

Grandmothers as Childcare Providers in Brazil*

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Abstract

This paper examines grandmothers as childcare providers in Brazil. Over the past few decades in Brazil, the proportion of elderly in the population and the labor force participation of women have been increasing. These demographic and economic trends have occurred concurrently and thus provide an interesting context in which to study the use of grandmothers as childcare providers. Using the 1985 Pesquisa Nacional por Amostra de Domicílios, we identify the prevalence of grandmother childcare as well as the variables associated with the use of grandmother childcare. We find that slightly less than 10 percent of children are taken care of by their grandmothers. Grandmother's living arrangement is an important predictor of type of childcare used, but it is insignificant after other mother and child characteristics are accounted for. Younger children are more likely to be in grandmother childcare than other types of childcare, as are children from low-income families. Furthermore, younger mothers and mothers who work full-time are more likely to use grandmother care for their children. We also examine a subset of children who co-reside with their grandmothers to see if the characteristics of the grandmother affect the type of childcare used. We find that grandmothers with high levels of education are less likely to care for their grandchildren.

Introduction

Over the past few decades in Brazil, both the proportion of elderly in the population and the labor force participation of women have been increasing. These demographic and economic trends have occurred concurrently and thus provide an interesting context in which to study the use of grandmothers as childcare providers in Brazil. Grandmother childcare providers offer a number of advantages over other forms of childcare. In fact, research on childcare in other developing countries has found that grandmothers are the most preferred substitute for mother's care (Richter, 1997). Parents may prefer grandmothers because they believe they are more emotionally attached and committed to their children than other childcare providers, and therefore provide better care for them (Presser, 1989). Furthermore, grandmothers are often more convenient and inexpensive than other types of childcare.

Our research has three objectives. First, we identify the prevalence of grandmother childcare providers in Brazil. Second, we determine which children are most likely to be in grandmother childcare as opposed to other types of childcare. That is, we see if families who use grandmothers as childcare providers differ in any significant way from those families who employ other types of childcare. Finally, we analyze a subset of children who co-reside with their grandmothers, and examine whether the grandmother's characteristics are influential factors in the type of childcare used.

This paper begins with an overview of key economic and demographic trends in Brazil. Next, we develop a set of hypotheses and describe the data and variables used in our analysis. Following this, we present the empirical results and discuss our findings.

Based on these findings, we make policy recommendations concerning the future of childcare in Brazil.

Background

Over the past several decades, there has been a dramatic increase in women's labor force participation in Brazil. In 1950, the percentage of Brazilian women aged 10 or older who were economically active was 13; by 1980 this figure had doubled to over one-quarter (27 percent). Economic activity among women in urban areas was even higher, reaching 30 percent in 1985 (Connelly et al, 1996). The labor force participation of women with young children has also been increasing. In 1970, 11 percent of women with children less than 3 years old and 16 percent of women with children between the ages of 4 and 6 were working. By 1977, this had increased to 28 and 36 percent respectively (Perfil Estatístico de Crianças e Mães no Brasil, 1982). According to the PNAD-85, in urban areas, 42 percent of mothers with children 0-6 years old were economically active in 1985.

This substantial increase in women's employment rates has created an equally strong increase in the need for non-parental childcare. In metropolitan Brazil, a range of childcare options is available. For example, formal day care and preschool are run by a variety of private and public institutions. According to the 1985 PNAD, nearly one-third (31 percent) of children aged 0-6 in metropolitan Brazil who have working mothers primarily attend day care or preschool outside the home. As an alternative to formal day care, many families rely on relatives and other more informal methods to care for their children. Approximately two-thirds (69 percent) of children aged 0-6 in metropolitan

Brazil who have working mothers rely primarily on parents, other relatives, and nannies (PNAD-85).

Parents who use formal childcare must bear the full economic costs of such care, as there is no nationally subsidized childcare program in Brazil. Although the new Brazilian constitution of 1988 mandates that the federal government provide free day care and preschool to all 0-6 year-olds, this policy has not yet been operationalized (Connelly et al, 1996). Thus, the provision of free daycare and preschool for every 0-6 year old child is currently an idealized goal (Levison, 1989).

Both the needs of working mothers and weak government initiatives in the area of childcare may mean that grandmothers will be called upon more and more to care for preschoolers. This may be especially true when a family can not afford the price of formal childcare. Moreover, some affordable day-care centers and public pre-schools may not provide the desired level of quality of childcare.

Although the need for grandmother childcare may be on the rise, a number of factors are expected to affect the potential availability of grandmothers as childcare providers. On one hand, the availability of grandmother care may increase because life expectancy in Brazil has increased and, thus, elderly relatives may be more numerous. Life expectancy at birth has risen from 45.9 in the 1940s to 52.7 in the 1960s to 65.6 in 1990, with more gains achieved in the more recent period of 1960 and 1980 (IBGE 1996; Wood and Carvalho 1988). Furthermore, the kinship network in Brazil may facilitate grandmother childcare as an easily accessible source of childcare. In Brazil, as in most developing countries, children typically leave their parent's home when they get married. As children become older and better established, however, their aging parents are likely

to live with them or within close distance in order to receive or provide some sort of support¹. Children may be able to provide goods and services to their elderly parents, which is especially important for those who are in poor health and/or poor. Likewise, parents may be able to provide help with childcare or with other household services (Saad, 1994). In this way, extended living arrangements may be mutually beneficial.

On the other hand, there are processes that may be working to decrease the availability of grandmother care. For example, migration away from extended family members may decrease access to grandmothers (Connelly et al, 1996). If extended family members do not live within close proximity to each other, grandmother childcare may not be a viable option. High levels of urbanization in Brazil from the 1960s to the 1980s may have contributed to this trend. In 1940, nearly one-third (31.2 percent) of the population lived in urban areas (IBGE 1996). The proportion of urban population grew to 44.7 percent in 1960 to 67.6 percent in 1980 (IBGE 1996). Brazil is overwhelmingly urban as its urban population constituted nearly three-fourths of the total population (75.6 percent) in 1991. Furthermore, rising employment rates of older as well as younger women may mean that grandmothers and their daughters are increasingly likely to be employed at the same time (Presser, 1989). In 1985, one-fifth of Brazilian women over the age of 50 were currently employed, while in 1996, this figure increased to 27 percent (PNAD-85; Anuário Estatístico do Brasil 1996).

Hypotheses and Variable Descriptions

¹ According to Brazilian Demographic Census, more than half (51%) of individuals age 65 and

Our main dependent variable is the type of childcare used by families. We compare families who use three different types of childcare combinations: (1) those who use grandmothers as a primary method, (2) those who primarily use formal childcare and (3) those who primarily use a variety of other informal types of childcare^{2,3}. Our primary focus is on combinations 1 and 2, however we include 3 to show the comparison with choice of informal types of care.

We identify a number of independent variables that we think will influence the use of grandmothers as childcare providers, compared to other types of childcare. We separate the variables into two categories, those that affect the *supply* of grandmother childcare and those which affect the *demand* for grandmother childcare. We include grandmother's living arrangements, grandmother's age, and grandmother's education as our measures of the potential supply of grandmother childcare. We measure demand through the following variables: family income, number of hours mother is employed, mother's occupation, mother's education, mother's age, child's age, and total number of children in the household. In the following section, we explain how each variable is measured and the expected relationship of each to the use of grandmothers as childcare providers.

To begin, we hypothesize that the grandmother's living arrangement will affect the likelihood that she provides childcare for her grandchildren. Specifically, we hypothesize that if the parents and the grandmother live together, the grandmother will be

older in Brazil still lived with a child in 1980 (Saad, 1994).

² Although our data is taken from a survey that uses the term "grandparents", we assume that the grandmother, not the grandfather, is the grandparent who is taking care of the children. We believe this assumption is reasonable, because women, not men, are generally the ones who care for children.

more likely to provide childcare. Especially when they live in the family household, grandmothers are a reliable and low cost option of childcare (Presser, 1989). We include a dummy variable equal to 1 if the grandmother is living with the family, and equal to 0 if not.

Although we use the grandmother's living arrangement variable as a proxy to measure potential grandmother availability, it has two significant limitations. First, we do not have information on whether or not the grandmother is alive. Thus, some of the households do not even have the "potential" to have a grandmother living with them because the grandmother may not be alive. Second, although we would ideally like to measure "grandmother's geographic proximity", we are unable to and thus our "grandmother availability" variable is not completely accurate. The implications of these limitations will be discussed further in the discussion section of this paper.

In our analysis of grandmothers who live in the same household as their children and grandchildren, we include additional variables that are hypothesized to determine the grandmother's availability to provide childcare for her grandchildren: age (as a proxy for health) and education (as a proxy for work status) (Saad, 1994)⁴. In previous literature on the role of grandmothers and childcare, this has been termed the "grandmother hypothesis" (Hawkes et al.1998). We expect that older grandmothers have more health problems and thus are less likely to provide childcare. Also, we hypothesize that grandmothers who are educated are more likely to be working and thus are less likely to provide childcare for their grandchildren. We don't include a direct measure of the

³ The informal types of childcare include nannies and maids, other relatives, brothers/sisters, and others.

⁴ We only have these variables for grandmothers who live in the same household as their children.

grandmother's employment status because it is likely that it is endogenous with respect to type of childcare provision. That is, in addition to grandmother's employment status affecting the type of childcare used, the type of childcare used may affect whether or not a grandmother is working.

In addition to these supply variables, we hypothesize that a number of variables will affect the demand for different types of childcare. For example, we expect that income may affect the use of grandmothers as childcare providers. Specifically, we expect that children in high-income households are less likely to be cared for by a grandmother than children in low-income households. High-income families have both more alternatives to choose from and are better able to pay for formal types of childcare than low-income families. Furthermore, Richter (1997) found that, although grandmothers are often the preferred choice for non-parental child care provider, women with more income are sometimes dissatisfied with this option and prefer formal types of childcare. This is because conflicts over children's behavior and education are likely to occur when grandmothers take care of their grandchildren. We use a categorical measure of family income, which relates income to the minimum wage. We decide to use family income rather than mother's contribution to total family income, because this variable could only be constructed in married couple households.

Previous research has analyzed the role of mother's hours of employment in predicting childcare arrangements in both the U.S. (Hofferth et al, 1996; Presser 1986a, 1989, 1995; Leibowitz et al, 1988) and in Brazil (Connelly et al, 1997). In the United States, mothers who work full-time are less likely to use relative care and more likely to use formal childcare. In Brazil, however, preliminary results indicate that formal

childcare options are incompatible with women's full-time employment (Connelly et al, 1997). Mothers who work full-time are often unable to send their children to formal childcare centers because such centers are often unwilling to take children for more than four hours per day⁵. Thus, other more flexible options, such as grandmother childcare, may be more attractive to full-time working mothers. Consequently, we expect that full-time working mothers will be more likely to use childcare by grandmothers in Brazil. The number of hours a mother works is categorized as either part-time (less than 40 hours per week) or full-time (40 or more hours per week).

In addition to the mother's hours of employment, we also expect that the flexibility of mother's employment will be an important predictor of childcare arrangements. We measure flexibility of employment by examining types of occupational positions recorded in the PNAD-85 including self-employed, employers, employees, and workers without payment^{6,7}. We hypothesize that self-employed mothers will be more likely to use grandmothers as childcare providers because their work schedules are more flexible (Connelly 1992), and thus they need childcare which is more flexible (i.e. grandmothers). Because those who are self-employed and work without

⁵ In fact, in our sample, of those who use formal childcare, the overwhelming majority (74 percent) uses it for 4 or less per day. Only a small percentage (11 percent) uses formal childcare for 8 hours or more per day.

⁶ The self-employed have their own businesses and work by themselves without employees. According to Cacciamali (1989), the self-employed usually work in small family businesses, have no fixed remuneration, and have control of the whole production process. In addition, the number of hours worked is higher for the self-employed than for workers in other occupational positions (Galeazzi 1994). Self-employment is a type of informal occupational position considered as an alternative to unemployment, in the context of development in Brazil (Galeazzi 1994). Self-employed jobs are usually considered low prestige jobs such as *camelôs* (workers who sell objects in the streets), and *sacoleiras* (women who sell clothes and accessories at the clients' homes).

⁷ The definition of "workers without payment" in the PNAD-85 is someone who helped a household member for at least one hour per week in agricultural, fishing, or hunting.

payment have more flexible jobs, and because other occupational positions have an equal level of job flexibility, we categorize working mothers as either self-employed or working without payment =1 or others = 0.

It is also expected that mother's education plays a considerable role as a predictor in the use of either grandmothers or other types of child care arrangements⁸. Mother's education is found to be related to the use of childcare in most research, regardless of the country examined (Leibowitz et al, 1988; Blau and Robins, 1991; Connelly et al, 1996). With additional education, parents may be able to make better age-appropriate decisions for their children. We expect this to result in more formal types of childcare, particularly as the child grows older. The education of mothers is treated as continuous variable, with the number of years of school completed ranging from 0 to 11 and 12 or more⁹.

In addition, we hypothesize that mother's age is an important predictor of type of childcare usage. Younger mothers generally receive more help in childcare from their parents than older mothers, because older mothers are more likely to have a structured job and family (Presser, 1989). Thus, as mother's age increases, we expect that the likelihood that children will be cared for by a grandmother as opposed to other more formal types of care will decrease. Mother's age is treated as a continuous variable.

Previous research has shown that the age of the child determines the appropriateness of a child care arrangement. Parents with younger children prefer home-

⁸ The high inequality of the Brazilian education system has been found to play a major role in all social and economic issues in Brazil (Lam and Duryea, 1996).

⁹ The education system in Brazil is organized as follows: the *primeiro grau* (primary education) is completed in eight years while the *segundo grau* (secondary education) takes three more years to finish. University level courses usually take four to five more years to complete and graduate courses take from two (Master's degree) to six years (Ph.D. degree) to be completed.

based childcare, while parents of older children prefer center-based care (Leibowitz et al, 1988). Thus, we expect young children to be more likely to have a grandmother as child care provider than older children that are able to go to pre-school or day-care. Child's age is treated as a continuous variable.

Finally, the total number of children 0-6 years of age in the household is hypothesized to be an important predictor of childcare arrangements. Connelly and colleagues (1996) suggested that it does influence the type of care used and found that this variable was positively related to the use of non-parental childcare. Total number of children in the household was treated as continuous in this study.

An important limitation in our set of predictors is that we don't include marital status of the mother as an independent variable. We exclude this variable because we are unable to determine it for mothers who are children of the head of the household. If we were to impute a missing value on this variable for these mothers, the variable would be too highly correlated with grandmother's living arrangement, because the majority of these women are living with a grandmother.

Data and Methods

This study uses data from the Pesquisa Nacional por Amostra de Domicílio/PNAD-85 (National Research of Household Sample 1985), an annual household survey conducted by the *Instituto Brasileiro de Geografia e Estatística* (IBGE). The PNAD-85 contains information on 53,237 metropolitan households, comprised of 221,037 individuals. This database constitutes the only Brazilian data that have detailed information on childcare arrangements.

The PNAD-85 living arrangement structure is based on the relationship of family members to the household head. As a result, it is necessary to create sub-files in order to determine the relationship of each member of the household. We are then able to link them according to the household identification. After transforming the PNAD-85 into a rectangular file, four sub-files are constructed: children, mothers, potential grandmothers, and heads.

Children's information is sub-divided according to their relationship to the head of the household, either children or other relative of the head. In order to be more precise in the selection of mothers, we restrict the file to women who gave birth to their last child between 1979 and 1985. Selected mothers are divided into three groups: heads, spouses of the head, and children of the head¹⁰. In the cases when the grandmother is neither the head nor the spouse of the head, the grandmother selection is done according to whether a woman has a child alive, is older than 50, and is a head, spouse of the head, or an "other relative" of the head. In the "other relative" cases, it is not possible to assure that the relative selected is the grandmother. However, Saad (1994) found that the majority of the elderly who are not heads of the household, live in their own child's household, and not in other's household. Thus, it is reasonable to believe that the selected females 50 years of age and older, who are relatives of the head, are in fact grandmothers. By separating the relationships that children and mothers have with the heads, we are able to build a structure that allows us to reasonably determine each household member's

¹⁰ According to the PNAD definition, if the husband or male partner is present in the household he is the head. If not, the woman is the head. This definition prevents the possible classification of a household with two unmarried adults from being classified as a single-parent household.

relationship, and therefore link their information. In addition, we attach information on whether or not a grandmother(s) is living in the household to each case¹¹.

This study's unit of analysis is the child. In models that estimate childcare arrangements, the child is the most frequently used unit of analysis (Hofferth and Chaplin 1994; Hofferth et al., 1996; Connelly, et al 1996, 1997; Richter 1996). The selected children are 0-6 years of age, who are children or other relatives of the household head and whose mothers were employed at the time of the interview¹². Also, we include only those children who are primarily cared for by non-parents because we define childcare as non-parental care. As a result of our sample selection criteria, in each model some mothers and grandmothers contribute to the sample more than once¹³. Because the unmeasured determinants of childcare are likely correlated within families, our standard errors will be biased downwards.

The main sample contains 9,146 children (Sample A). Our second sample, consisting of 1,611 children, includes only those children who have a grandmother living in the same household (Sample B)^{14,15}. We analyze both samples using a multinomial logit model in which the dependent variable is the type of childcare used (0 = grandmother care, 1= formal childcare, 2=other informal childcare).

¹¹ Less than 1 percent of our sample had two potential grandmothers in the home.

¹² Individuals were considered to be employed if in the survey's reference week they were working, or had a job but were not at work due to a vacation or other type of leave.

¹³ In our first analysis (n=9146), 45% of the children have no siblings, 38% have 1 sibling, 11% have 2 siblings, and 6% have 3 or more siblings. In our second analysis, 38% have no siblings, 34% have 1 sibling, 10% sibling, 7% have 3 or more siblings.

¹⁴ The few cases in which there were missing values for the predictor variables were excluded from the analysis.

¹⁵ We only have information on grandmothers who live in the same household as their children and thus our additional analysis of grandmothers is restricted to this group.

Results

Sample A - All Children

Table 1 shows the distribution of types of childcare used in Sample A. A non-trivial percentage of our sample relies on grandmother care (8 percent). The remaining sample primarily uses formal childcare (45 percent) and other informal types of childcare (47 percent). Table 2 shows the descriptive statistics for Sample A. Almost one-fifth of our sample (18 percent) has a grandmother living in the home. The average child is slightly over 3 years old and, on average, there are 2 children in each household. The typical mother is 30 years old with 7 years of education. In addition, a majority of the children (69 percent) have mothers who work full-time, while a minority (17 percent) of the children have mothers who are self-employed.

The results of our multinomial regression are shown in Table 3. Model 1 shows the results of type of childcare regressed on the availability variable. Those who have a grandmother living in the household are more likely to use grandmother care compared to other types of care. This result supports our hypothesis that when a grandmother is living with her family, the family will be more likely to rely on the grandmother to take care of the children. On the other hand, we find that those who have a grandmother living in the home are more likely to use other informal care compared with grandmother care. One explanation for this may be that families with a co-residing grandmother are more likely to have an extended-kin network and thus they may rely on some of these “other” kin to provide childcare.

Model 2 shows the results of type of childcare regressed on the need variables. We see that as child’s age increases, the child is significantly less likely to be in

grandmother care compared to other types of formal childcare. This result supports our hypothesis that the younger the child, the more likely the family is to use grandmother childcare arrangements. Furthermore, we find that as the number of children in a family increases, the more likely the child will be in a formal childcare.

With respect to the mother's characteristics, we find that as mother's age increases, it is less likely that the child will be placed in grandmother care compared to formal care. Again, these findings support our hypothesis that mother's age and use of grandmother care are inversely related. This may be due to the fact that younger mothers generally have closer family ties because they have lived separately from parents for a shorter period of time. Also, older mothers may have more permanent or structured employment. In addition, children whose mothers are working full-time are significantly less likely to be in formal childcare, compared to grandmother childcare. Again, this supports our hypothesis that full-time working mothers must rely on grandmothers more heavily as formal childcare centers often will not take children for the whole day. The results also show that children of self-employed mothers are more likely to use formal childcare. This contradicts our "flexibility" hypothesis, which argued that because self-employed women tend to have more flexible work schedules, they would rely more heavily on flexible childcare arrangements (i.e. grandmothers).

Finally, compared to low-income families, those families in the highest income brackets are much more likely to use formal childcare as opposed to grandmother care. This result supports our hypothesis that an inverse relationship exists between income and use of grandmothers as childcare providers. Thus, if we assume that grandmother

childcare providers are unpaid, it is clear that grandmothers are providing needed economic assistance in the form of free childcare to low and middle-income families.

Model 3 combines both our availability and need variables. The relationship between the need variables and type of childcare remains essentially the same. However, when comparing formal childcare with grandmother childcare, the grandmother availability variable is no longer statistically significant. Once we control for the need variables, the fact that the grandmother lives in the home is no longer of importance in the type of childcare used. In additional analyses not shown, we determine that mother's age appears to be the variable which "washes out" the effect of grandmother availability.

Sample B - Children in Grandmother-present Households

Our second analysis focuses only on those children who have a grandmother living in the same household. In these models, we examine additional variables, which may affect grandmother's availability. Table 1 shows the distribution of types of childcare used in Sample B. A significant percentage of the sample relies on grandmother care (9 percent). About one-third (31 percent) use formal childcare and the majority (60 percent) use other informal types of childcare. Nevertheless, it is surprising that the percentage that use grandmother childcare is not drastically higher in Sample B compared to Sample A. A potential explanation for this is that a household with a co-residing grandmother is also likely to have other co-residing kin who may provide childcare (other informal).

Table 2 displays the descriptive statistics for those in Sample B. Of those grandmothers who live in the same household as their grandchildren, the average

grandmother is 56 years old and her average education is three and a half years. The mothers in this sample are slightly younger compared to the main sample (27 vs. 30 years old) and they are somewhat more likely to be working full-time (79 percent vs. 69 percent).

Table 4 shows the results of our regression models. Model 1 includes only our availability variables. The results show that children with older grandmothers are more likely to be in formal childcare as opposed to grandmother care. This finding provides support for our hypothesis that older grandmothers are less likely to be in good health and thus less likely to be able to provide childcare. Furthermore, children with more educated grandmothers are significantly more likely to be in formal childcare than grandmother childcare. Again, this result supports our expectation that more educated grandmothers would be less available to provide childcare because they are more likely to be working. Model 2 shows the results of type of childcare regressed on the need variables. Here, we find results similar to our first analysis. As child's age and number of children in the family increases, the child is more likely to be in formal childcare as opposed to grandmother care. Also, as mother's age and education increases, the child is more likely to be in formal childcare as opposed to grandmother care. Finally, children of mother's who are self-employed and who come from high-income families are more likely to be in formal childcare as opposed to grandmother care. Model 3 shows that when we include both the availability and need variables, most variables remain significant. Of particular interest is the fact that grandmother's education remains significant. Thus, even after controlling for income, mother and child characteristics, educated grandmothers are less likely to care for their grandchildren.

Conclusion and Discussion

In this paper, we identify the prevalence of grandmother childcare providers in Brazil, as well as the types of families that are the most likely to use grandmother childcare. All in all, we find that a substantial percentage of children are taken care of by their grandmothers. Younger children are more likely to be in grandmother childcare than other types of childcare, as are children from low-income families. Furthermore, younger mothers and mothers who work full-time are more likely to use grandmother care for their children. Additionally, we analyze a subset of children who live in the same household as the grandmother, in order to identify whether the grandmother's characteristics are influential in the type of childcare used. We find that as a child's grandmother's education increases the child is less likely to be cared for by the grandmother.

The tendency toward living with extended kin in Brazil, coupled with the lack of effective and attractive childcare policies, makes grandmothers an attractive child care alternative. However, the increasing tendency for grandmothers to be in the labor market at higher rates may mean that grandmothers will be less available in the future for providing childcare for their grandchildren. On the other hand, the need for grandmother childcare may prevent grandmothers from working outside the home. The grandmother's decision between working and providing childcare may not be an easy one to make as the income of all household members is often needed especially in poorer families. Thus, the necessity of grandmother care as well as her potential income may generate conflicting interests and dilemmas with respect to her time allocation.

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