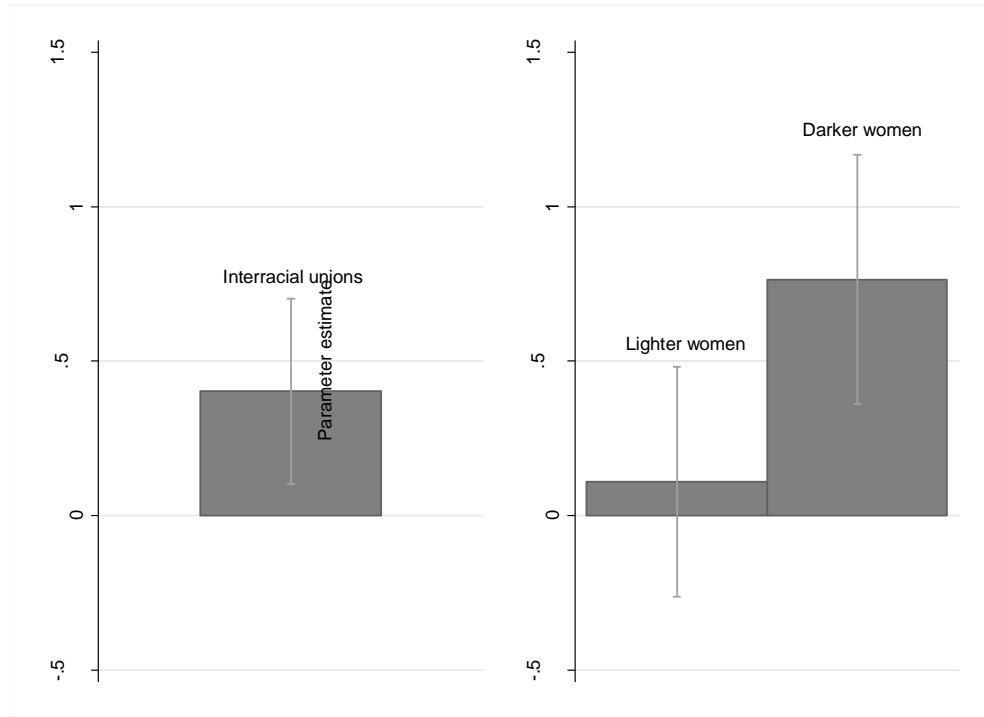
		Women's hours				
		Women's race				
		white	black	Brown	Total	
Men's race	white	mean	27.05	28.78	29.88	27.77
		std dev	(17.42)	(18.19)	(17.95)	(17.61)
		n	17716	800	5661	24177
	Black	mean	27.49	28.87	29.66	28.80
		std dev	(17.54)	(16.96)	(18.11)	(17.57)
		n	1035	1390	1462	3887
	Brown	mean	28.89	29.41	30.17	29.74
		std dev	(17.80)	(17.28)	(17.70)	(17.72)
		n	6695	937	14259	21891
	Total	mean	27.55	29.01	30.05	28.72
		std dev	(17.55)	(17.38)	(17.79)	(17.68)
		n	25446	3127	21382	49955
			Men's hours			
			Women's race			
			white	black	Brown	Total
Men's race	white	mean	5.28	5.06	4.80	5.16
		std dev	(7.55)	(7.92)	(7.55)	(7.57)
		n	17716	800	5661	24177
	Black	mean	5.62	5.43	5.19	5.39
		std dev	(8.69)	(8.47)	(7.55)	(8.20)
		n	1035	1390	1462	3887
	Brown	mean	5.25	4.92	4.95	5.04
		std dev	(7.83)	(7.28)	(7.72)	(7.74)
		n	6695	937	14259	21891
	Total	mean	5.28	5.19	4.92	5.12
		std dev	(7.68)	(7.99)	(7.66)	(7.69)
		n	25446	3127	21382	49955

Data Source: PNAD, 2009

The results of the Heckman estimations are included in the annexes (Table 12A). The Rho is positive for both men and women, meaning that unobservable characteristics are positively correlated with one another. Thus, in a wage model, results are considered important if ability is an unobservable, and it is positively related to working (stage 1), and positively related to wages (stage 2). The full results for the regressions are also in the annexes (Table 13A and Table 14A). I only present graphs illustrating the results for the variables related to race and interracial marriage in the text. First, I present the results for women's hours for all women and by spousal race. Secondly, I analyze the number of hours men spend on household chores. The main result is that the darker partner spends more time on domestic labor, regardless of gender. In general, women in interracial unions spend on average 24.18 minutes more doing domestic labor. When comparing darker, lighter, and same race women, the darker women do on average 45.84 more

minutes of domestic labor than women in same race unions, when considering all control variables (Graph 1).

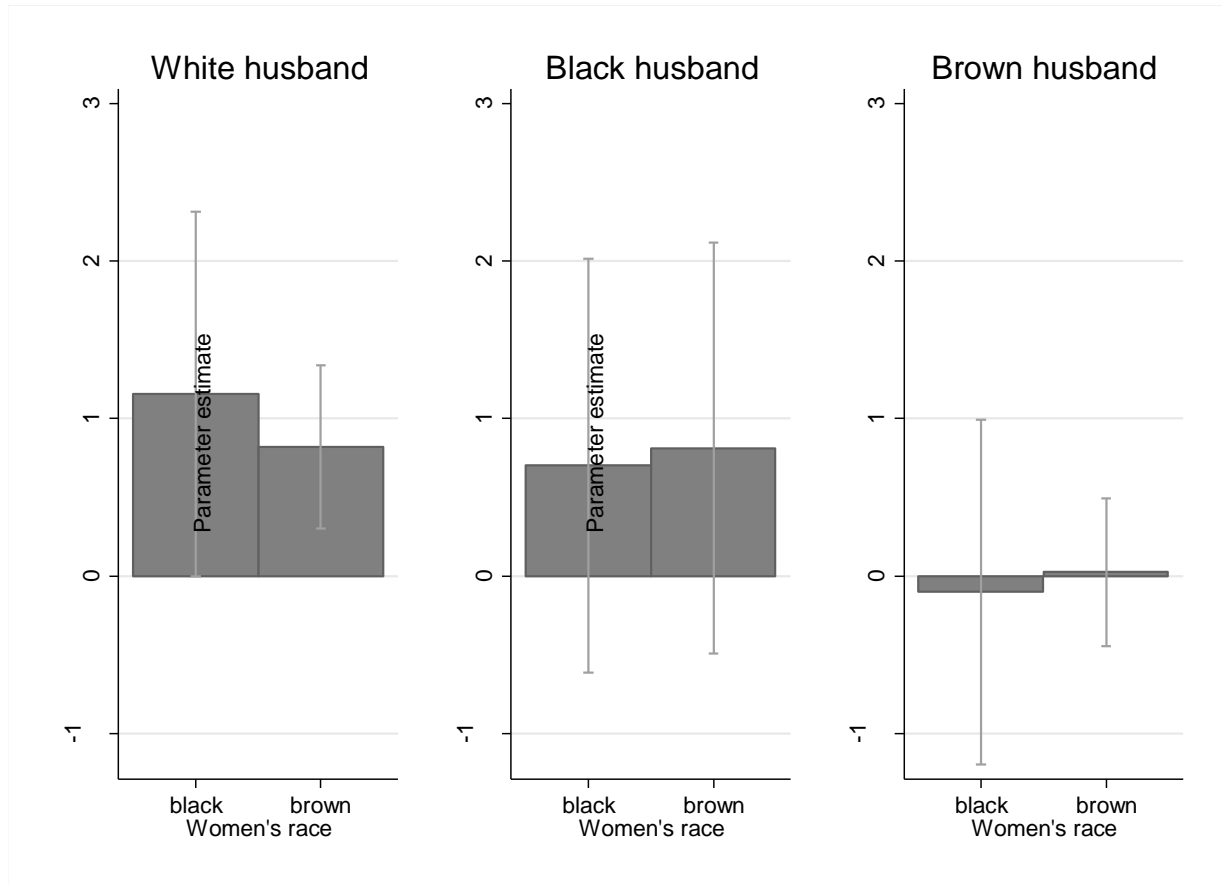
Graph 1 - Results for women's hours devoted to domestic labor - Brazil, 2009



Data source: PNAD, 2009

Graph 2 shows that women's race is statistically significant only in the case of brown women when comparing white women who are married to white men. They do more household chores per week (49.2 minutes more). In all other cases there are no difference.

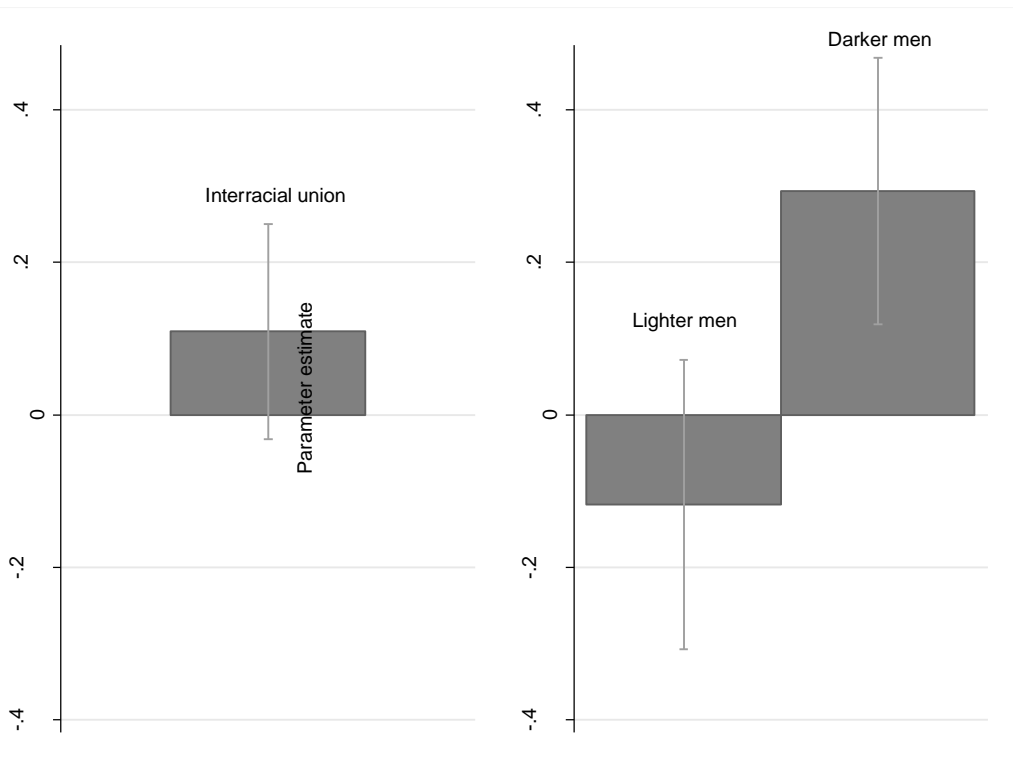
Graph 2 - Results for women's hours devoted to domestic labor by spouse's race - Brazil, 2009



Data source: PNAD, 2009

The results for men's hours are in Graphs 3 and 4. The main finding is that interracial marriage is not statistically significant in Models 1 and 2. However, in Model 3, darker men in interracial marriages do on average 17.64 minutes more of domestic labor than men married with same race women. This result is important because, if both men and women have an increase in how much time they spend on domestic labor when they are darker than their spouses, this shows that the pattern is not a matter of "doing gender." This is because the "doing gender" framework better explains the differences between the hours men and women spend on household activities. However, the resulting explanation relates to race relations, including discrimination inside the household, since the equations are controlled by hours in the labor market and income or potential income, which are indicators of bargaining power.

Graph 3 - Results men's hours devoted to domestic labor, Brazil, 2009

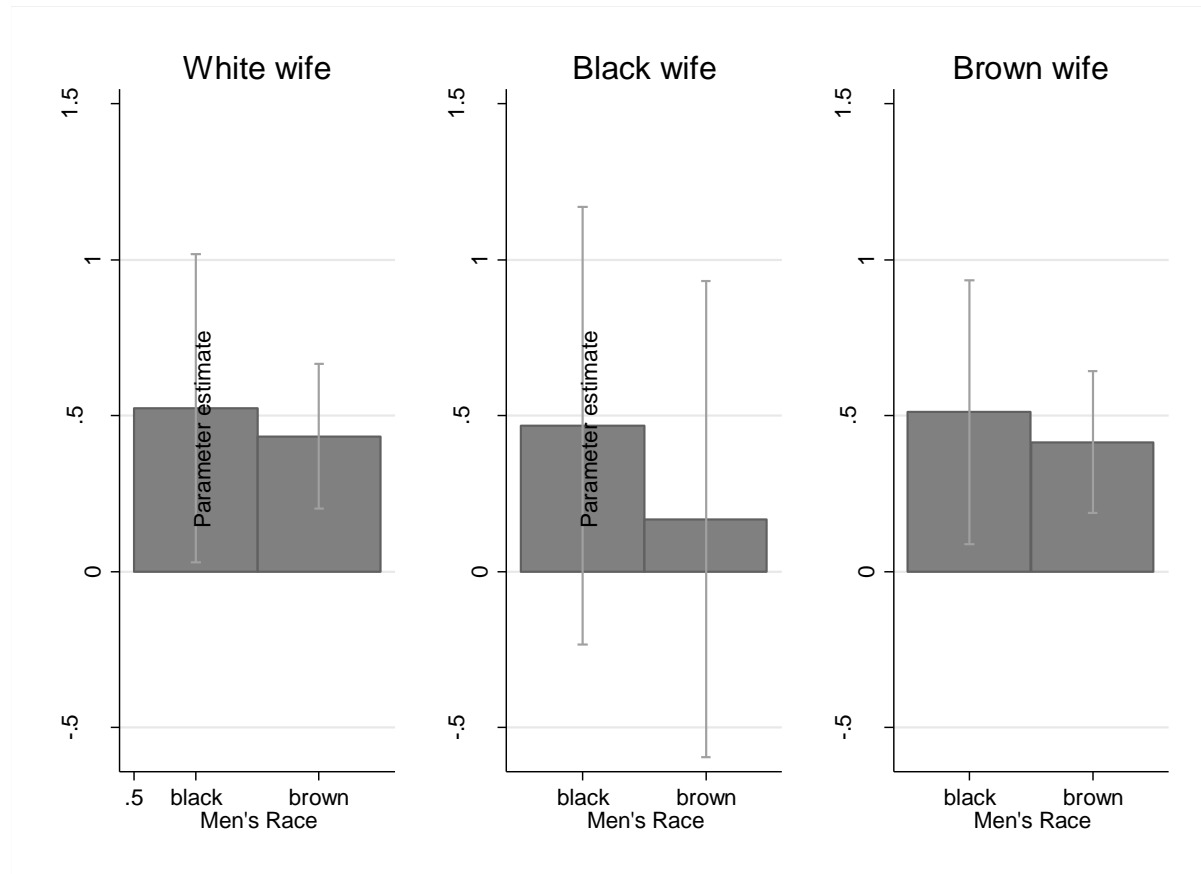


Data source: PNAD, 2009

Graph 4 presents the results by the race of wives. Nonwhite men married with white women do more household chores, 31.44 minutes more for black men and 26.04 for brown men. In the case of having a brown wife, black spouses do on average, 30.66 minutes more work and brown men devote 24.9 minutes more to household work. It is worth saying that the fact that nonwhite men do more household chores than white men does not mean that they do the same activities as women. They may be focusing on small household repairs, or on buying groceries more often than other men.

The fact that both nonwhite men and women dedicate more time to domestic labor means that the best explanation may not be through the “doing gender” approach, as was already highlighted. The most probable explanation is discrimination, especially because although the overall result for interracial unions is statistically significant for women and not for men, when analyzing the specific racial composition of the couple, the main result is that the nonwhite spouse does more domestic labor in couples where only one spouse is white. Therefore, it is not any interracial union, but especially the ones between a white and a brown person that are significant (or black in the male case, and also when the wife is brown), which is the majority among racially exogamous unions. Moreover, it is worth mentioning that differences in human capital and experience (Bertocchi et al. 2012) may also help to explain these differences because nonwhites traditionally have lower human capital than whites, and may experience higher levels of domestic labor socialization

Graph 4 - Results for men's hours devoted to domestic labor by spouse's race, Brazil, 2009



Data source: PNAD, 2009.

5.3 The Influence of other Variables on Weekly Hours Spent on Domestic Labor

The analyses focused on the type of union and racial results. However, other variables have an important effect on supplying domestic work. In the case of women's race, the only individual characteristic that has a positive effect on weekly hours spent on household chores is age. This means that for each additional year added to overall age, women do on average three more minutes of domestic labor, controlling for other variables. The other variables, such as, hours spent on paid work, schooling, and income (or potential income) have a negative effect. This suggests that more time in the labor market, more education, and a higher income decrease women's domestic labor responsibilities. Possible explanations are a higher bargaining power through financial independence, which creates the opportunity for women to pay someone else to do their domestic labor; the same explanation can be used for the statistically significant negative effect of a family's income. On the other hand, the more time the husband dedicates to the labor market, the more likely the wife works at home. The interesting result of this scenario is that husband's education and husband's income² have opposite effects. Although education and income are highly associated, they also have different meanings. Higher education seems to be related to different conceptions of the division of labor. Studies have shown that highly educated

² I tested whether the result would change when excluding family income from the equations, and the coefficients and standard error are about the same.

men, dual earning couples, and younger men with children are associated with higher levels of the participation of men on domestic labor (Bianchi and Raley 2005; Evertsson and Neramo 2006; Coverman 1985).

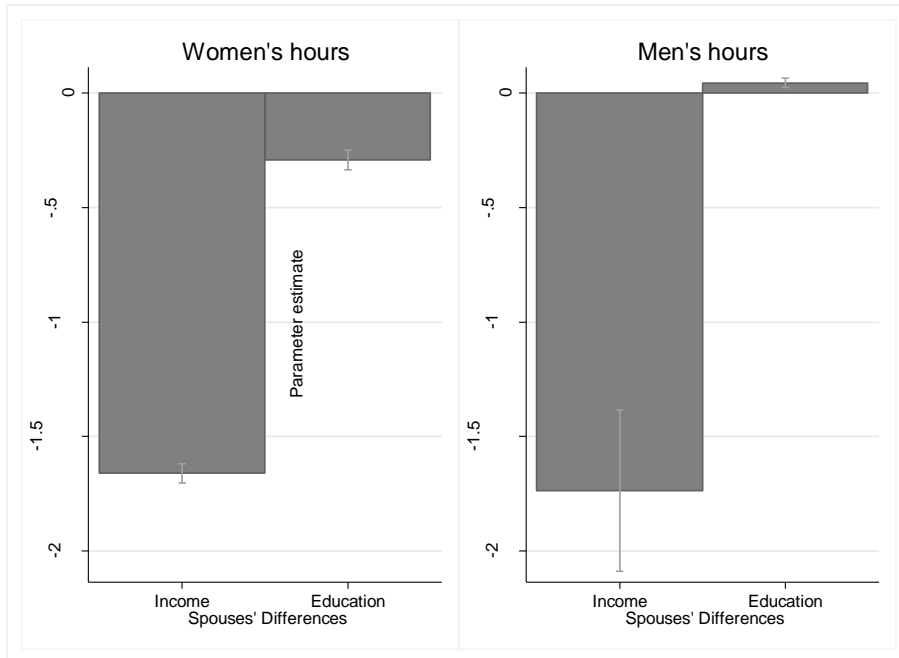
When analyzing men's hours, the results show only a slight difference. Age, unlike for women, hours spent on paid work, and income have a statistically significant negative effect on the hours men dedicate to domestic labor. Schooling, as expected, has a positive influence. On the other hand, all three characteristics of the wife: hours spent on paid work, schooling, and income have a positive effect. This corroborates the hypotheses based on the bargaining power because these relationships show that when women have more bargaining power (work, income, and schooling) men are more involved in household activities. Men's involvement in household chores has been shown to be the main factor that decreases the time spent by women on domestic labor (see for instance, Evertsson and Neramo 2006). While larger families require more domestic work for women, the opposite is indicated for men. This may suggest that men do less when the wife has other helpers, like assistance from their children.

5.4 Disentangling bargaining power and racial discrimination inside the family

The results from the previous section can be interpreted as a result of some kind of discrimination or differences in premarital socialization. However, it is not possible to fully exclude the role of higher bargaining power, even controlling for spouse's education and income (or potential income). Therefore, in this section I explore the role of differences in spousal education and spousal income by time devoted to domestic labor. In order to do this, I used interaction terms between the differences and the individual's race. I created two variables. One variable is the difference in income and the other is for the difference in education. If I am analyzing women's hours, I used wife minus husband, and the opposite for when analyzing men's hours, in order to simplify the interpretation of the results.

The main results show that higher education and higher income decrease the amount of time women dedicate to household activities. Among men, the result is similar for the case of income, but it is the opposite for education. Men with a higher level of education than women, tend to do more household chores (see Graph 5).

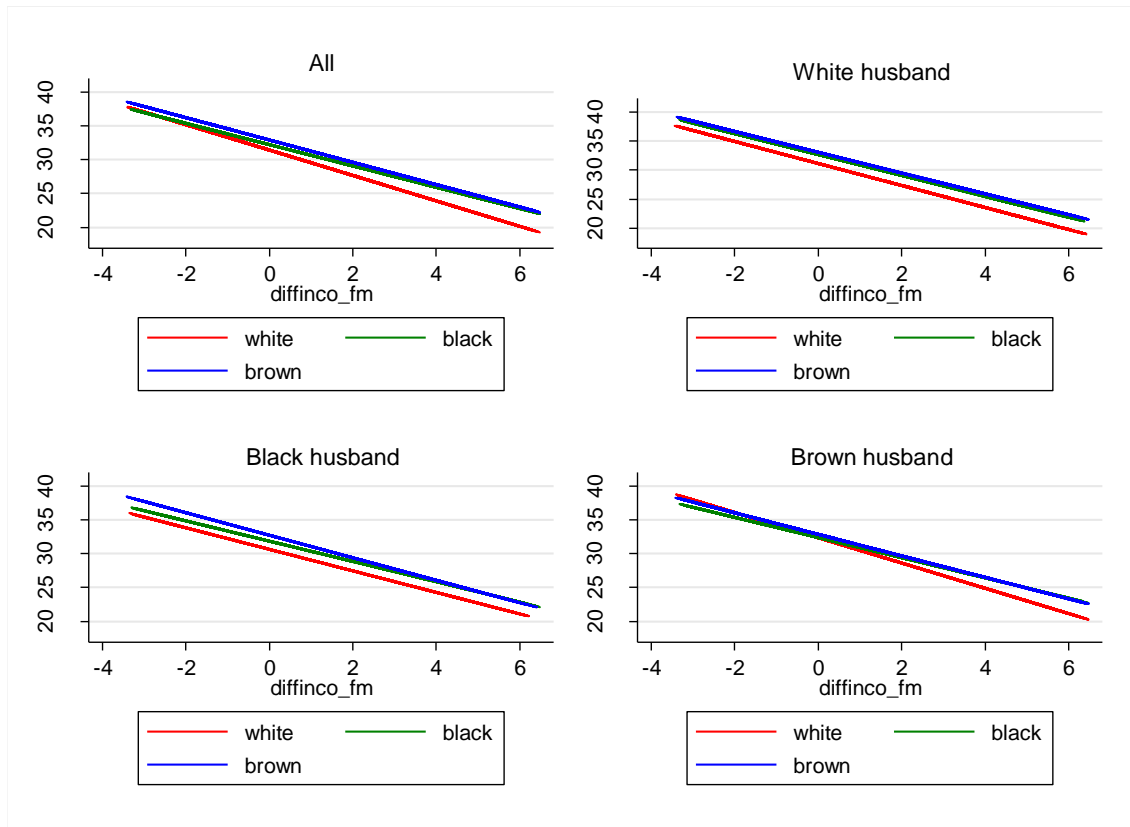
Graph 5 - Results for differences in spouses' income and education on women's and men's hours devoted to domestic labor, Brazil, 2009



Data source: PNAD, 2009

Figure 1 presents the predicted values for women's hours spent on domestic labor, considering all variables but race, the difference in spousal income, and the interaction term between race and the income differential. The main results are: 1) the lines reinforce that for higher levels of income, women do less domestic labor; 2) the line for white women is basically the same regardless of her husband's race; 3) that for most cases the interaction term (represented by the slope) is not significant and that the effect caused by brown and black women has a very similar behavior. As an example, for the case of women married to white husbands, the lines for brown and black women are the same. In contrast, among women married with brown husbands, those who have a lower income (or lower potential income) than men, on average; do the same amount of household work. However, when they have a higher income (or potential income), white women do less domestic labor.

Figure 1 - Predicted values for women’s hours spent on domestic labor, considering her race, spouse’s race, and spousal income differences, Brazil, 2009

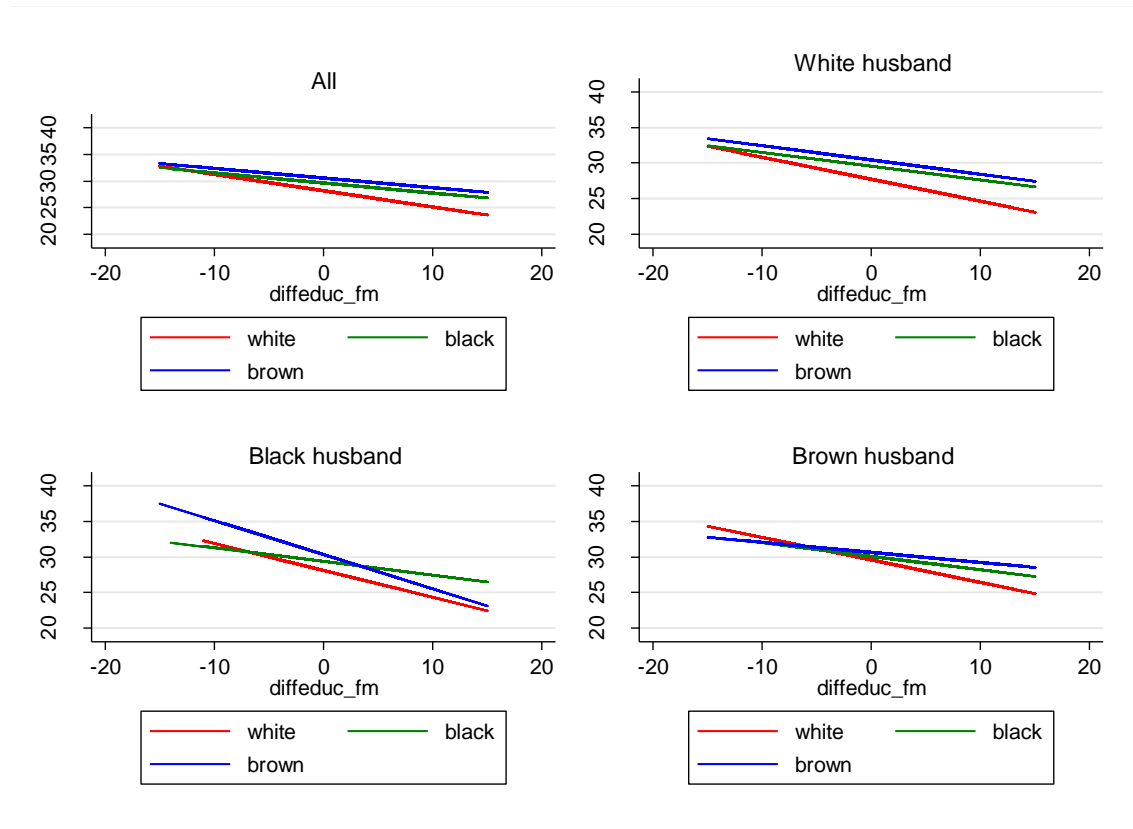


Data source: PNAD, 2009

Figure 2 shows the predicted values considering the differences in education. The results vary a little from the outcomes for income differentials, especially the differences between brown and black women, because some alterations are more pronounced. This is the case of women married to black husbands, in which brown women have a very different line than black women, and even dedicate a similar amount of time to domestic labor as a white woman when she has more education than her spouse.

When the husband is white, a white wife with higher education does much less domestic labor than black and brown women. In this case, the main difference is due to race and not due to different returns relating to education differences. In contrast, black and brown women married to brown husbands have a flat line. This means that the differences in education are not important for explaining differences in hours spent on household chores.

Figure 2 - Predicted values for women’s hours spent on domestic labor, considering her race, spouse’s race, and spousal educational differences - Brazil, 2009



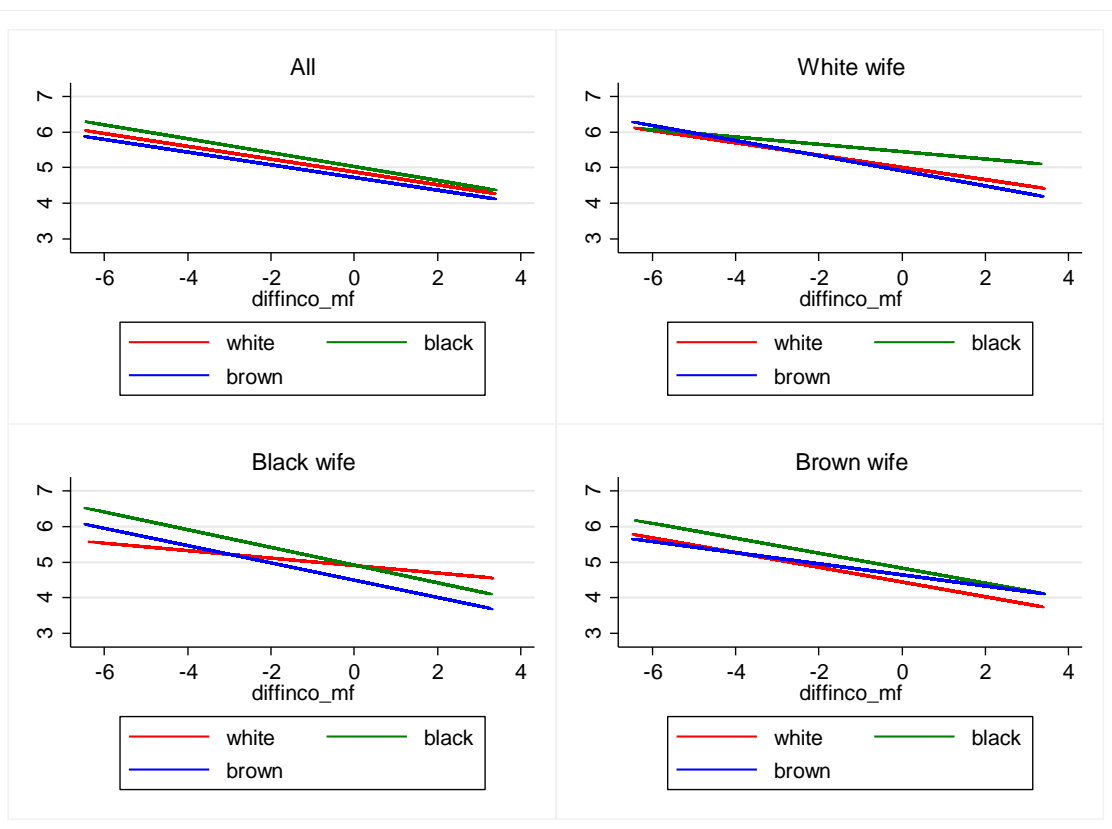
Data source: PNAD, 2009

Figures 3 and 4 present the results for men’s hours considering wives’ race and differences in income and education. For men, some interaction terms are important and blacks are more distant from browns than when analyzing women. Brown men are, in many situations, similar to whites. A good example of this is when the wife is white. When men earn less than their wives, they do the same amount of domestic labor regardless of their race. However, when they receive more income, whites and browns do the same amount of domestic work and blacks spend significantly more time on the same tasks. An element that also demands attention is the flat line for white men when they are married to a black wife. This pattern means that regardless of the spousal income difference, a white man in a union with a black woman does the same amount of household chores as his partner. This is also evidence of the status and market value of white men in the marriage market. The overall result is that higher levels of education among men, increase the time men devote to domestic labor only in the case of brown and black men married to brown and black women. As noted in Figure 4, white men are almost not affected by education differences.

For women and men, in general, the interaction between differences in bargaining power (differences in spousal education and income) and race is not relevant. A higher income or higher education among women has a negative effect. In other words, they do less domestic labor

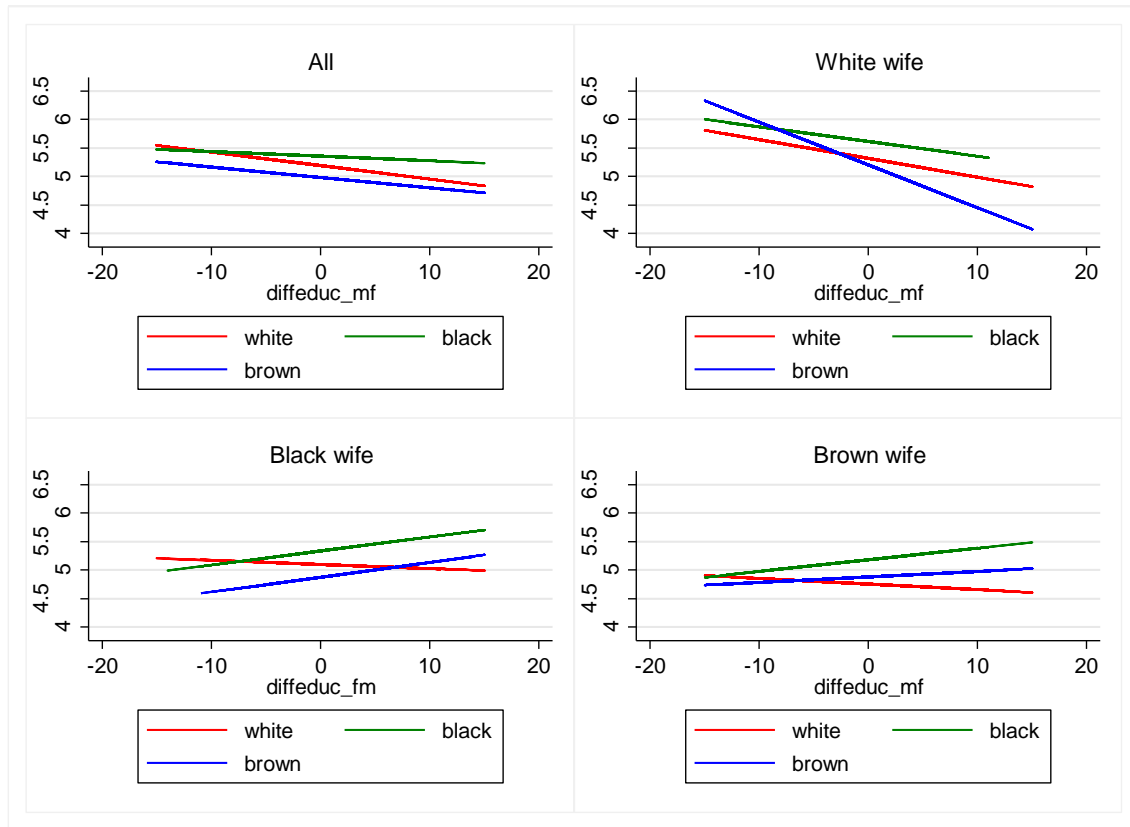
regardless of their race. However, race has a significant and independent effect. Therefore, customs, social norms, and pre-marital experiences (i.e socialization) regarding gender and race are important for explaining the division of labor in the household. But a more important aspect seems to be the presence of discrimination in the household, because women not only in an interracial union do more domestic labor, but also men in this type of relationship. Thus, the context (type of marriage) is an important consideration in the analysis of the division of labor. It means that the greater amount of time dedicated to household chores depends on the racial dynamics in the marriage, regardless of bargaining power characteristics.

Figure 3 - Predicted values for men’s hours spent on domestic labor, considering his race, spouse’s race, and spousal income differences - Brazil, 2009



Data source: PNAD, 2009

Figure 4 - Predicted values for men's hours spent on domestic labor, considering his race, spouse's race, and spousal educational differences - Brazil, 2009



Data source: PNAD, 2009

6. Discussion and Conclusion

Interracial marriage provides a rich context for analyzing race relations and gender. The social construction of what it means to be a black woman and a white man is important for analyzing why there might be differences in classifying household chores and in how many hours each spouse devotes to domestic labor. Therefore, the relationship between gender roles, race relations, and marriage is important. This paper presented two analyses. First, an exploratory and descriptive analysis was conducted as to whether the classification of household and childcare activities into female, male or gender neutral tasks is associated with being in an interracial or same race marriage. The analysis also considered the individual's race (white and nonwhite) and gender (male or female). The results showed that overall, there is strong agreement in terms of what is considered a more female or male activity. However, there are relevant differences when considering race and type of union (inter or interracial), which means that whites, especially white men, tend to give more gender specific answers.

After finding this pattern, I looked at data on the weekly number of hours devoted to household activities. First, I compared weekly hours spent on domestic labor by each spouse, considering their race and type of union (intra or interracial). The main result is that women in interracial marriages do about 24 minutes more work per week than women in racially endogamous unions.

Darker women do on average 48 minutes of work per week. When analyzing by spouse's race, the only statistically significant case is when brown women are married to white men, compared to when white women are married to white men. The results for male hours spent on domestic chores, is that overall men in interracial marriages do not dedicate more time to these tasks. However, darker men do about 17.64 minutes more domestic work when in an interracial union than in a same race union. This relationship remains statistically significant when the wife is white or brown. Other characteristics, such as, partner's schooling, hours spent on paid work and income, the total family income, and family size influence the weekly hours an individual spends on household activities. It is important to mention that although both brown women and nonwhite men do more domestic labor, it does not mean that they do the same household chores. From this second analysis, it is clear that division of labor is not only a gender issue, but also a racial issue. More specifically, a couple's racial combination is very significant. The darker partner trades/exchanges more household hours, especially in unions involving whites and browns. The main explanation for this can be justified through compensating differentials and discrimination. In the context of marriage, people who have a lower racial status do devote more time to domestic labor in a mixed race union than if they were in a racially endogamous relationship.

There are several important implications resulting from these analyses. First, the division of labor considered as an asset of exchange has more general findings than education, especially because it holds true for nonwhite men and not for nonwhite women. Secondly, race has an independent effect even when controlling by the characteristics of both spouses and differences in bargaining power, which means that we may need to use caution when interpreting interracial marriages as a sign of decreased discrimination. One explanation for this effect may be pre-marital socialization. In other words, nonwhites were always more involved with domestic labor and learned this behavior from their parents, for instance.

Another possible explanation is provided by discrimination, which seems to be contradictory when considering that intermarriage assumes that the higher racial group (i.e. whites) would have crossed this threshold. Therefore, the partner choice theories cannot be analyzed without considering the cultural context of the marriage market. This seems to be the best explanation considering the data and limitations of this study, because the results are not only different when comparing individuals from different racial groups, but these differences depend on racial matching.

Although the results are quite interesting and important for intermarriage studies, the overall analysis has several limitations. First, the lack of longitudinal data does not make it possible to obtain a better understanding of changes in gender roles, and whether there are differences that exist before and after marrying. Secondly, there is also a lack of data on whether the type of relationship involves marriage or cohabitation. Finally, it is worth mentioning that the results raise important questions, such as, whether people in interracial marriages look for a more gender bounded relationship or whether they prefer a more unbalanced division of labor. Or are the observed partners a consequence of relationship dynamics?