Family Structure and Education Achievement: an analysis of young adults in Brazil for 2010

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Abstract
Using 2010 Brazilian Census data, this paper focuses on the relationship between family structure (be in a family with biological parents, or with one biological parent and one stepparent, or in a single parenting family) on educational achievement for young adult children between 18 to 24 years old. By education achievement we considered: 1) have finished high school; 2) be enrolled in high school or 3) neither of them. We used multinomial logit regression and the results show that young adults living with their biological parents are the ones with the highest probability of have finished or be enrolled in high school, followed by the ones living only with their mothers. The lowest probability is among children living in blended families.

Key words: family structure, children’s outcomes, high school, educational achievement.

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Estrutura Familiar e Alcance Educacional: uma análise dos jovens adultos brasileiros em 2010

Resumo
Esse trabalho usa dados do Censo Demográfico Brasileiro de 2010 para analisar a relação entre a estrutura da família (i) estar em uma família com ambos os pais biológicos, ou ii) com um dos pais biológicos e um padrasto ou madrasta, ou iii) em famílias monoparentais) no alcance educacional dos filhos entre 18 e 24 anos de idade. Por alcance educacional entende-se: 1) ter concluído o ensino médio; 2) estar matriculado no ensino médio e 3) nenhum dos dois. O modelo de análise foi o de regressão multinomial e os resultados apontam que os jovens adultos que vivem com ambos biológicos são os que têm a maior probabilidade de ter terminado ou estar matriculado no ensino médio, seguidos dos filhos de mães solteiras. A menor probabilidade de ter terminado o ensino médio ou estar matriculado neste nível de ensino está entre os filhos vivendo em famílias reconstituídas.

Palavras chave: estrutura familiar, resultados das crianças, Ensino Médio, alcance educacional.
1. Introduction

One of the main changes in the family in the past decades is the increase of divorce and remarried rates, and for consequence, changes in the family structure that directly affect children’s life experiences. Therefore, a great effort has been made to understand in what extension these changes affect children's outcomes, such as, the effect of living with stepparents or in single-parent household in their health (i.e.: Bramlett and Blumberg 2007; and Warehime 2011), education (i.e: MacLaharan and Sandefur 1994; Strohschein, Roos, Brownell 2009), and labor market outcomes.

It is widely under debate whether children who experienced a family disruption have lower outcomes than children who live with their two biological parents and whether the presence of two parents, regardless of being biological or not (stepparent) is better than living in single families. In addition, the mechanisms and explanations for why children would have higher or lower outcomes are still unclear and the researchers have contradictory results. The main explanations are: i) indirect effect of family structure, due to income loss, and mobility (McLanahan and Sandefur 1997), or lack of involvement of the absent parent, (usually the father) (Beller 2006), or lack of time spend with the parents (Bianchi 2000; Sayer et al 2004), or women’s disadvantage employment and occupational positions (Biblarz and Raftery 1993); ii) selection effect and endogeneity, the children would have problems even before the disruption (Biblarz and Raftery 1999); and iii) family per se effect, such as stress and parents motivations for investing in their children, as proposed by Biblarz and Raftery (1999).

Many studies focus on the differences between two parent and single parent families, few of them approached the differences within groups, questions like that, whether there are differences among children who live with stepparents and the ones who live with both biological parents? Or works that consider the comparison between single mom and single dad. The discussion about family structure and children well-being is very incipient in Brazil; one important reason is the lack of information on family history and family arrangements. And when the data exist some groups are very small, such as the single dad and the families with stepmoms, that the analysis is not possible. Therefore, the 2010 Census make possible a new set of investigations. First,
because it is the first time that the Brazilian Census collected information on stepparents and second because the sample size is bigger than other household surveys, it is possible to analyze even the small groups.

This paper focuses on the relationship between family structure, in other words, live in a family with their biological parents, or with one biological parent and one stepparent, or in a single parenting family in the probability of young people, between 18 and 24 years old, to finish or being enrolled in high school in 2010 in comparison of not have and not be enrolled in high school. The paper is divided into five parts, including this introduction. The second part discusses the literature on family structure and children’s outcomes. The following section presents the data and the method used. The fourth section discusses the results and lastly, we present the main conclusions of the study.

2. Family Structure and Children Outcomes

The main discussion focuses on the differences in children’s outcomes between intact and non-intact families. Some studies find no significant difference in children's outcomes among different family structures, while others point important prejudices for children in non-intact families. Intact families are the ones with two parents; or the children’s biological parents. There are also two-parent families that have experienced a disruption, they are the families with stepparents; they are also called blended families. In this sense, we can think about two main sets of problems, one that focuses on the comparison between two parent (intact or blended) and single families and the second that differentiate two parent families in biological and blended families, and also compare to single families.

2.1. Two parent vs. Single-parent families

Comparing intact families and single families some studies (i.e.: Demo and Acock, 1988; Usakli, 2013) found out that the single parent children are less assertive and more aggressive and submissive than their two parent peers. Compared with peers in intact families, adolescents from divorced single-parent households tend to have greater levels of absenteeism, tardiness, and
truancy in school. Parental divorce altered daily routines and work schedules while imposing additional demands on both adults and children living in single-parent households. Most adolescents had to assume extra domestic and childcare responsibilities; financial conditions required some adolescents to work part-time. These burdens resulted in children from single parent households having greater levels of absenteeism, tardiness, and truancy in school.

McLanahan and Sandefur (1997) showed that children whose parents live apart are twice as likely to drop out of high school as those in two-parent families, one and a half times as likely to be idle in young adulthood, twice as likely to become single parents themselves. They show that half of the difference between high school dropped out rates from single parent families is due to loss of income, and lose of community resources, children in stepfamilies are more likely to move and single parenting families more likely to live in poor neighborhoods, so both lack from community resources. These authors consider intact families the ones with two parents regardless the fact that they are biological parents or not. They argue that the main difference for children outcomes is in two parent or single parenting families.

Another important study aims to explain the reasons of why children of single moms have lower outcomes. Biblarz and Ratery (1993) analyzed the impact of family structure on children’s occupational status, the authors’ main conclusion was that the negative impact of mother-headed households on son’s occupational attainment is small and entirely a function of women’s disadvantaged employment and occupational positions. The context for Brazil may be a little different, Morais et al (2010) analyzed data metropolitan regions and found that there is no difference between intact families and single mother families in children educational outcomes, single dad families were not included due to sample size, and there was not a differentiation between biological and step parents.

2.2. Differentiating two parent families

There are a set of studies that differentiate stepparents from biological ones. For example, Sandefur, McLanahan and Wojtkiewicz (1992) report that adolescents who lived in single parent...
families, in step families or with neither parent were less likely to graduate from high school than those who lived with both biological parents.

Although different studies (i.e: Anguiano, 2004; Rumberger & Thomas, 2000) compare those from intact families to all other structures, Manning and Lamb (2003) showed specifically that children in stepfamilies were at greater risk than those in intact and single-parent families for poorer GPA and more frequent school suspension, factors known to influence dropout (Christle et al, 2007; Hickman et al, 2008). Compared to all other family types, those in stepfamilies are the least likely to attend post-secondary schooling. Other findings show that children raised by biological mothers in stepfamilies attained more education overall than did stepchildren in these families (Case, Lin, & McLanahan, 2001) and less education than biological children in first-marriage families (Ginther & Pollak, 2004).

Biblarz and Raftery (1999) presented an evolutionary psychological explanation for the differential in children’s outcomes. They claim that children from single father families and stepfamilies had consistently lower occupational and educational attainment than children from both two-biological parent and single mother families. The evolutionary parental investment theory had both statistical and change predictions that better explain the results because it predicts that children from single-mother families will have advantages over those from single father because mothers have more of their reproductive investment tied up in their children than fathers. It also predicts that stepparent will be of no advantage to children because they have no real incentive in stepchildren. The perspective that children of

Living in a blended stepfamily moderated the relationships between parent-child relationship quality and high school completion and parent-school involvement and completing a bachelor’s degree or higher. In both instances, the relationship was stronger for those in intact two-parent families than those in blended stepfamilies. Among children living with both biological parents, mutual children in blended stepfamilies were less likely to complete a postsecondary degree and had a lower highest degree completed than those in intact two-parent families. No significant differences were found for the educational outcomes of mutual children and stepchildren living in blended stepfamilies (Garneau, 2012).
2.2.1. The stepparent

Studies about the relationship stepparents and children indicate that stepfathers are less active as parents than are biological fathers. Stepfathers, compared with biological fathers, were less involved with, showed less awareness of, and exerted less discipline over their stepchildren. When stepfathers in newly formed stepfamilies tried to establish a positive relationship with the stepchild by talking and sharing activities, these efforts were often met with resistance, particularly when the stepchild was an adolescent. Despite this resistance, many stepfathers continued to try to remain involved in the lives of their stepchildren. Over time, however, because of continued resistance or distancing behaviors on the part of the stepchild, most of these stepfathers stopped trying to establish close stepfather-stepchild relationships (Hetherington and Clingempeel 1992).

Some authors (i.e: Coleman, Ganong, and Fine, 2000; McBride, 2001) show that stepfathers reported behaving less positively and less negatively toward their stepchildren than did fathers, indicating that they refrain from becoming involved with their stepchildren. However, stepmothers reported responding as positively to their stepchildren as did biological mothers in stepfamilies, although they responded less negatively. This suggests that stepfathers may be less active in demonstrating warmth to children than are fathers, but that stepmothers show as much warmth to children as biological mothers. Moreover, these findings suggest that stepmothers may be more active in parenting than stepfathers, which may partially explain the commonly noted observation that stepmothers have greater adjustment difficulties than stepfathers.

Nord and West (2001) founded that students who live apart from one or both of their biological parents tend to do less well in school than students who live with both of their biological parents. The study found that parent involvement of stepparents in school is generally lower than biological parents and that biological mothers are more likely to be highly involved in schools when they are in a family with both biological parents. Biological fathers are more likely to be involved in families that have stepmothers rather than two biological parent families. Students living in father-only families are the most likely to have highly involved fathers. Fathers’ involvement in schools is associated with a higher likelihood of the student getting mostly “A”
grades and a lower likelihood of the student repeating a grade. Biological mothers’ involvement is also associated with a student getting mostly “A” grades. The study also found that when a biological or a stepmother is involved, children are less likely to be suspended or expelled. Non-resident mothers are more likely to be involved in children’s schools than non-resident fathers, but if a non-resident father is involved, the effects on a child’s academic achievement are greater. If stepparents are involved in a child’s school, it produces better outcomes for the student. The study also found that the association between school involvement of stepparents and student outcomes is the same as that of biological parents in traditional families. Single mothers and fathers are involved in their children’s schools and their involvement is associated with better school outcomes for their children.

2.3. Other family characteristics and educational performance

Carter (1999) calls attention to the fact that although these studies have substantiated the educational advantage of growing up in an intact family, however they do not address the global trends in educational achievement. These trends suggest that each generation has acquired more education than the previous one. By including more than one cohort in these analyzes it is difficult to distinguish short-term effects from long-term trends. Thus the adverse effects of growing up in a non-intact family might be mitigated by the overall educational upgrading of each generation or by a decline in these effects over time.

Not only the current family arrangement, but also family transitions and instability should also be considered when studying school performance. Different studies show that experiencing parental divorce and multiple family structure transitions, common precursors to stepfamily life, also increase adolescents’ risk for dropout (Cavanagh et al, 2006) and decrease their expectations to attend college (Tillman, 2007).

A study in Canada finds that the proportion of children graduating from high school is highest for children with no change in family structure (78.4%) and lowest for children with three or more chances in family structure (40.4%). The main conclusion is that children who experienced any change in family structure is less likely to complete high school, there are no differences
from children of divorced parents and the ones who lost a parent due to his/her death (Strohschein, Roos, Brownell 2009).

2.4. Study hypothesis

Based on this discussion we tested the following hypotheses:

1) Differences between two parent and single parent families: we expect that children living in intact families, with both biological parents, have the better outcomes than children living with single parents and stepparents.

2) Differences in the gender of single parent and of the stepparent: we expect that children of single mothers have better outcomes than the ones living with single dads.

3. Data and Methods

We used data from the Brazilian Census for the year 2010, downloaded from IPUMS. The dependent variable has three categories: 1) finished high school; 2) be enrolled in high school; and 3) neither of them for children between 18 and 24 years old. The independent variables are: the family type (biological parents, stepmom, stepdad, single father, and single mom), children's sex, parents’ education (when two parents are present we considered the highest level), household income, urban area and state. The method used was the multinomial regression.

Although the data have many advantages and are the only Brazilian information about stepfamilies, it is important to mention that the data have several limitations, such as, i) no information about how long have the children be living with stepparents or single parents (when it is the case). This would be important information because education outcomes are a life history result, especially in this age range. Although, some authors (McLanahan and Sandefur, 1997), indicate that the duration of the disruption does not matter for adolescents’ outcomes; ii) there are no information about children not living with the parents, this is an important information for two main reasons: first, in order to know whether the parent has more children who s/he needs to support too, so the resources would be split among more children than the ones who s/he lives with. The opposite situation is also relevant, meaning whether the children may receive support
from a nonresident parent, and second, the information about nonresident children does not make possible to include children who may have already moved out of parents’ house iii) it is not possible to compare the children’s biological parents and the stepparents' characteristics, because there is no information for family members who live outside the household; e iv) no information about the reason of not living with the biological parent: divorce or death, or whether the children has never lived with one of the biological parents.

4. Results

4.1 Descriptive Analysis

The final sample has 1,352,683.00 children between 18 and 24 years old, who still live with their families. Among them 60% have concluded High School, almost 12% are enrolled and 28% have not concluded and are not enrolled in High School. In terms of family structure, 73.06% live with biological parents, 20.3% live only with their mother, 3.84% live with their mother and a stepdad, 2.8% live only with their fathers and 0.21% are living with their biological father and a stepmom (Graph 1).

The prevalent family structure is the intact family and the least prevalent is the one with a biological father and a stepmom, which may reflect the cultural preference of having children living with their mothers, so most of the cases of children living with a stepmom may be because the father has a much better situation (health or financial) than the mother, or that the mother has died.
GRAPH 1 – Family type distribution among children between 18 and 24 years old – Brazil, 2010

Graph 1 shows the distribution of children by family type. The highest proportion of children that have finished high school are among those living with both biological parents (20.10%), followed by children living only with their mothers (57.2%). The lowest proportion is among children living in blended families. Being enrolled in high school has a similar distribution among all family structures. Children who have not finished high school and are not enrolled in high school are more prevalent among young adults who live with their father and a stepmom (42.8%) and the ones living a stepdad and their mother (37.3%), followed by the ones who live with only their fathers (36.5%).

Data source: Brazilian Census Data 2010, extracted in IPUMS

GRAPH 2 presents the distribution of children by educational achievement and type of family. The highest proportion of children that have finished high school are among the ones who live with their biological parents, followed by children living only with their mothers (57.2%). The lowest proportion is among children living in blended families. Being enrolled in high school has a similar distribution among all family structures. Children who have not finished high school and are not enrolled in high school are more prevalent among young adults who live with their father and a stepmom (42.8%) and the ones living a stepdad and their mother (37.3%), followed by the ones who live with only their fathers (36.5%).
GRAPH 2 – Distribution of have concluded the High School or being enrolled or not being even enrolled in High School for Children between 18 and 24 years old – Brazil, 2010

Data source: Brazilian Census Data 2010, extracted in IPUMS

TAB. 1 presents the descriptive statistics of the sample; the characteristics that stand out are i) the distribution by urban and rural areas and ii) the differences in parental income and education. There is a concentration of nontraditional family structures in the urban areas and the family type with the highest income and higher representativeness among the higher levels of education is the family formed by the biological father and the stepmom with the father. The lower income families are the single mothers and the lower educational families are the single dads.
4.2 Regression Results

The results of the multinomial regression are presented in TAB. 2. We used the percentual increment for presenting the results, which is the exponential of the coefficient minus one multiplied by one hundred (Exp (β)-1*100). In the first model, we used only the type of family and, in second, we introduced different control variables. The results are quite similar to the descriptive analysis presented in the previous section, even when using control variables. The comparison group in the dependent variable is “have finished High School”. From Model 1 to Model 2 the coefficients change very little and the substantive results are the same, therefore, we will discuss only the second model.

Comparing children living with their fathers and a stepmom to children living with both parents, they have about 26% more chance of being enrolled than have already finished High School and 153.7% more chance of not being enrolled nor have finished High School. Young adults living with the mother and the stepdad have also a higher chance of being enrolled in High School (36.2%), as well as not being enrolled (93.7%) compared to have already finished High School. Living with single parents also has a negative influence in children’s educational outcomes. The
ones who live with single dads compared to children living with both biological parents have a higher chance of worse outcomes (13.54% for being enrolled and 39.8% for not being enrolled even without have finished). And, children living with single moms are the ones who are closer to the children living with both parents. Comparing them we found that first have about 4.55% more chance of being enrolled in High School and about 11.7% more chance of not being even enrolled than have already concluded High School.

In sum, the results show that young adults living with their biological parents are the ones with the highest probability of have finished or be enrolled in high school. Young adults living with stepmoms are less likely to be studying or have concluded High School. On the other hand, children who live with a single mother have smallest difference to family with biological parents. The possible explanations are that even controlling by income in some family situation, children start working earlier than others, the influence of parental expectation and investments, the mother’s absence and the direct effect of family disruption.

The most interesting conclusion that we can draw from the analysis is that school achievement does not only depends on family's economic resources and parental background, since even controlling by household income and parents education the group with the lowest probability of being enrolled or have finished high school is the one with the highest household income (blended families). In this sense, the argument that the influence of family structure is due to economic resources seems to not hold for the Brazilian context. So, parental style related to family structure may better explain these differences. Another possible explanation is that children's commitment to their parents’ views and expectations may be different by family structures. It is important to highlight that results of stepparents are different from biological parents. In relation to the discussion of two parents, even if a stepparent is better than a single one, it also seems that for Brazil single parenting, especially single moms, seems to be better than live in blended families. These results are quite similar to Anguiano(2004), Rumberger and Thomas (2010) and Case, Lin and McLanahan (2004).

The results are different from other studies, such as, MacLanahan and Sandefur (1997) who found that the main difference is between be in a two parent family compared to single families.
And from what Morais et al. (2010) found that there is no significance difference in children education achievements between children in single mother families compared to intact families. It is worth highlighting that the analyses are very different in terms of data, geographical area, children’s age, family structure considered, and children’s outcome. It is worth highlighting that among the five types of family structure the single mother is the second with the higher level of children’s enrollment or conclusion of High School.

All the other variables in the model are important to explain high school enrollment or completion. Male have a lower probability than women to be enrolled or have concluded high school and being in urban area and higher the income increases the chances of better educational outcomes.
## TABLE 2 - Multinomial Regression Results - Brazil, 2010

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Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Data source: Brazilian Census 2010, extracted by IPUMS.

Observations:

1) Regression reference category: Have finished high school.
5. Discussion and Conclusions

The paper focused on the relationship between family structure and children’s educational achievement. Children were defined by young people (18 to 24 years old) who still live with their parents. Five different family structure were considered: i) biological parents, ii) families with a stepmother and a biological father, iii) families with a stepdad and a biological mother, iv) single mother families and v) single father families. As educational achievement was considered i) have finished high school; ii) being enrolled in high school; and iii) neither of them. This study contributes to this discussion in the Brazilian context, given the fact that there is little work on that, especially due to the lack of data.

The variations among different family structures are statistically significative, meaning that family type matters on children's educational achievement. The results are quite interesting because it shows that educational outcomes are not a merely reflection of socioeconomic conditions nor cultural capital heritage, because the single mother condition is the one with the lower difference from the two biological parents family and it is the one with the lowest average income. On the other hand, the family with more economic resources – stepmom and biological father – is the one with the worst outcomes. Because the data are quite limited, it is hard to draw a conclusion about the reasons for that.

The possible explanations are: i) differences in parental investment and expectations, in other words, biological parents have higher expectations and also invest more in their children’s education than stepparents (Biblarz and Raftery, 1999); ii) parents in blended families may have other children outside home that they also support, so there is more dilution of resources and attention; iii) a direct effect, such as, the absence of the mothers and/or conflicts to adjust in a blended family. The fact that living with a stepmom seems to be worse than living with a stepdad may be explained by the fact that stepmoms have greater adjustment difficulties than stepfathers (Coleman et al, 2000; McBride; 2001); iv) in the case of children of single mothers do better than when living with single, the explanation may be that mother are more altruist than fathers or something related to parenting style.
Given the limitations of the data, it is worth saying that ideal data for this analysis would be the family structure history, since by age 18 the children may have experienced multiple changes in the family, especially for analyzing success in high school, which depends on a long trajectory so, the lower rates may reflect a previous difficulty to be approved in some lower levels. However, even if it is not sufficient for evaluating the high school context the results are still valid for exploring the family structure differences.

Finally, it is worth mentioning the importance of further research on this issue in order to clarify the mechanisms that family structure is related to children’s outcomes. Moreover, data collection in Brazil needs to be improved, so we will be able to reach clearer conclusions.

6. References


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