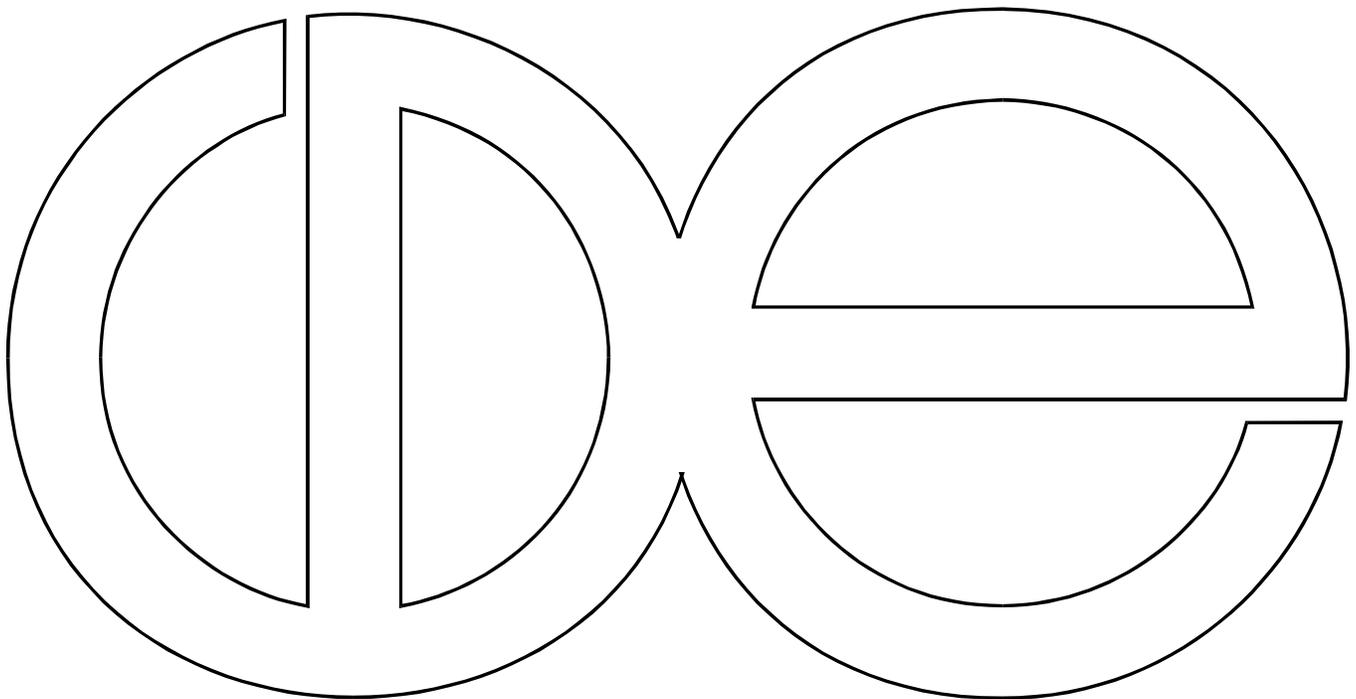# Center for Demography and Ecology

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Race and Independent Living
Among Elderly Brazilians Since 1980

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This paper examines independent living among elderly Brazilians 65+ of different racial groups since 1980. Consistent with current theoretical notions about the living arrangements of elderly people, there was an overall increase in independent living among them. However, the increase mainly reflects change among White Brazilians who constitute a little over half the population whereas there was little change among Browns or Blacks. While a common explanation is that racial disparities in Brazil reflect <u>structural</u> factors, we found that controlling for urban/rural residence, region, education and income failed to explain away many differences. Could a force such as discrimination help explain differences? Further study needs to include information about non-coresident kin as well as household members.

Introduction

This paper examines independent living among elderly Brazilians 65+ of different racial groups since 1980. As might be expected, there was overall a significant increase in independent living among elderly Brazilians. In 1980, perhaps 26 percent of elderly Brazilians lived either alone or only with a spouse, gradually increasing to 34 percent in 2001 (Table 1). This change is consistent with theoretic ideas about family modernization, that independent living among elderly people will increase over time as the conjugal bond strengthens at the expense of the intergenerational bond (e.g. Cowgill, 1986; Goode, 1963; see also De Vos and Palloni, n.d.). However, the overall increase mainly reflects change among White Brazilians who constitute a little over half the population. Black and Brown elderly people experienced little overall change. Among White elderly people, an estimated 28 percent lived either alone or as a couple in 1980 compared with 38 percent in 2001. But among Black elders perhaps 29 percent lived independently in both 2001 and 1980, and among Browns the difference appears to be less than 4 percentage points (24% in 1980 and 27% in 2001). Our question is: Can these differences be explained away by structural factors or might they reflect something else as well?

We focus on racial differences in independent living among elders in Brazil because, while different from the U.S., racial differences there are still a major source of social inequality. Brazilians often hold the idea that Brazil is a "racial democracy," but it has already been 50 years since UNESCO-sponsored studies marshaled evidence that race there matters (e.g. Bastide and van den Berghe, 1957; Fernandes, 1979; Maio, 2001). Recent public opinion data suggest that many Brazilians do, in fact, acknowledge the existence of racial discrimination (Bailey, 2002). Still, a major problem has been in the quantitative documentation of differences that cannot be explained away by other socioeconomic factors such as illiteracy, urban/rural residence, income or region (Skidmore, 1992). This study is designed to do that for a family-related topic using the type of statistical analysis that can address Skidmore's concern. After providing a little background into the family, racial differences, and independent living among elderly people in Brazil, we present our study. The paper ends by speculating that, although the present study could provide national estimates, time trends and reason to aver that racial differences probably cannot be explained by structural factors alone, continued research on the subject is both warranted and very much needed (see also Burgard, 2002).

Race in Brazil

Brazilian society is stratified by race, with Whites on top, Browns (*Pardos*) in the middle, and Blacks (*Pretos)* on the bottom in a country of 170 million people in 2000. While this is a simplification of a complex, fluid situation because of a need to categorize people in censuses and surveys, identifying color is socially important. Race or color is difficult to determine definitely in Brazil because it is assessed through looks rather than ancestry, there is a whole host of colors between white and black, most censuses and surveys rely on a person's own definition of his/her race (Telles and Lim, 1998), and what a person identifies at one time or in one place may be different from what is reported at another time or in another place (Schwartzman, 1999; Telles, 2002).[1] It may in fact be more acceptable now to report oneself as of a mixed color than in the past (see Carvalho et al., forthcoming; Wood and Carvalho, 1994).[2] What is known is that about 3.6 million African slaves were brought to Brazil (Oliveira, 1996; 9 times as many as in the more populous U.S.) and a common mixing of Black and White blood resulted in a large Brown or mixed population. According to estimates, the Brown population constituted 41 percent of Brazil's total population by the end of the 19th century. Although that proportion declined in the early part of the 20th century (1940) because of massive immigration from Europe, by 1990 it had become about 40 percent again (Table 2).[3] True "Blacks" on the other hand, now constitute a relatively minor proportion of the overall population, although in some regions such as the Northeast or Southeast the Black population is still substantial.

Slavery was legally abolished in Brazil in 1888 and there has been no sizable immigration of Blacks to the country since then, but Brazilian Blacks and Browns (non-Whites) are still very disadvantaged compared with Whites. Illiteracy among those older than 15 was 20 percent for non-Whites but only 8 percent among Whites in 1998. On average, non-Whites have 2 fewer years of education than Whites. In 1999 non-Whites constituted 54 percent of the total population, but 64 percent of the poor and 69 percent of the indigent populations (Henriques, 2001). Non-Whites have higher rates of unemployment, are more likely to have jobs in the informal sector, and have lower wages than Whites even after controlling for education and occupation (Barros et al., 1999; Henriques, 2000; see also Henriques, 2001). Poverty in Brazil is especially over-represented among nonWhite children although most relevant for us here is the fact that nonWhite elders 60+ are over 2 times more likely to be poor and over 3 times more likely to be indigent than White elders (Henriques, 2001).

Theoretical Ideas About the Family Position of Elderly People and Modernization

For a cogent theory of family change during modernization, we need to go back decades to the work of William Goode (1963). Although living arrangements were not addressed explicitly in Goode's study, the implicit assumption was that all the members of a traditional extended family shared the same

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[1] It can be speculated that *Pardos* actually constitute a larger proportion of the population than is officially reported as many of those self-reported as 'White' or 'Black' are not truly White or Black. For instance, their analysis of 1950 through 1980 census data led Wood and Carvalho (1994) to speculate that individuals tended to move to a lighter racial category as they experienced social mobility. In another study, about 10% of those reporting 'White' in a closed-ended question did not have the same answer in the open-ended question (in the survey "Pesquisa Mensal de Emprego" conducted in July 1998). Among Blacks the discrepancy was even bigger since about a quarter who answered Black initially reported a race other than Black or Negro on subsequent questioning (Schwartzman, 1999).

[2] Recently, Carvalho et al. (forthcoming) found that growth in the number of Browns was larger than would be expected based only on their natural growth.

[3] During the end of the 19th century and the beginning of the 20th century the predominant idea was that it was desirable to 'Whiten' the Brazilian population. The immigration of Europeans was encouraged, partially sponsored by the Brazilian government, with the expectation that European immigrants would marry non-Whites, thus 'improving the Brazilian race' (Degler, 1986; Telles, 1992; Penha-Lopes, 1996).

household. According to Goode, family nuclearization and conjugal equalitarianism were universal processes of family modernization that affected the nature of the intergenerational bond everywhere. The bond, reinforced by reciprocal assistance between generations, weakened as the traditional family lost functions to other institutions such as schools, police, courts, banks, pension programs, and hospitals (see e.g. Bell and Vogel, 1960; Burgess and Locke, 1945) and as the extended family became more separated through geographic and social mobility. The natural emotional bonds between spouses and their dependent children could thereby gain in salience. Donald Cowgill basically elaborated Goode's functional ideas, focusing explicitly on older people and basing his perspective on research in Asia (e.g. 1974, 1986).

Consider for instance the economic position of older people. In the traditional family model, the multigenerational family constitutes one functioning economic unit containing both old and young. Tasks may be allotted according to physical well-being and elderly people may pull weeds instead of plow fields, but they still perform some type of work if they are able. It is they who own title to the farm, and it is they who will bequeath the farm upon death. With urbanization and industrialization however, tasks such as pulling weeds lose value and the ability of older people to perform valued but limited activities may become blocked, especially if labor is removed from the household to a setting such as a factory. Furthermore, farming may no longer be the main or preferred economic activity, and the bequest of a farm may lose its appeal to younger people. Rather, young people may have valuable new skills that elders do not have. Thus with modernization the economic role of elderly people may become of limited value to an extended family, fostering demands for some kind of non-family pension system which in turn may loosen intergenerational economic ties among family members even further.

Or consider the family's traditional socialization function. Whereas traditionally, children may have played, learned and helped under the watchful eye of an elderly relative, modern schools, early education, and apprentice programs may become preferred to a more haphazard type of socialization. Indeed, elders may not know or be able to transmit the skills expected of younger people in a modern environment.

For some time there were two ideal typical models of the family, one being the traditional coresidential extended family and the other being a modern "isolated" nuclear family (e.g. Parsons and Bales, 1955). Such extremes were not particularly helpful for trying to understand the place of elderly people in a modernizing family, and theoretical formulations of a "modified extended family" were developed to fill the gap (e.g. Litwak, 1965). This ideal family type had a mixture of extended family ties even as individual nuclear units could be separated geographically. For instance, there still could be an exchange of childcare, money, and in-kind assistance even though kin did not share the same living quarters. It is not clear however, whether this modification is a lasting family type or whether it is only a transitory form (see Crimmins and Ingegneri, 1990).

In general, we still do not have a very good idea about the independent living of elders, either living alone or living as a married couple only, especially in developing countries. Although Cowgill used some of Goode's functional ideas, he expressed interest in trying to develop ideas more consistent with a "world systems" perspective but never did (1986). There has been a clear trend toward independent living among elderly people in countries with good pensions and/or those that are becoming affluent; the conventional wisdom is that elderly people prefer and will live alone when their economic resources and health permit (see Agree, 1993; Palloni, 2001; McGarry and Schoeni, 2000). Regarding Brazil, Sawyer writes (1998: 122): *As people live longer, the number of siblings and children drops, and population mobility increases. Consequently, older people are less likely to have children or other relatives living nearby who are willing and able to care for them.* Such observations would seem to suggest increased independent living simply as a result of kin availability, yet he also writes that *pensions were still far from being sufficient to care for the needs of most elderly persons* (Sawyer, 1998: 122), implying that independent living was seldom feasible for elderly people. We know even less about the health status or medical care of elderly Brazilians. The problem has been that most of our statistical data on the topic have come from the same relatively affluent countries from which the theoretical ideas come. The

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situation in other countries, including Brazil, is just not well understood, especially since elderly people, whether 60+ or 65+, have constituted such a small part of their populations (see Kinsella, 1990; Kinsella and Velkoff, 2001), and since public monies for pensions compete with many other, potentially more important, causes.[4]

Race and the Brazilian Family

Information on the family in Brazil is far from definitive. We can read for example that *Most Brazilians are genuinely fond of children,... are attached to their parents, and they cultivate a wide circle of aunts, uncles, and cousins. In the past, relationships with godchildren, godparents, and ritual co-parents extended these networks, but they are losing their importance in modern urban society* (Sawyer, 1998: 132). But no distinction is made between the family structure of different sub-groups within the population.

We learn that traditionally, the Brazilian family was supposedly based on the extended, patriarchal, Catholic family of the Portuguese and that *casa grandes* (plantation mansions) were often lived in by an older couple, their married sons and grandchildren (see de Azevedo, 1965; also L. Smith, 1972:459-483). We read that marriage was endogamous; divorce was non-existent; and males were often active extra-maritally. And finally, we read that there were many more White men than White women, but that instead of scarcity making the status of White women higher, scarcity led to many White men to having relations with less-advantaged nonWhite women, resulting in low status for all women, including upper-class women. Unfortunately, such description of a "Brazilian family" would seem mainly limited to upper-class Whites in the (legitimated) older families as opposed to more recent immigrants from Europe, lower-class Whites or non-Whites of any class.

Whites who came to Brazil during its major immigration period at the end of the 19th and beginning of the 20th centuries brought with them a different kind of family that was not particularly suited to overseeing a large plantation. Numbering perhaps four million people, immigrants from such European countries as Italy and Germany were often small family farmers who settled in Brazil's southern region, in a country whose total population in 1900 may have been around 17 million. We do not hear much of them and they are statistically difficult to delineate except by examining regional patterns (since they predominate in the South).

As for Blacks, it would appear that the nature of the family during slavery depended both on the size of the landholding on which they worked, and on the nature of the individual Master. Unfortunately however, there is no study of the Black family in Brazil similar to the study of the Black family in what was then British Guiana by Raymond Smith (1956). Since it could be much easier for a slave owner to sell or trade an individual person rather than a whole family unit, marriage was often discouraged while the children of slaves became the property of Masters (see Durham, 1982; Samara, 1988; Slenes, 1984). On large plantations, it was much easier for slaves to form families that stayed intact but on small holdings especially, forming stable families was difficult or impossible. Male commitment to children was thus neither encouraged nor enforced (especially if the father did not want to be known). According to an article that is already over six decades old, the free Black family *tends to assume the character of a natural organization* (Frazier, 1942) in which common-law relationships rather than formal marriage prevails. That article concludes that *Whatever has been preserved of African culture in the Candomblé has become a part of the folklore of the people and, so far as family relationships are concerned, there are no rigid, consistent patterns of behavior that can be traced to African culture.* The position of an older person in such a 'family' is unclear.

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[4] In Brazil an estimated 3.0 percent of the population was 65+ in 1950, compared with 5.1 percent in 2000 and a projected 17.9 percent in 2050 (U.N., 2002: 152).

A more recent discussion of the Brazilian family that considered racial differences and legal changes in the nature of marriage and the family describes the early post-War concept of the family as assuming *1) family is synonymous with legal marriage, 2) marriage lasts until a spouse dies; 3) the husband is the breadwinner and the sole earner; 4) the wife is a full-time home-maker and her work has no economic value; 5) the husband is the legal head of the family* (Goldani, 1990: 525). Subsequently however, the Divorce Law of 1977 altered the character of marriage (including legalizing divorce) and the 1988 Brazilian Constitution considered *The family ... a 'stable union' between a man and woman [and/or] either one of the parents and their children. ... there derives the equal status of children with important implications for kinship criteria commonly used to define the family group, birthright and inheritance* (Goldani, 1990: 525).

Also, the 1988 Constitution made pension coverage more universal, including people who had not contributed into the system because they lived in rural areas and/or had not participated in the formal economy (there have been major changes since then too but they cannot be covered here). Coverage has been a big issue throughout Latin America because the <u>informal economy</u> can be as big or bigger than the <u>formal economy</u> (Bertranou and Rofman, 2002). And although the benefit for many in rural areas especially is meager indeed (at about one minimum wage) it is still much more than many would have otherwise. Bonturi (2002: 8) estimates that in the rural Northeast, rural pensions *represent on average 71% of recipients' household income*. He observes that *The extension of coverage has been one of the main factors behind the sharp jump in the number of pensioners ...* (2002: 8). With our data, we estimate that in 1980, 54 percent of elderly unmarried men had less than one minimum wage worth of income but by 1995 this had declined to less than 6 percent. We estimate that among unmarried elderly women, over 71 percent had less than one minimum wage worth of income in 1980 but that this was less than 9 percent in 1995.

As demographers, it is natural for us to consider demographic family-related factors that may occur to young people but have ramifications for their situation many years later when they are old and in need of care from what are by then adult children or, if (still) married, from a spouse. First, let us consider marriage. Black women have the fewest choices in the marriage market, remain single more often, and marry later than lighter women (Berquó, 1987; see also L. Smith, 1972). Less is known about men, but it also appears that they may marry later too as Blacks are likely to marry with someone of the same color (Berquó, 1987). When we estimated the marital status of the elderly population in 1980 and 1995 (with data described further on) we found that elderly Black women were more likely to be single and less likely to be married (formally or consensually) than either White or Brown women. Elderly Black men were also less likely to be married than either White or Brown men. The difference between White and Brown elderly males or elderly females was much less but still in the direction of Browns having lower marriage proportions and higher proportions single (Table 3).

What about fertility, child health and/or infant mortality? According to a study based on 1980 census data (Bercovich, 1988), White women married with White men had the lowest fertility rates, followed by Black women married with Black men, while Brown women married with Brown men had the highest fertility rates. But this does not necessarily mean that older White women have fewer living children. Blacks have higher infant mortality than Browns who in turn have much higher infant mortality than Whites (Garcia, 1994; see also Wood and Lovell, 1992). Non-Whites are also more likely to suffer stunting (Burgard, 2002). In 1983 infant mortality was estimated to be 69 per thousand among Blacks, 67 per thousand among Browns, and 40 per thousand among Whites. In the Northeast region it may have been 111, 98, and 70. While again the fertility information we had was limited to women, and although women aged 65 and older had children before the time of the aforementioned findings, we estimate that in 1995 17 percent of White women 65+ had no living children, compared with 21 percent for Black women 65+ and 15 percent for *Pardas 65+* (comparable 1980 figures were 19, 27 and 21).

Unfortunately, such demographic studies of racial differences cannot address directly the situation of people who were already aged 65 and over by 1980 since they concern younger people, but there is

reason for us to suspect that the aforementioned racial differences have existed for a long time and that there are well-embedded racial differences in people's view of marriage and family ties. For instance, one could speculate that expected reliance on children would be less among Blacks, especially Black men, because many would be without children in old age and their tie with children was never encouraged anyway. Browns on the other hand have had *more* children than Whites and the tie between Brown men and their children has been left more intact. More importantly however, there is reason to expect a 'minority status' mentality regarding the family among non-Whites (see Markides et al., 1990). Non-White elderly family members have learned how to live in a potentially hostile outside world, and they can transmit coping skills and emotional support to their children. There could be more expected coresidence as a result. In contrast, the change in elderly people's living arrangements described in the standard theories of "family modernization" could be the expected experience of Whites who as a group experience many of the same social forces as those in Western modernizing societies without also having to cope with discrimination.

The Study

Data

Study data span the period from 1980 to 1995, capturing nicely effects of 1988 Constitution changes, while using nationally-representative micro data from the 1980 census and the 1995 national household survey (PNAD).[5] The 1995 PNAD has information on marital status and enough on ''relation to head' to permit us to examine <u>independent</u> living among elderly people–living alone if unmarried or living only with a spouse if married.[6] As can be seen from the figures in Table 4, elderly Brazilians in 1995 tended to be a little older, better educated, and more urban than in 1980 but their racial composition tended to be about the same. (More on the sample later.)

The 1980 census microsample comes from a cleaned, standardized, data set archived at the University of Wisconsin's *Center for Demography and Ecology*. In 1980, there were 890,863 people of all ages and 36,463 people age 65+. Part of the standardization process involved selecting only the population living in private households (excluding the institutional population such as hospital inmates who by definition could not live independently) and rejecting the 1.5 percent of remaining cases that were assigned to households with one or more of six unrealistic or impossible characteristics.[7] The *de jure* sample must be weighted to be nationally representative (contact the first author for additional information). The 1995

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[5]The 1970 census did not have data on race, and neither the 1998 nor the 2001 national household surveys (PNADs) had information on marital status.

PNAD is a large national survey of households administered yearly by the Brazilian Census Bureau (Instituto Brasileiro de Geografia e Estatística or IBGE [http://www.ibge.org/]). It is the same as the U.S.'s CPS (Current Population Survey) in many ways. Each PNAD collects information from over 100,000 households and 300,000 individuals, and includes a permanent set of socioeconomic questions on such topics as age, sex, education, work status, earnings, fertility, household quality and household composition, and periodically contains extra questions on such topics as nuptiality, health, migration, nutrition, and social mobility.

[6] Unfortunately, living with children, a datum of common interest, could not be ascertained in 1995 (unless the elder was the head of the household). In the 1995 and other PNAD surveys 'relation to head' was coded as head, spouse of head, child of head, other relative of head, boarder, pensioner, domestic, or relative of a domestic.

[7] The following criteria were used to reject cases from the ultimate 1980 Brazilian census file:
1. Households had to have one and only one head; all cases that fell outside this criterion (and others that were also deselected) were duly flagged;
2. Households were rejected if the head was not in a union yet there was a spouse;
3. Households were rejected if there was a spouse but the spouse was not in a union nor had an unknown marital status;
4. Households were rejected if the "head" was less than 15 years old;
5. Households were rejected if the head and the spouse had the same sex;
6. Households were rejected if there was more than one spouse.

PNAD national household survey micro-data was obtained from the University of Wisconsin-Madison's *Data and Program Library Service* and is presumably a straight copy of the data set released by Brazil's census bureau *Instituto Brasileiro de Geografia e Estatística*(IBGE). In 1995, there were 334,263 people of all ages and 17,782 people 65+. It too uses weights to be nationally representative of Brazil's *private* household population.

Comparability is always an issue when using more than one data set. Items such as age and sex might seem straightforward, but even race, marital status, urban/rural residence and education are not, while region and the monetary unit changed blatantly between 1980 and 1995. We have already discussed some of the issues surrounding reliance on a self-rated 'color' or racial categorization. In addition, there was no separate racial category for indigenous people in 1980, they being included in the Brown (*Pardo*) group. To make matters comparable, we also included them (20 cases) in the Brown group in 1995 (of people 65+). Nothing could be done about the fact that people might identify their own race differently at the two times (see previous discussion) although we should emphasize that most of the individuals do remain in their social groups at different times.

In 1980, marital status was assessed with two questions and in 1995 with four questions, because there are customary, religious and civil marriages in Brazil as well as formal and informal separation. And divorce, which only became legal in 1977, was more common in 1995 than in 1980. Answers were reduced into one variable and the coresidence of a spouse or companion was checked (in a question in 1995; see also De Vos, 1999). Our standardized variable had four categories: 1) married (whether informally, civilly and/or religiously), 2) separated or divorced, 3) widowed, or 4) single. Our urban/rural residence variable is also a nice reduction into comparative format of what was coded originally in four (1980) or eight (1995) terms. Finally, out of the many different ways to assess education, we settled on a three-category variable that we think is comparable for both times (illiterate, basic, more).[8] We found this scheme potentially more comparable than trying to use years of education.

The 1980 region scheme was used for both times although the state of Tocantins was created on July 27th 1988 and removed from Goiás.[9] Since the current monetary unit the *Real* results from there having been massive inflation, we convert the 1980 unit (called the *Cruzeiro*) by a factor of .039275 based on an analysis of economic time-trend information.

It is important to emphasize that solitary living is <u>not</u> synonymous with isolation. If someone technically lives in her own household that is right next door to the household of a child, she is recorded as living alone, as is someone whose nearest child may be all the way across the country. Also, the data tell us nothing about the net direction of assistance in a multi-person household. It might seem straightforward to assume that it is toward the elder, but the elder may have income or wealth that is being used to enhance the welfare of other household members while being less well off himself than if he lived alone. Finally, the data only refer to the elders themselves, not to others with whom the elder might have

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[8] Education variables in 1995 were much more detailed than in 1980. Therefore, in order to have a comparable variable we combined three questions that were available in both years. The first question refers to literacy, the second to the last completed grade and the third to the last completed level. We decided to not use the current grade and level, but the last completed grade and level, because most elderly people were not currently enrolled in school.

Those marked as illiterate were categorized as such in the new variable no matter how they were marked on the other variables (most people marked as being unable to read or write either did not attend school or only attended for a year, supporting the plausibility of the illiteracy coding). Literate individuals were divided into those who 1) had completed elementary school (1 to 4 years of schooling in absence of repetition) or 2) pursued more schooling.

[9]The regions were as follows:
North: Rondônia, Acre, Amazonas, Roraima, Pará, Amapá;
Northeast: Maranhão, Piauî, Ceará, Rio Grande do Norte, Paraíba, Pernambuco, Alagoas, Sergipe, Bahia;
Central-West: Distrito Federal, Goiás (including Tocantins in 1995), Mato Grosso, Mato Grosso do Sul;
Southeast: Minas Gerais, Rio de Janeiro, Espírito Santo, São Paulo;
South: Rio Grande do Sul, Paraná, Santa Catarina.

connections. For instance, unless a kinsman is in the same household as the elder, we do not know what his or her characteristics are. A dark-skinned parent may have a light-skinned child or *vice versa*.

Model and Method

   We based our models and method on the previous multivariate analyses of elderly living arrangements and/or independent living in Brazil of Agree (1993) and Saad (1998). Agree used 1960 and 1980 census microsamples to compare the situation at two different times. Saad used 1980 and 1991 census data to compare change in two very different regions (Northeast and Southeast). Given our theoretical focus in which we wish to assess the significance of race after controlling for other factors, we pooled the 1980 and 1995 data together (see also Kramarow, 1995), and, always controlling for time, used <u>stepwise</u> regression to assess the relative impact on racial differences of further controlling for demographic, geographical and/or socioeconomic characteristics. We had initially thought to standardize the figures by age, sex, and marital status before regressing them but concluded that a better approach would be to control for these factors within the more complete multivariate context .[10]

   That is, Agree and Saad ran multivariate models separately for men and women and for married and unmarried people (Agree, 1993; Saad, 1998). We too found it best to use four models. Separating men and women was important because, not only do men and women have very different gender roles within the family, but information on children was only gathered for women (after 1960). Furthermore, men are usually involved in gainful employment whereas women may be homemakers only or work outside the home only part time, particularly among older generations. We examined the possibility of running one model for both unmarried and married men, and one model for both unmarried and married women, but found that the effect of all the other variables in the models almost always statistically depended on (interacted with) marital status.

   The models examined the contrasts between racial groups after controlling for time (1980, 1995), demographic factors, geographical factors, and socioeconomic factors. That does <u>not</u> mean the models were additive. Rather, we found the "effects" of education and region to differ in 1980 and 1995. This seemed reasonable as the meaning of education and literacy has been changing over time, and since families in the different regions have reacted differently to the changing situation (see Saad, 1998). Finally, although income appeared "independent" for unmarried men, unmarried women, and married women, the "effect" of income on the likelihood of independent living among married men depended on race (or conversely, the effect of race depended on level of income). (Although a difference in the effect of race at the two times was significant in the trivariate case, it was not significant once other factors were controlled.)

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[10] Using direct standardization with Brazil's total 65+ population as the standard, we found the following:

	Actual				Standard		
	Alone	Couple Only	With Others		Alone	Couple Only	With Others
1980							
Total	**9.9**	**16.6**	**73.5**		**9.9**	**16.6**	**73.5**
White	9.2	18.6	72.2		9.6	18.4	72.0
Black	14.8	13.3	71.9		12.5	16.1	71.4
Brown	10.1	13.7	76.2		10.1	13.9	76.0
1995							
Total	**12.6**	**20.1**	**67.3**		**12.8**	**19.5**	**67.7**
White	12.8	23.1	64.1		13.4	22.1	64.5
Black	17.6	16.4	66.0		14.8	18.8	66.4
Brown	11.3	15.1	73.6		11.1	14.6	74.3

Since the dependent variable, <u>independent living</u> (yes/no) is bivariate, we use logit multiple regression (Hanushek and Jackson, 1977:187):

$$\text{Prob}(Y=1) = 1/(1 + e^{-\mathbf{O\$}})$$

For unmarried elders, we look at the likelihood of whether or not the person lives alone (1=yes, 0=no). For married elders, we look at the likelihood of whether or not the person lives alone with a spouse (1=yes, 0=no).

We use stepwise regression because this method enables us to estimate the relative importance of controlling for various factors in the assessment of a racial difference, and lets the reader order his/her own causal structure (Tables 5-8). Thus first, we just run a model with race and time. (It is essential to control for time when using a pooled sample.) Then we add the demographic characteristic of age (Model 2). In a third step, we separately add geographical factors (Model 3a) or socioeconomic factors (Model 3b). In a fourth step (Model 4) we control for demographic, geographical <u>and</u> socioeconomic factors all together. Finally for women, we add a control for the number of daughters to make a Model 5. (Number of daughters actually explains more than number of children.) We examine a model's *Bayesian Information Criterion* (BIC) but do not use it as a determinant. That is, BIC statistics tend to favor simpler models that may trade off goodness of fit and parsimony,[11] but our modeling is driven most by an interest in controlling for other factors when assessing the importance of race.

Model 2 controlled for demographic factors-- **age** and for women, **number of daughters** (already controlling for sex and marital status by using different models). Age was categorized into five-year age groups up to 80+ (65-69, 70-74, 75-79, 80+) to reflect possible differences in the stage of life <u>in old age</u>. It was not transformed into a log function because, although the sample was somewhat skewed to the lower end of old age, especially among married females (over half of whom were 65-69 years of age), it was not so skewed as to warrant a transformation. After all, over a fifth of the unmarried men and women were 80 years or older. See Table 4. We also found it reasonable to categorize the number of living daughters in terms of zero, one or two or more. The truncation was made after two daughters because we did not find much difference in effect between people having three, four, or five or more daughters on the one hand or two daughters on the other.

The two geographic factors in Model 3a were **urban/rural residence** and **region**. "Urban" in Brazil is an administratively-defined area which could have a variety of economic or other social characteristics. The Census and PNAD had tried to refine this by assessing whether an area was "suburban" or something else but for comparative purposes we had to eliminate such refinement. Curiously, it appears that proportionately more unmarried women resided in urban areas (80% in 1980 & 71% in 1995) than unmarried men (67% & 70% respectively). Table 4. As for "region," the Northeast and Southeast

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[11] The fit is better, the smaller (or more negative) the BIC (or BIC') where BIC is estimated as (Long, 1997: 111):

$$BIC_k = D(M_k) - df_k \ln N$$

Where:
$D(M_k)$ is the deviance of model M_k to the saturated model;
df_k is equal to the sample size minus the number of parameters in model k.
N is the total number of observations.

And BIC' equals:

$$BIC'_k = -G2(M_k) + df'_k \ln N$$

Where:
df'_k equals to the number of regressors (not parameters) in model k.

BIC' is based on the LR chi-square and compares model k with the null model.

together contained most of Brazil's population and the proportions doing so seemed basically the same in both 1980 and 1995 (Table 4).

The two socioeconomic factors in Model 3b were **education** (illiterate, basic, more)[12] and **income** (none, <100 *Reais*, 100-199 *Reais*, 200-599 *Reais*, 600+ *Reais*).   While the proportions of elderly people who were illiterate hovered around half in the pooled sample, that proportion tended to be higher in 1980 and somewhat under half by 1995. Indeed, improved educational achievement is probably one of the most notable differences between the samples of 1980 and 1995 (Table 4). Settling on a measure of income was not easy. We first considered measuring material well-being with a housing quality scale based on information on the exterior walls, the roof, electricity, sewage, piped water, refrigerator, tv, cooking fuel, and stove. As with household income however, housing quality was partly a function of the number of people in the household, and could not logically be used as an independent predictor of the likelihood of independent living. Per capita household income furthermore would not acknowledge the existence of economies of scale. Then, given the huge disparity in income in Brazil, we thought it might be best to consider the sum of different kinds of personal income in terms of its log but found that the results did not make as much sense as converting income into a five-category variable in which the lowest category involved having no income and the highest category involved having six or more minimum wages (assuming one minimum wage was 100 *Reais*).[13] This provided a reasonable distribution in which at least a third of the samples had between one and two minimum wages worth of income. Table 4.

We use STATA to ascertain BIC and SPSS to ascertain the overall significance of a multi-category independent variable (in addition to the significance of individual contrasts involving dummy variables). We do not use weights in the multivariate analysis because we are not attempting to make representative estimates, only assess statistical significance (we do use weights to estimate proportional distributions in Table 4) . It is also worth noting that it is not straightforward to assess the significance of individual contrasts in an interaction. Interaction estimates often involve adding the zero-order contrast to the interaction contrast while standard errors have been estimated as if the contrast stands alone.

Results

In a first step before controlling for anything but the time of survey (since we were pooling the data), we found racial differences in independent living to exist **except** between Black and White married women (Model 1):

Initial Significance of Race on Likelihood of Living Independently

	White-Black	White-Brown
Unmarried Men	**Black** more likely	**Brown** more likely
Unmarried Women	**Black** more likely	**White** more likely
Married Men	**White** more likely	**White** more likely
Married Women	**no difference**	**White** more likely

Source: Tables 5-8.

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[12] Education was not as correlated with income as had been expected, especially in 1980.

[13] We found that by far the biggest impact on independent living was whether or not someone had any income at all. This was not evident when the log of income was treated as a continuous variable, only when having no income was a category itself.

Adding a control for age in a second step did not alter racial differences although age always had a significant effect (see Tables 5-8).

The third step involved adding either geographic controls (urban/rural and region) or socioeconomic controls (education and income). Controlling for geographical factors (Model 3a) tended to have a large effect on racial differences, sometimes reducing them by more than half, but significant differences persisted nonetheless. For example, the Brown-White differential was reduced from 0.413 to 0.179 among married women but 0.179 was still a significant difference (Table 8). It should also be pointed out that the effect of region differed at the two times which is understandable given the differential changes experienced in Brazil's different regions between 1980 and 1995 (see Saad, 1998).

Controlling for the socioeconomic characteristics of education and income but not geographical factors (Model 3b) produced more complicated results. In the case of unmarried men, both education and income had significant effects but racial contrasts were still significant (Table 5). In the case of unmarried women, the Black-White difference was reduced to insignificance (Table 6). In the case of married men, there were significant racial differences even after controlling for socioeconomic factors, but those differences depended on level of income. In the lowest income group (of no income), Blacks were <u>more</u> likely than Whites to live with a spouse only. Among groups with more income, they were not only <u>less</u> likely, but increasingly less likely to live with a spouse only. Among married men, Browns always were less likely to live independently than Whites, increasingly less among groups with more income (Table 7). Finally, in the case of married women, income did not have a significant effect (given that many married women in that generation were not likely to rely on their own income), the Black-White difference stayed insignificant, and the Brown-White difference stayed at least as strong as before (Table 8).

The third step had the important benefit of telling us that the socioeconomic controls were particularly important for unmarried elders while geographical ones were less so and that geographical controls were particularly important for married elders while socioeconomic ones were much less so. Consider for example the estimated BICs for unmarried men. The BIC' of Model 2 was 66.8 compared with only 30.3 for Model 3a and 101.7 for Model 3b. For unmarried women they were 76.2, 176.9 and 623.0. In contrast, the BIC' of Model 2 for married men was 391.4 compared with 590.0 for Model3a and 318.4 for Model 3b. For married women the figures were 135.2, 198.2 and 76.1.

Ultimately however, geographical and socioeconomic factors combined need to be controlled. That is what is done in Model 4, the final model for men. In general, this model reduced the nature of the racial differences more than previously, but most differences still persisted, the notable exception being the White/Brown differential among unmarried men (that had been reduced when geographical or socioeconomic controls were applied separately but had stayed significant nonetheless). Thus after controlling for both geographical and socioeconomic factors, there was no net Black/White difference in living alone among unmarried women but there was among unmarried men. Obversely, there was no Brown/White difference in the likelihood of living alone among unmarried men but there was among unmarried women. This is summarized below:

Significance of Race After Controlling for Age, Geographical and Socioeconomic Factors (Model 4)

	White-Black	White-Brown
Unmarried Men	**Black** more likely	**no difference**
Unmarried Women	**no difference**	**White** more likely
Married Men	DEPENDS ON INCOME	DEPENDS ON INCOME
Married Women	**no difference**	**White** more likely

Can the fact that White elderly women are more likely to live independently than Brown elderly women be explained, at least in part, by the availability of surviving children? No. In Model 5 (Tables 6 and 8) we add to Model 4 a control for 0, 1 or 2+ female children (controlling for more children and/or both male and female children gave us the same basic, but weaker, result). Although in both cases, the number of female children is very important, controlling for the number does not reduce the racial difference in the likelihood of independent living. In both cases, adding the control actually increases slightly the size of the racial contrast. The increase is trivial but is still an increase rather than a decrease. Although racial differences in fertility might become an important factor among future generations of elders, it was not a factor in 1980 or 1995, at least once we took marital status into account.

Discussion and Conclusion

Independent living among elderly Brazilians is on the increase, but the increase has occurred predominantly among elderly White Brazilians whereas elderly Black Brazilians and elderly Brown Brazilians have experienced only minor net increases. And rather than attenuating over time, the racial gap appears to be increasing. Maybe this comes as no surprise to people who know Brazilian society since it is well known that race in Brazil has been related to social stratification on many dimensions, but this is not consistent with a general family theoretical view that expects, for various reasons, modernization to result in more independent family living among *all* elderly people.

A common explanation for observed racial differences in Brazil is that the disparities reflect structural factors rather than something else such as cultural differences or discrimination, the implication being that differences will disappear naturally over time. Yet if structural factors were the explanation, then differences in such characteristics as urban/rural residence, region, education and income should account for observable racial differences, and when controlled, should leave no net racial difference. While it is possible that we failed to model the situation properly, we found racial differences to persist despite controlling for these factors. We found that there were no net Black-White differences among elderly women but that Brown-White differences persisted. We found that there was no net Brown-White difference among unmarried elderly men but that Black-White differences persisted. And finally, we found that racial differences among married men depended on income level, the racial gap increasing with increased income. In fact, this is quite suspicious. Other things equal, money should buy the same amount of independence.

Many gerontologists now believe that"privacy" is a normal good everywhere, not just in Europe or North America (e.g. DaVanzo and Chan, 1994). In the specific case of Brazil, Agree (1993: 196) found that "... economic resources are associated with a higher probability of living alone in Brazil, and a lower probability of living with kin." The logical extension of such reasoning is that providing more resources to elderly people, such as in the way of pensions, will result in more independent living. Certainly, Brazil's pension policy has often been criticized on such grounds as inefficiency, inequity and unsustainable expense (Bonturi, 2002; World Bank, 2001) but one feature for which it has been praised is in how it has dealt with the informal economy and with individuals who did not contribute into the system (e.g. Williamson and Hochman, 1995). Since 1988 the Brazilian system covers everyone, whether or not he/she contributed. This has had the effect of reducing the proportion of elders with no pension income from a majority of unmarried people to a rather small group.

However, living alone is only one way, and maybe not the best way, to enhance one's welfare given the existence of discrimination and/or receipt of a pension, especially if the pension is meager. Rather, pension and housing are only two elements in what is often a much larger exchange of goods, services and emotional support. Co-residence among young and old in minority groups can have the extra value of helping each other to cope with a potentially hostile outside world. And pensions can boost an elder's

12

status within a multigenerational household rather than lead to independent living. The latter idea is based in part on a study of elderly people in rural Spain in the late 1960s by Brandes (1996). He found that in the early 1960s widowed parents would rotate their stay among children because everyone saw them as a burden. With the advent of pensions however, elderly people could contribute financially to the household, thus improving their position and the position of other household members.

A major weakness in our model is that living with or not with other people is a function of both the elders themselves AND the people with whom they might reside but we could only look at the characteristics of the elders themselves. Controlling for a characteristic such as the income of an elder could be of limited value, not just for married women who may have no income of their own, but for all elders whose income may or may not be of value to others. That is, relative to the income of some children, the pension income of an unmarried mother of one minimum wage might be seen as a major asset to a household comprised of herself and some of her children. On the other hand, that same income may seem trivial relative to the income of others. If there is a racial difference in the income of children that is a major influence on the likelihood of independent living among elders, and we are not taking that income into account in our models, then structural factors could still be at the root of the differences we are seeing and our study has failed to test the structural hypothesis correctly (see Barros et al., 1999). However, the fact that we found racial differences to grow with increased levels of income among married men does not support such logic. Rather, that finding is more consistent with the "minority status" hypothesis and/or the existence of discrimination.

As is frustratingly common in social research, we end our study by pointing to the tentativeness of our findings, to how our study can only provide some pieces to a puzzle, and to the need for additional research. Uncommonly however, we can discuss that need in part by extolling the potentials of a new data set that is just coming available as this is written.   Our finding is that there are racial disparities in the likelihood of independent living among elderly Brazilians that cannot be explained away by structural characteristics of the elderly people themselves. The finding is only tentative however because we should take into account characteristics of potential cohabitors as well as characteristics of the elders. Special surveys oriented specifically toward issues salient to elderly people may be required to gather the kinds of information most suitable for a good model of the issue.

There is now a relevant multi-country survey of elderly people in Latin America known as *Salud, Bienestar y Envejecimiento en América Latina*, or *Project SABE* conducted under the auspices of various agencies including the Pan American Health Organization (http://www.paho.org/). In Brazil, interviews were conducted in São Paulo. The study gathers information about people who live both in the same household and outside the household of the elder. Given that relationships may increasingly span large geographic distances, such information is crucial for acquiring a good overall idea of the resources available to an elder (see Pelaez and Martinez, 2002) although what is found cannot be generalized to the entire country. But we could get a much better picture of racial differences in intra-familial exchanges that might include coresidence. Until then, the present study has at least laid firm ground for us to wonder.

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14

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Table 1: Independent Living Among Elderly People in Brazil 1980-2001 by Race, in percents

Date	Alone	Couple only	With others	Total	Alone	Couple only	With others	Total
			Living Arrangement					
		Total				White		
1980	9.9	16.6	73.5	100.0	9.2	18.6	72.2	100.0
1986	10.4	18.1	71.5	100.0	10.6	20.6	68.8	100.0
1992	11.5	19.0	69.5	100.0	11.9	22.1	66.0	100.0
1995	12.6	20.1	67.3	100.0	12.8	23.1	64.1	100.0
1998	12.8	20.1	67.1	100.0	13.5	23.2	63.3	100.0
2001	13.8	20.4	65.8	100.0	14.5	23.7	61.8	100.0
		Black				Brown		
1980	14.8	13.3	71.9	100.0	10.1	13.7	76.2	100.0
1986	14.1	12.5	73.4	100.0	9.1	14.2	76.7	100.0
1992	15.0	12.6	72.4	100.0	10.1	14.7	75.2	100.0
1995	17.6	16.4	66.0	100.0	11.3	15.1	73.6	100.0
1998	14.2	14.1	71.7	100.0	11.0	15.1	73.9	100.0
2001	15.8	13.2	71.0	100.0	11.9	15.3	72.8	100.0

Source: 1980 census microfile and 1986, 1992, 1995, 1998 and 2001 PNAD national household samples

Table 2: Population composition by race, 1890 to 2000

	Yellow	White	Indigenous	Brown	Black	All
1890	-	44.0	-	41.4	14.6	100
1940	0.7	63.5	-	21.2	14.6	100
1950	0.8	61.7	-	26.5	11.0	100
1960	0.8	61.0	-	29.5	8.7	100
1980	0.8	54.8	-	38.5	5.9	100
1991	0.4	51.8	0.2	42.6	5.0	100
2000	0.5	53.8	0.4	39.2	6.1	100

Source: Brazilian Census (1892, 1940, 1950, 1960, 1980, and 1991), and special tabulations Census 2000.
Apud: Henriques (2001).

Table 3: Marital Status of Elderly Men and Women by Year and Color, Brazil - in percents

	Women 65+					Men 65+				
	In Union	Sep/ Div	Widow	Single	Sample Size	In Union	Sep/ Div	Widow	Single	Sample Size
1980										
White	34.3	3.1	55.0	7.6	9572	76.7	2.6	15.6	5.0	8587
Black	24.3	5.2	55.1	15.4	1266	70.0	4.0	17.8	8.2	1156
Brown	33.3	4.5	52.8	9.3	7646	75.2	3.1	16.2	5.4	7701
Total	33.3	3.7	54.3	8.7	18484	75.7	2.9	16.0	5.4	17444
1995										
White	35.9	4.6	52.3	7.2	5985	78.2	4.0	14.2	3.6	4488
Black	27.8	8.5	53.3	10.4	636	67.6	6.6	22.0	3.9	490
Brown	33.9	8.0	51.1	7.0	3330	75.0	7.0	14.7	3.3	2800
Total	34.8	5.9	52	7.3	9951	76.4	5.2	14.9	3.5	7778

Source: 1980 census microfile and 1995 PNAD national household survey

Table 4: Sample Characteristics in Percents

	1980				1995				Both			
	Female		Male		Female		Male		Female		Male	
	Not married	Married	Not married	Married	Not married	Married	Not married	Married	Not married	Married	Not married	Married
Age												
65-69	34.1	56.5	34.9	46.3	31.2	53.0	31.3	43.5	32.2	54.2	32.7	44.6
70-74	27.2	27.2	25.8	29.9	24.9	27.4	25.5	27.8	25.8	27.3	25.7	28.6
75-79	20.0	12.1	21.4	15.4	19.6	12.9	19.5	17.4	19.8	12.6	20.2	16.6
80+	18.7	4.3	17.9	8.4	24.3	6.7	23.7	11.3	22.3	5.8	21.4	10.2
Education												
Illiterate	62.7	60.5	56.8	47.8	47.3	40.9	44.6	36.1	52.8	47.7	49.4	40.6
Elementary	30.0	32.4	36.4	43.1	37.4	43.2	42.2	45.2	34.8	39.5	39.9	44.4
More	7.3	7.1	6.9	9.1	15.3	15.9	13.2	18.7	12.5	12.9	10.7	15.0
Race												
White	60.5	63.1	56.7	59.8	61.6	64.7	55.4	61.3	61.2	64.1	55.9	60.7
Black	8.1	5.1	8.3	6.2	7.3	5.2	8.8	5.7	7.6	5.2	8.6	5.9
Brown	31.5	31.8	35.0	34.0	31.1	30.1	35.7	33.1	31.2	30.7	35.5	33.4
Income												
None	16.0	72.9	5.8	2.1	6.2	38.6	3.6	1.5	9.7	50.4	4.5	1.7
Less than 1	54.5	17.9	48.5	33.8	2.1	3.0	2.2	1.6	20.8	8.2	20.5	14.0
1 to 2	14.8	5.2	23.7	26.4	62.5	49.3	61.0	46.9	45.5	34.1	46.3	39.0
2 to 6	10.2	2.5	15.5	22.0	20.6	6.0	22.9	29.9	16.9	4.8	20.0	26.8
More than 6	4.5	1.5	6.5	15.7	8.6	3.1	10.2	20.2	7.2	2.5	8.8	18.5
Urban	74.9	62.0	59.1	62.0	83.1	76.1	72.9	75.5	80.2	71.2	67.4	70.3
Region												
North	3.4	3.4	4.6	3.4	2.7	2.2	3.1	2.5	2.9	2.6	3.7	2.9
Northeast	32.4	33.7	31.6	34.9	29.7	31.3	31.7	31.8	30.6	32.1	31.7	33.0
Southeast	46.0	43.7	43.4	42.5	49.4	46.0	44.4	44.8	48.2	45.2	44.0	43.9
South	14.4	15.8	15.0	15.0	14.2	16.2	14.3	16.0	14.3	16.0	14.6	15.6
Central-West	3.8	3.4	5.4	4.2	4.2	4.4	6.5	4.9	4.0	4.0	6.1	4.6
Female children												
0	30.0	21.8			27.4	17.8			28.3	19.2		
1	20.3	19.0			21.2	21.4			20.9	20.6		
2+	49.7	59.3			51.4	60.8			50.8	60.3		
Sample Size	12,206	6,278	4,220	13,224	6,586	3,365	1,827	5,951	18,792	9,643	6,047	19,175

Source: 1980 census microfile and 1995 PNAD national household survey

Table 5: Logit Coefficients for Stepwise Regression of Whether or not Lives Alone (1=yes, 0=no) Among Unmarried Men

Variables	1	2	3a	3b	4
Race	***	***	***	***	***
Brown	0.232***	0.214***	0.141*	0.150*	0.122
Black	0.703***	0.687***	0.641***	0.611***	0.608***
Time (0=80/1=95)	0.190**	0.219***	0.070	0.600	0.390
Age		***	***	***	***
65-69		0.561***	0.551***	0.611***	0.587***
70-74		0.566***	0.561***	0.604***	0.590***
75-79		0.400***	0.408***	0.410***	0.412***
Urban			-0.273***		-0.222***
Region in 1980					
North			-0.100		-0.007
Center-West			0.055		0.140
Southeast			-0.179		-0.106
South			-0.273		-0.165
Region in 1995					
North			-0.109		-0.165
Center-West			0.419		0.484
Southeast			0.135		0.342
South			0.278		0.605
Education in 1980					
None				0.608	0.487
Basic				0.155	0.100
Education in 1995					
None				0.027	0.001
Basic				-0.060	-0.080
Income				***	***
Nothing				-1.396***	-1.436***
Up to 1 minimum wage				-0.223	-0.277*
1+-2 minimum wages				-0.105	-0.128
2+-6 minimum wage				-0.198	-0.209
Fem. Child					
0					
1					
Constant	-0.994***	-1.423***	-1.167***	-1.629***	-1.329***
Sample size	6,047	6,047	6,047	6,047	6,047
-L(2) Log Likelihood	7456***	7401***	7359***	7298***	7269***
BIC	-45127	-45157	-45121	-45192	-45143
BIC'	-36.9	-66.8	-30.3	-101.7	-52.5

Source: 1980 census microfile and 1995 PNAD national household survey.
Notes: *** p < .001, ** p < .01, * p < .05. The contrasts are: age: 80+, Education: higher than basic, Race: White, Region: Northeast, Income Greater Than 600 R, Female Children: 2+.

Table 6: Logit Coefficients for Stepwise Regression of Whether or not Lives Alone (1=yes, 0=no) Among Unmarried Women

	1	2	3a	3b	4	5
Race	***	***	***	***	***	**
Brown	-0.164***	-0.167***	-0.124**	-0.197***	-0.115*	-0.121**
Black	0.168***	0.165*	0.145*	0.122	0.138	0.060
Time (0=80/1=95)	0.321***	0.334***	0.111	0.763	0.514	0.603
Age		***	***	***	***	***
65-69		0.139**	0.156**	0.186***	0.193***	0.198***
70-74		0.263***	0.270***	0.260***	0.262***	0.259***
75-79		0.216***	0.218***	0.198***	0.198***	0.203***
Urban			-0.260***		-0.261***	-0.276***
Region in 1980						
North			-0.754		-0.652	-0.597
Center-West			-0.473		-0.329	-0.256
Southeast			-0.120		-0.018	0.046
South			-0.083		0.002	0.081
Region in 1995						
North			-1.087		-1.053	-0.947
Center-West			-0.107		-0.055	0.005
Southeast			0.278		0.289	0.289
South			0.405		0.366	0.410
Education in 1980						
None				0.632	0.536	0.683
Basic				0.223	0.298	0.294
Education in 1995						
None				-0.060	-0.094	0.056
Basic				-0.196	-0.225	-0.129
Income				***	***	***
Nothing				-2.372***	-2.375***	-2.381***
Up to 1 minimum wage				-0.388***	-0.438***	-0.373***
1+-2 minimum wages				-0.364***	-0.351***	-0.314***
2+-6 minimum wage				-0.217*	-0.222***	-0.172
Fem. Child						***
0						0.771***
1						0.256***
Constant	-1.481***	-1.647***	-1.371***	-1.614***	-1.305***	-1.818***
Sample size	18,792	18,792	18,792	18,792	18,792	18,792
-L(2) Log Likelihood	18465***	18439***	18254***	17821***	17674***	17356***
BIC	-166358	-166352	-166453	-166899	-166960	-167259
BIC'	-81.6	-76.2	-176.9	-623.0	-683.8	-982.5

Source: 1980 census microfile and 1995 PNAD national household survey

Notes: *** p < .001, ** p < .01, * p < .05. The contrasts are: age: 80+, Education: higher than basic, Race: White, Region: Northeast, Income Greater Than 600 R, Female Children: 2+.

Table 7: Logit Coefficients for Stepwise Regression of Whether or not Lives Independently (1=couple only, 0=no) Among Married Men

	1	2	3a	3b	4
Race (Income=None)	***	***	***		
Brown	-0.464***	-0.463***	-0.219***	-0.163	0.043
Black	-0.321***	-0.326***	-0.217**	0.579	0.655
Race (Income=Less than 1)					
Brown				-0.271	-0.086
Black				-0.264	-0.158
Race (Income=1 to 2)					
Brown				-0.464	-0.252
Black				-0.250	-0.198
Race (Income=2 to 6)					
Brown				-0.623	-0.363
Black				-0.454	-0.386
Race (Income= More than 6)					
Brown				-0.844	-0.541
Black				-0.897	-0.724
Time (0=80/1=95)	0.308***	0.295***	0.062	0.524	0.346
Age		***	***	***	***
65-69		-0.546***	-0.604***	-0.520***	-0.559***
70-74		-0.268***	-0.305***	-0.264***	-0.288***
75-79		-0.105	-0.130*	-0.105	-0.121
Urban			-0.105**		-0.065
Region in 1980					
North			-0.148		-0.086
Center-West			0.090		0.164
Southeast			0.467		0.564
South			0.461		0.551
Region in 1995					
North			-0.692		-0.717
Center-West			0.521		0.560
Southeast			0.649		0.616
South			0.942		0.882
Education in 1980					
None				0.027	0.072
Basic				-0.074	-0.097
Education in 1995					
None				-0.267	-0.188
Basic				-0.293	-0.243
Income (whites)					
Nothing				-0.745	-0.460**
Up to 1 minimum wage				-0.005	0.222***
1+-2 minimum wages				-0.030	0.044
2+-6 minimum wage				-0.010	0.010
Constant	-0.810***	-0.473***	-0.659***	-0.470***	-0.824***
Sample size	19,175	19,175	19,175	19,175	19,175
"-L(2) Log Likelihood"	22577***	22420***	22137***	22335***	22065***
BIC	-166356	-166483	-166682	-166410	-166614
BIC'	-264.5	-391.4	-590.0	-318.4	-522.3

Source: 1980 census microfile and 1995 PNAD national household survey
Notes: *** p < .001, ** p < .01, * p < .05. The contrasts are: age: 80+, Education: higher than basic, Race: White, Region: Northeast, Income Greater Than 600 R, Female Children: 2+.

Table 8: Logit Coefficients for Stepwise Regression of Whether or not Lives Independently (1=couple only, 0=no) Among Married Women

	1	2	3a	3b	4	5
Race	***	***	**	***	***	***
Brown	-0.409***	-0.413***	-0.179***	-0.439***	-0.204***	-0.229***
Black	-0.106	-0.104	-0.002	-0.129	-0.042	-0.125
Time (0=80/1=95)	0.260***	0.248***	0.027	0.419	0.230	0.340
Age		***		***	***	***
65-69		-0.538***	-0.588***	-0.530***	-0.565***	-0.527***
70-74		-0.297**	-0.333***	-0.298**	-0.324**	-0.299***
75-79		-0.186	-0.216*	-0.184	-0.210	-0.166**
Urban			-0.101*		-0.071	-0.084
Region in 1980						
North			-0.091		-0.064	-0.134
Center-West			0.150		0.163	0.217
Southeast			0.442		0.489***	0.500
South			0.333		0.393***	0.458
Region in 1995						
North			-0.611		-0.620	-0.606
Center-West			0.493		0.497	0.603
Southeast			0.618		0.622	0.601
South			0.927		0.911	0.893
Education in 1980						
None				0.204	0.232	0.256**
Basic				0.016	0.001	0.075
Education in 1995						
None				-0.086	-0.041	0.074
Basic				-0.042	-0.101	-0.038
Income						
Nothing				-0.118	-0.133	-0.004
Up to 1 minimum wage				-0.084	-0.059	0.096
1+-2 minimum wages				-0.094	-0.071	0.045
2+-6 minimum wage				0.093	0.058	0.122
Fem. Child						***
0						1.090***
1						0.281***
Constant	-0.450***	-0.048	-0.215*	-0.076	-0.303	-0.87***
Sample size	9,643	9,643	9,643	9,643	9,643	9,643
"-L(2) Log Likelihood"	12601***	12539***	12394***	12524***	12375***	11983***
BIC	-75811.2	-75846.4	-75909.4	-75787.3	-75854.1	-76227.6
BIC'	-100.0	-135.2	-198.2	-76.1	-142.9	-516.4

Source: 1980 census microfile and 1995 PNAD national household survey.

Notes: *** $p < .001$, ** $p < .01$, * $p < .05$. The contrasts are: age: 80+, Education: higher than basic, Race: White, Region: Northeast, Income Greater Than 600 R, Female Children: 2+.

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