

A Room With a View or a Room of One's Own? Housing and Social Stratification¹

Dalton Conley²

This study attempts to understand the role that housing plays in the system of social stratification. First, it generates a model of how housing outcomes are stratified along dimensions of socioeconomic status and race. Second, it asks what role housing conditions play in the system of educational stratification of offspring. Using two-generational data from the Panel Study of Income Dynamics, this paper demonstrates that home ownership is predicted by family income and race and that this indicator has a significant effect in predicting the educational attainment of offspring. Household crowding is also related to income and race and also affects the educational attainment of offspring. Meanwhile, housing quality—as measured by the physical condition of the unit—is not related to income or race and has no effect on educational attainment. Of particular note is that when socioeconomic status and housing conditions are held constant, African-Americans demonstrate more than a half-grade advantage over their non-black counterparts in years of completed schooling. In conclusion, the paper argues that housing matters not only for the immediate well-being of families, but also for the life-chances of the subsequent generation, and should be a standard variable in the conception of class background.

KEY WORDS: education; stratification; housing; crowding; home ownership; racial inequality.

INTRODUCTION

This paper examines the role of housing conditions in social stratification. There is adequate reason to suspect that housing is a very important

¹An earlier version of this paper was presented at the 1995 annual meeting of the American Sociological Association in Washington, DC, and received the 1995 Community and Urban Sociology Section Student Paper Award.

²Center for Advanced Social Science Research, New York University, 269 Mercer Street, Suite 445, New York, New York 10003.

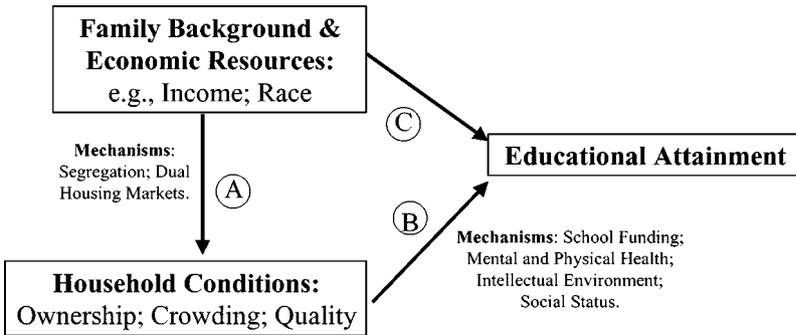


Fig. 1. Role of housing in social stratification.

material mechanism by which socioeconomic and racial advantage is transmitted from one generation to the next. First, housing costs now make up the largest share of household budgets for American families; this is particularly true for low-income families (see, e.g., Ruggles, 1990). Second, racially segregated housing markets have been central to the stratification of blacks and whites over the course of American history, and they continue relatively unabated today (see, e.g., Massey and Denton, 1993). Given the importance of housing costs and the existence of constraints on minority housing choices, it seems remarkable that housing has not been thoroughly examined as a mechanism of social stratification with an impact on other areas of life such as educational attainment. The overall model by which housing may play such a role is shown in Fig. 1. Family background may affect housing conditions (arrow A) through differential allocation of this resource by income and race. Housing conditions can then affect educational outcomes through household and neighborhood-level mechanisms (arrow B). Of course, there is also a direct effect of family background and economic resources on educational attainment net of housing (arrow C).

The analysis of this model is divided into two parts. First I explore housing conditions—household crowding, physical quality, and home ownership—as a dependent variable, using status attainment models (c.f., Blau and Duncan, 1967; Featherman and Hauser, 1978). This is to determine whether arrow A is salient. Second, I examine the impact of these housing conditions on the educational attainment of offspring (arrow B). This twofold approach allows for an understanding of the way in which housing acts as a mediating factor in the transmission of social status across generations. In the sections that follow, I begin with a review of the theoretical importance of the housing measures I consider as they relate to educational outcomes. Throughout this analysis, particular attention is paid to race, given the

well-documented existence of segregated housing markets and racial differences in residential patterns.

Household Crowding

Since the days of Malthus, social scientists have periodically become worried about the possible detrimental effects of crowding. During the 1960s interest in crowding was stimulated by Calhoun's study of laboratory rats, which linked high population density with aggressive behavior, mating pattern disruption and higher rates of illness (Calhoun, 1962). Calhoun's findings led researchers to search for detrimental effects of higher population density in the human species. Evidence suggests that crowding within the household—operationalized by the number of persons-per-room—engenders observably detrimental effects including irritability, withdrawal, weariness, and both poor physical and mental health (Altman, 1975; Edwards *et al.*, 1994; Galle and Gove, 1978a,b; Gove *et al.*, 1979).³ These effects may represent a primary mechanism by which housing constraints exhibit negative effects on the educational attainment of children.⁴

First, the positive association of household density with poor physical and mental health should indirectly depress educational achievement; absences from school should increase due to higher morbidity and as a result, academic performance and learning should fall. Further, these health handicaps may interact with a lack of privacy in crowded households. It may be the case that no matter what the educational aspirations of a child, if he or she does not enjoy a quiet space to study, away from the noise of other children he or she suffers academically. Finally, those who live in more crowded households may sleep less and/or endure irregular sleep patterns. These factors may result in a lack of concentration both in the home—when a child attempts to study and do homework—and in school when he or she tries to pay attention to lectures and participate in class discussion.

Crowding may have other indirect effects on children's academic achievement as well. The stress that household crowding evinces may cause

³Some past research on the effects of household crowding has used aggregate level data to look at such outcome variables as rates of drug use and crime (Booth *et al.*, 1976). Such studies have been criticized for the high level of collinearity between independent variables (Higgins *et al.*, 1976). When using household—rather than aggregate—data (as I do) this problem is eliminated.

⁴More recent work has examined the impact of crowding in an international context. For instance, studies have found that crowding in Thailand lead to higher levels of chronic stress (Fuller *et al.*, 1996), to reluctance to engage in sexual relations or have additional children (Edwards *et al.*, 1992), and to poorer family relations (Edwards *et al.*, 1993). However, another study finds that household crowding is not a good predictor of behavioral problems among South African children (Liddell, 1994).

parents to be irritable or psychologically withdrawn, as Gove *et al.* (1979) have suggested. In this manner, a crowded household may result in a lack of constructive social interaction between parents and children. Since parental involvement is important for child cognitive development (Caldwell and Bradley, 1984), anything that depresses constructive interaction should be detrimental to children's educational attainment. Research on the effects of household crowding has not been pursued for quite some time now; however, with multigenerational data, such as those used in this study, we can readdress this issue in order to ascertain whether crowding has effects over the long term, across generations. Crowding is also particularly salient to the issue of race and housing since African-Americans have consistently lived in more crowded conditions throughout the history of the country (Hawkins, 1976) and continue to do so today.

Housing Quality

Another household level factor that may play a role in the stratification system is that of the actual physical quality of the unit. A decaying dwelling unit can have detrimental effects on many fronts. The first consideration regarding the quality of the housing in which a child is reared is the danger of exposure to a variety of environmental health hazards. The most damaging of these is ingestion of lead paint. Poor children demonstrate higher blood lead concentrations than nonpoor children (Mahaffey *et al.*, 1982; Klerman and Parker, 1990; Quah *et al.*, 1982). In fact, one report concludes that "... the highest prevalence of lead poisoning has been recorded for poor black children living in decaying inner-city neighborhoods; the lowest, among nonpoor children living in suburban areas" (National Center for Children in Poverty [NCCP], 1990:54; also see Klerman and Parker, 1990:24). Other health hazards that may accompany a decrepit housing unit include the presence of asbestos; less well-documented but more common is the risk of infection posed by decaying insects such as cockroaches as well as danger from the presence of rodents such as mice, rats, or even bats (NCCP, 1990). In short, anything that can be detrimental to the health of a developing child will be directly or indirectly deleterious to his or her mental health, cognitive development and, ultimately, educational progress.

Aside from these very concrete disadvantages posed by a dwelling unit of inferior quality, there exist other, less tangible mechanisms by which housing quality may have an effect on the educational progress of children. Housing has been shown to be one of the prime determinants of social status (Henretta, 1979). Writes Rosenbaum, "In addition to providing physical

shelter, housing provides the family with privacy and stability, and it serves as an outward sign of social status” (Rosenbaum, 1995:1). Since underlying conceptions of poverty often rely on a notion of relativity, housing quality may be one of the most visible ways that relative poverty (or affluence) manifests in the lives of children. This measure is particularly relevant to race since several studies have shown that as a group African-Americans are more likely to live in poor housing conditions than their white counterparts (Foley, 1980; Rosenbaum, 1995).

Home Ownership

Aside from the conditions within the home, tenure status may have an important impact on educational attainment. Owning one’s home is the primary mechanism of equity accumulation for most families in the United States (Levy and Michel, 1991; Spilerman *et al.*, 1993). With respect to educational attainment, home ownership may have particular salience. First, the quality of the local school district—while in essence a neighborhood variable—will be determined by the local tax base: that is, real estate values. So, overall home ownership rates should matter in this respect since neighborhoods that are predominantly owner-occupied (as in the suburbs) may be worth more in general. Aside from acting as a school district proxy, on the individual level home ownership is likely to positively influence educational attainment since the equity in a home may play an important role in financing postsecondary schooling. That is, drawing on the equity contained in a home through a second mortgage may be a prime way in which a family pays for the college educations of its children. Further, studies have shown that over the long term, owning one’s home is cheaper than renting (Leonard *et al.*, 1989); thus, home owners will free up more funds to finance their children’s educational expenses. Additionally, as in the case of housing quality, there may be other intangible ways in which home ownership and housing value affect the educational outcomes of children. Home ownership may set an example for children in terms of orientation to the future. Controlling for family income, those households that buy their residences may be sending a message that deferment of gratification, savings, and accumulation of equity is more important than consumption.

Home ownership is a particularly important measure of black–white housing equity since African-Americans have historically faced great difficulties in converting income gains into home ownership due to institutional and overt discrimination on the part of public and private creditors and on the part of real estate agents (Hawkins, 1976; Henretta, 1979; Jackman and Jackman, 1980; Massey and Denton, 1993; Oliver and Shapiro, 1995;

Parcel, 1982; Rosenbaum, 1994). The current study directly addresses race differences in the likelihood of “owning” with adequate controls for economic background, a limitation of some of the previous literature, which uses single-year income measures to control for class background and/or does not examine ownership as an outcome (but rather spatial integration or equity among homeowners). It also examines race differences in educational attainment while holding housing conditions constant.

RESEARCH STRATEGY

By using the Panel Study of Income Dynamics (PSID), I enjoy the advantage of a large, nationally representative dataset while retaining detailed data on the household structure and residential conditions of respondents during their childhood. As a panel study, the PSID interviewed an initial wave of respondents in 1968; for these respondents it has information on socioeconomic background and household structure. Included in this sample are the children of the heads of household who were under age 18 and still living at home by 1972 and were already born by 1968. I measure the independent variables over this 5-year period (1968–1972) since this is the period during which the PSID asked the most thorough questions about housing conditions. The PSID then follows these children when they leave the initial household and set up their own units; I model their education (highest grade completed) at age 25, regardless of what year they reach that age. This initial time period—1968–1972—may come during the early childhood of some respondents and the late adolescence of others. I also examine whether effects depend on the age of the child. I was, however, limited in the extent to which I could examine these cohort effects by the relatively few number of years that the PSID asked the battery of housing questions. The PSID is a complex dataset; readers who are interested in the details of its study design should see Duncan (1976), Duncan and Hill (1989), or Hill (1992).

Given that the PSID follows each child from his household of origin, multiple children from the same family of origin are included in the analysis presented ahead. To correct for this problem of within family nonindependence, I tested generalized linear models that allowed for random effects. Results were similar, so I have presented the results from the OLS models. Likewise, weighted and unweighted analysis yielded comparable effects, thus I have chosen to present the weighted coefficients. A description of the variables are as follows.

Parental Income. This variable was taken from the 1968–1972 data as reported by the head of household. Annual income is recorded for the

year prior to the survey date and thus measures total family income from 1967–1971 in constant 1971 dollars. I used this 5-year average in order to reduce measurement error. Given the right skew of this variable, I transformed this measure by logging it to the base *e*.

Parental Education. My parental variable was taken from the parent's self-report in 1972 and is expressed in terms of the highest grade completed by the time of the interview (as in the case of the dependent variable discussed above). The advantage of this formulation is that it is not subject to intergenerational recall error. Rather than use mother's and father's education, I chose to include the education of whoever was the head of the household in 1972; this avoids the problem of missing data being correlated with family structure, that is, father-absence.

Gender. In the education analysis I include the gender of the respondent, coded 1 for female, 0 for male. However, for the analysis that predicts family level housing conditions, gender of the individual child is orthogonal (i.e., should have no effect) since it is a family-level outcome and not an individual one.

Race. A dummy variable for African-Americans was created based on the report of the 1968 head of household. Due to the PSID original sampling frame, the number of respondents who were members of other races and/or of Spanish origin were minuscule, so collapsing them into the base category should not be problematic; sensitivity analysis confirms this.

Sibship Size. Since households and families have become increasingly fluid, I do not measure the number of siblings born at the time; rather I measure the average family size over the 5-year period (1968–1972). This measure includes parents and half-siblings—anyone in the immediate family of the child in question—in order to capture the total level of family resource strain.

Family Structure. I included a variable that indicated whether the home was headed by a female (and thus only one parent in the classification system of the PSID); I measured this over a 5-year period, between 1968 and 1972, averaging the value on the indicator variable for each year. The result is a variable that indicates the proportion of years (between 1968 and 1972) during which a female headed the family.

Parental Age. I also controlled for parental age. With the child's own age also controlled (measured in 1968), this variable captures the positive association between age of parent at birth and children's educational outcomes.

Household Crowding. I computed this indicator by dividing the total number of household members by the number of rooms; I then averaged this figure for the entire 5-year period. If the average was over 1.0 then the household was classified as crowded in an indicator variable. The 1.0

threshold is generally considered the accepted definition of crowding (see, e.g., Stegman, 1988). Further, this dummy variable approach outperformed more continuous functions since it is likely that household density effects work in a threshold manner. In this formulation “household members” must be residing in the home—i.e. they cannot be relatives staying for the holidays, for instance; they must not have their own separate housing available to them at the time of questioning. Household density may be particularly susceptible to seasonal or other temporal variations. Thus, measuring this variable over a 5-year period is key to reducing measurement error that may be at play among fluid households. This is particularly important since low-income families tend to be more adaptive with their household borders (Angel and Tienda, 1982).

Housing Quality. In the survey years, 1969–1972, the PSID contained an interviewer checklist on the condition of the housing unit. One of the items was “whether the dwelling unit needs major repairs” (Other items included the presence of running water and indoor toilet). In 1968, the question was worded differently, in two parts, asking the interviewer to indicate whether the home appeared to have “structural defects” and/or was in “poor maintenance (unpainted, broken windows, etc.)” My measure is constructed from these questions. I coded a family (1) if any of these problems were present in any of the years and (0) otherwise—thereby creating a dummy variable for “no defects” over the entire 5-year period. Although ideally I would have liked to access data on the presence of rodents, lead paint, cockroaches, and so on, the survey is not specifically geared to housing issues and thus I am forced to accept these proxies in order to obtain intergenerational data such as those provided by the PSID.

Educational Attainment. Years of schooling completed by the year the respondent (child) reached age 25 is used as the dependent variable in all of the models. For instance, if the child was born in 1967, then 1993 was the year in which her education was recorded. If she was born in 1960, then 1986 is the year for which her education was recorded. This measure is coded in terms of number of years (highest grade completed) with 1–11 representing the number of primary and secondary school years completed, a value of 12 indicating high school graduation and no post-secondary education. Values 13–15 represent years of post-secondary education short of a bachelor’s degree from a 4-year college. These values make no allowance for type of schooling (such as the receipt of an associate degree or distinctions between technical/professional school and university attendance). A value of 16 on the education variable indicates the completion of a bachelor’s degree. All individuals who completed postgraduate work (regardless if a degree was received or what that degree may be) were coded

Table I. Mean Values of Variables Used in Analysis ($N = 2686$)

	Mean value ^a	
	Weighted	Unweighted
Education of respondent at age 25 (highest grade completed)	13.00 (2.06)	12.61 (1.95)
Gender (female = 1)	0.51 (0.50)	0.53 (0.50)
Age of respondent in 1968	6.98 (3.34)	7.08 (3.29)
Race (African-American = 1)	0.11 (0.31)	0.42 (0.49)
Age of household head (1972)	40.38 (7.34)	40.36 (7.59)
Education of head (1972)	11.86 (3.19)	10.76 (3.41)
Proportion of years female headed household (1968–1972)	0.101 (0.274)	0.210 (0.383)
Sibship size (1968–1972)	5.72 (1.98)	6.25 (2.20)
Income (1967–1971 in 1971 dollars)	12,224 (6,663)	9,631 (6,020)
Household density (1968–1972)	1.26 (0.94)	1.39 (0.87)
No defects (1968–1972)	0.75 (0.17)	0.72 (0.21)
Home ownership (1968–1972)	0.72 (0.40)	0.56 (0.45)

^aStandard deviations are given in parentheses.

17 years of education—as the PSID does in its construction of its education variables.⁵

FINDINGS

Weighted and unweighted descriptive statistics of the sample are presented in Table I. The data appear to be representative of national figures. For instance, the mean level of education completed by the children by age 25 is 13 years of schooling, while for these individuals' parents (the heads-of household in 1972) the figure was approximately 12 years of schooling. This difference accords with cohort increases in the amount of schooling completed in the U.S. population. Meanwhile, 51% of the sample is composed of female respondents, and African-Americans make up 11% of the weighted sample (compared with 12% from census figures). The average age of the head of household in 1972 was 40 years, while the mean age of the children in the household is 7 years. Sample households were headed by a female (single parent) 10% of the time over the 5-year period on average. The mean, weighted family income is close to the national average based on data from the Current Population Survey. Finally, the average sibship size (including the respondent himself/herself) is 5.7, a bit high when compared to national estimates for the median; however,

⁵Other formulations were tested (such as logistic regressions predicting, for instance, completion of high school or college) and results were similar; thus I have chosen to present the more classic OLS regression models of highest grade completed.

Table II. Models Predicting Housing Conditions 1968–1972^a

	Owned home none of 5 years (1968–1972)	No defects all 5 years (1968–1972)	Crowded conditions (1968–1972)
Age of respondent in 1968	0.029 (0.019)	0.019 (0.021)	0.006 (0.018)
Race (African- American = 1)	0.520** (0.163)	0.346 (0.202)	0.469* (0.206)
Age of household head (1972)	-0.033*** (0.009)	-0.038*** (0.011)	-0.020* (0.009)
Education of head (1972)	-0.072*** (0.021)	0.063** (0.024)	-0.026 (0.021)
Female headship (1968–1972)	1.128*** (0.192)	0.300 (0.256)	-0.356 (0.240)
Sibship size (1968–1972)	0.049 (0.031)	0.117*** (0.033)	1.351*** (0.055)
Ln income (1967–1971)	-1.418*** (0.145)	0.258 (0.167)	-0.950*** (0.140)
Constant	-41.513 (37.757)	35.190 (42.590)	-8.718 (36.099)
L^2_{df}	511.887 ₇	37.845 ₇	1530.675 ₇
N	2686	2686	2686

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

^aStandard errors are given in parentheses.

this is a mean value that is sensitive to the presence of a few very large families.

The first part of the analysis examines the socioeconomic determinants of housing conditions for families with children under the age of 18 during each of the years between 1968 and 1972. The first column of Table II shows the model predicting the likelihood that a family did not own its home in any of the years during this 5-year period. The results show that families with older heads of household were less likely to have only rented their homes during this time period. This effect is to be expected since life-cycle models of wealth accumulation have demonstrated that among age cohorts with children (i.e. middle-aged respondents) wealth levels rise with age, before possibly declining late in life (see, e.g., Land and Russell, 1996). Home ownership is, in turn, the modal form of wealth holding for American families (Spilerman *et al.*, 1993). Thus we should anticipate that older residents are more likely to own.

More educated heads of households are also less likely to not have owned during the 5-year period, as are households with higher 5-year income levels. Also worth noting is the fact that net of these socioeconomic variables, African-American families are more likely to not have owned by a factor of 68% (e^b). Likewise, a household that was female headed for all 5 years would be 209% more likely to not have owned than a household that had two parents for the entire time period—net of income and other characteristics. Finally, family size does not appear to have a significant effect.

Table III. Models Predicting Years of Formal Schooling by Age 25^a

	Base model	Housing model
Gender (female = 1)	0.063 (0.070)	0.062 (0.070)
Age of respondent in 1968	-0.048*** (0.012)	-0.048*** (0.012)
Race (African-American = 1)	0.339** (0.126)	0.378** (0.126)
Age of household head (1972)	0.016** (0.006)	0.013* (0.006)
Education of head (1972)	0.198*** (0.014)	0.193*** (0.014)
Female headship (1968-1972)	-0.034 (0.149)	0.036 (0.151)
Sibship size (1968-1972)	-0.150*** (0.019)	-0.110*** (0.024)
Ln income (1967-1971)	0.806*** (0.091)	0.728*** (0.093)
Own no years (1968-1972)		-0.286** (0.100)
Crowded (average > 1.0 persons per room, 1968-1972)		-0.237** (0.090)
No defects all 5 years		-0.149 (0.115)
Constant	-90.07** (22.35)	-89.35*** (23.51)
R ²	0.227	0.232
N	2686	2686

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

^aStandard errors are given in parentheses.

Examining housing quality in column two, we find that the age of the household head has a negative effect on the likelihood of living in a defect free home for all 5 years—perhaps since these householders have lived in their units longer by the time of the survey, and thus have evinced more wear on the unit. Education is positively associated with housing quality, but income, surprisingly, is not. Likewise, neither race nor family structure is significant in predicting housing quality net of other socioeconomic characteristics. Finally, larger families tend to live more often in homes that do not suffer from defects, a finding that I cannot readily explain.⁶

Finally, the third column of Table II shows the covariates of households that suffered from crowded conditions, on average, over the 5 years. In this model, households with older heads are less likely to be crowded. Meanwhile, higher income reduces the likelihood of living in crowded conditions. And, obviously, larger families have significantly greater risks of being crowded. However, education and family structure are not significant. Finally, African-Americans are 60% more likely to live in crowded households than their non-black counterparts.

Table III, shows the impact of housing conditions on the educational attainment of these children in the year that they turned 25. The first column provides a baseline model in which the effects of the variables are in the

⁶The reader should note, however, that I ran models, using the continuous forms of these dependent variables—i.e., percent of years in which the home was owned, percent of years without any defects and household density—and the results for all variables were consistent with those presented above with the exception of this effect of family size on housing quality. So, perhaps this result is due to chance.

direction and are of the magnitude shown by other researchers (see, e.g., Haveman and Wolfe, 1994, who also use the PSID). Age of the child in 1968 has a negative effect, the result of cohort changes in the amount of schooling (Hauser and Featherman, 1976). Parental education has a positive effect as should be expected, as does family income. In this model, family size has a negative effect such that each additional householder results in a decline in 0.15 years of schooling, all else constant. Female headship is not significant when we have controlled for 5-year average income, a finding that accords with work showing that the major portion of family structure effects results from the lower economic resources in female-headed families (Conley, 1999; McLanahan and Sandefur, 1994). Finally, net of socioeconomic measures, African-Americans complete 0.339 years more schooling than their non-black counterparts.

When we add to this model the housing characteristics of the child over the contemporaneous 5-year period, we find that the coefficients for the base-line variables do not change dramatically (with the possible exception of the effect of family size that wanes in strength). Meanwhile, we find a significant difference when we compare children from families that owned their homes for at least some portion of the 5-year period with those who did not own for any portion of the time span. Children from families that rented for the entire period completed over a quarter year less schooling than their owning counterparts net of income and other socioeconomic characteristics. Likewise, children who lived in crowded conditions (on average) for the entire period completed almost a quarter year less schooling than those who lived in more spacious conditions. However, there was no effect of housing quality net of socioeconomic characteristics and these other housing indicators. A Chow test for the difference between this model and the base model yields a highly significant *F*-statistic for the model improvement.

Of interest is not only the fact that two of the housing variables were significant predicting educational attainment but also what happens to the income, family size, and race variables when these are included. When the crowding and ownership indicators are included in the model, the effect of family size is reduced by 27%. The change to the 5-year income coefficient is on the order of 10%. Finally, the net advantage in completed schooling that African-American respondents demonstrate over their non-black counterparts increases by 12%. However, by computing the standard error for the change of each of these coefficients across the two models, none meets the threshold of statistical significance.⁷

⁷The standard error of the difference of the coefficients from the two models is calculated by adding together the variances of each estimate (the square of the standard error) and then taking the square root of this sum.

First, I tested for two interactions, one between race and home ownership to determine whether home ownership was more critical to the educational prospects of African-Americans given that those black families who rent may be trapped—due to residential segregation—in central city neighborhoods with lower quality schools. This term was not significant. Second, I constructed an interaction term between the age of the child in 1968 and crowded conditions; I tested this term in order to see if crowding was more detrimental in adolescence than in early childhood. This proved insignificant as well.

CONCLUSIONS

This paper has documented some of the patterns by which housing conditions are stratified in the United States. It has also determined that these conditions are not just benign measures of “quality of life” but have impacts on the life chances of offspring as measured by educational attainment. In other words, housing plays an intermediary role in the transmission of socioeconomic status from one generation to the next. First of all, socioeconomic conditions predict housing conditions. Specifically, income is positively associated with home ownership and negatively related to crowded conditions. Controlling for this rather obvious effect, we discover more interesting findings. Net of income, education and demographic characteristics, female heads of household are less likely to live in homes they own, as are African-Americans. African-Americans are also more likely to live in crowded conditions than are non-blacks net of socioeconomic circumstances. Typical studies of housing outcomes with respect to gender and race have used cross-sectional data with single year income measures and thus have not been able to adequately control for socioeconomic differences when assessing the impact of race and gender on housing. The current study adds to this debate by showing that even when a 5-year income measure, education and other demographic characteristics are held constant, blacks and female heads suffer from worse housing outcomes. This is important since previous studies that examined home ownership, household crowding, and housing quality were not able to adequately address the possibility that racial and gender differences were not really attributable to socioeconomic background.

In addition, this paper has made a contribution to the literature on status attainment by demonstrating the importance of housing variables in education models (c.f., Blau and Duncan, 1967; Featherman and Hauser, 1978; Haveman and Wolfe, 1994). Specifically, home ownership and household crowding each have a net impact on educational attainment (while

housing quality does not appear to have such an effect). These findings should help future sociologists of housing and of education better focus their investigative efforts. Although physical housing quality as measured here may be important for quality of life, it does not appear to have lasting effects on the educational prospects of children. This may merely mean that housing researchers have to come up with better measures of housing quality; on the other hand, it may mean that net of ownership and household crowding, housing defects are of little consequence with respect to academic outcomes.

Future scholars may want to incorporate more detailed measures of housing in the study of the educational progress of children. It is particularly important for future researchers to integrate the findings presented here with those of the literature on neighborhood effects. A number of researchers have found effects of community socioeconomic status on the outcomes of children and young adults, net of family-level measures (see, e.g., Brooks-Gunn *et al.*, 1993; Brooks-Gunn *et al.*, 1997; Crane, 1991). These studies have not controlled for housing conditions at the family-level, however. This leaves open the possibility that neighborhood effects are really proxy for the household-level variables measured explicitly here. Likewise, it is also possible that effects presented here are reflecting, in part, unmeasured community dynamics. For instance, they may want to ascertain, with geocodes and school expenditure data, how much home ownership effects are acting as proxies for school district differences. Most interesting, however, is the possibility that community level factors interact with family level housing conditions. For example, it could be the case that home ownership is only important if it is accompanied by residence in a high-status neighborhood. Or, it could be the case that housing defects are only detrimental to children's academic success in wealthy communities where they are not the norm (and therefore evince negative peer group comparisons).

Likewise, future sociologists of housing and stratification may investigate the mechanisms by which parents may make use of the equity in their homes to finance their children's college educations. Other researchers may want to consider the impact of housing on other socioeconomic outcomes such as occupation and family stability. Finally, some researchers may want to investigate to what extent the effects presented here act through IQ and home environment as measured by the HOME scale and how strongly they directly affect educational attainment net of these indicators. Such analysis would go a long way to clarify the effects of locally based school financing on educational quality (for instance) from cognitive process effects occurring within the context of the actual household environment. The role of the present analysis has been to show the importance of housing for educational

outcomes, paving the way for research that will finally adjudicate between the various possible mechanisms.

Another aspect of this current study worth mention is the role of race. Race is of central importance whenever one speaks of housing given the levels of black–white residential segregation that persist over controls for social class. Segregated housing markets, in turn, result in lower rates of home ownership and more crowded living conditions. The current study shows that these differences persist even after adequate controls for socioeconomic status are held constant. Such inferior housing conditions then disadvantage the educational attainment efforts of African-Americans vis-à-vis whites. The current study has found that when socioeconomic *and* housing conditions are held constant, African-Americans actually demonstrate an educational advantage over their non-black counterparts of almost four-tenths of a grade. Further, it appears from these data that home ownership benefits blacks and non-blacks equally in this regard. These findings related to race deserve more attention in their own right. For instance, future researchers may want investigate whether the trade-offs between ownership, spaciousness, and quality are the same for blacks and whites given the dual-market phenomenon. These scholars may also address whether role of housing is different for blacks and whites in areas other than education. For instance, does household crowding have the same effects on fertility (and specifically teenage fertility) for blacks and whites? Likewise, how does home ownership affect job networks for young adults of different races?

In sum, housing is an important material mechanism by which socioeconomic and racial advantage is passed on from one generation to the next. Not only does growing up in a spacious home that is owned by one's family make for a better quality of life, it also affects an individual's adult socioeconomic attainment through the vehicle of education. In the future, it will be interesting to see if the role of housing as an intermediary variable in status attainment increases as housing costs rise as a percentage of family budgets (as has been the trend in recent history). Likewise, it would be interesting to determine whether the strength of the housing mediated effect (A times B in Fig. 1) relative to the nonhousing effect of family background (arrow C) varies by local housing market (and associated differences in the cost of housing relative to other goods).

ACKNOWLEDGMENTS

This research was made possible by support from the National Science Foundation (grant number 95-21011), a grant from the Center for Young

Children and Families of the Teachers College at Columbia University and by support from both the Robert Wood Johnson Foundation and the Institution for Social and Policy Studies at Yale University. The author is grateful to the participants of the session and to Robert Bailey, Neil Bennett, Hiroshi Ishida, Kathryn Neckerman, Stephanie Robert, and Seymour Spilerman for their helpful advice and comments.

REFERENCES

- Altman, Irwin**
1975 *The Environment and Social Behavior*. Monterey: Brooks/Cole.
- Angel, Ronald, and Marta Tienda**
1982 "Determinants of extended household structure: Cultural pattern or economic need?" *American Journal of Sociology* 87:1360–1383.
- Blau, Peter, and Otis D. Duncan**
1967 *The American Occupational Structure*. New York: Free Press.
- Booth, Allan, S. Welch, and D. R. Johnson**
1976 "Crowding and urban crime rates." *Urban Affairs Quarterly* 11:291–308.
- Brooks-Gunn, Jeanne, Greg J. Duncan, Pamela K. Klebanov, and Naomi Sealand**
1993 "Do neighborhoods influence child and adolescent development?" *American Journal of Sociology* 99(2): 353–395.
- Brooks-Gunn, Jeanne, Greg J. Duncan, and J. Lawrence Aber (eds.)**
1997 *Neighborhood Poverty: Context and Consequences for Children*, Vol. I. New York: Russell Sage Foundation.
- Caldwell, B. M., and R. H. Bradley**
1984 *Manual for the Home Observation for the Measurement of the Environment*. Little Rock, AK: University of Arkansas Press.
- Calhoun, J. B.**
1962 "Population density and social pathology." *Scientific American* 206:139–148.
- Conley, Dalton**
1999 *Being Black, Living in the Red: Race, Wealth and Social Policy in America*. Berkeley, CA: University of California Press.
- Crane, Jonathan**
1991 "The epidemic theory of ghettos and neighborhood effects on dropping out and teenage childbearing." *American Journal of Sociology* 96:1226–1259.
- Duncan, Greg J.**
1976 *Five Million Families: Results from Waves I–V of the Panel Study of Income Dynamics*. Ann Arbor, MI: Institute for Social Research, University of Michigan.
- Duncan, Greg J., and Daniel Hill**
1989 "Assessing the quality of household panel survey data: The case of the Panel Study of Income Dynamics." *Journal of Business Economics and Statistics* 7:441–451.
- Edwards, John N. et al.**
1994 *Household Crowding and Its Consequences*. Boulder, CO: Westview Press.
- Edwards, John N., Theodore D. Fuller, Santhat Sermisri, and Sairudee Vorakitphokatorn**
1992 "Household crowding and reproductive behavior." *Social Biology* 39:212–230.
- Edwards, John N., Theodore D. Fuller, Sairudee Vorakitphokatorn, and Santhat Sermisri**
1993 "Household crowding and family relations in Bangkok." *Social Problems* 40:410–430.
- Featherman, David, and Robert M. Hauser**
1978 *Opportunity and Change*. New York: Basic Books.
- Foley, D.**
1980 "The sociology of housing." *American Review of Sociology* 6:457–478.
- Fuller, Theodore D., John N. Edwards, Sairudee Vorakitphokatorn, and Santhat Sermisri**
1996 "Chronic stress and psychological well-being: Evidence from Thailand on

- household crowding." *Social Science and Medicine* 42:265–280.
- Galle, Omer R., and W. Gove**
1978a "Overcrowding, isolation and human behavior: Exploring the extremes in population distribution." In K. Tauber and J. Sweet (eds.), *Social Demography*: 95–132. New York: Academic Press.
- 1978b "Crowding and behavior in Chicago, 1940–1970." *Residential Crowding and Design*. New York: Plenum Press.
- Gove, W. R., M. Hughes, and Omer R. Galle**
1979 "Overcrowding in the home: An empirical investigation of its possible pathological consequences." *American Sociological Review* 44:59–80.
- Hauser, Robert, and David Featherman**
1976 "Equality of schooling: Trends and prospects." *Sociology of Education* 49:99–120.
- Haveman, Robert, and B. Wolfe**
1994 *Succeeding Generations: On the Effects of Investments in Children*. New York: Russell Sage Foundation.
- Hawkins, Homer**
1976 "Urban housing and the Black family." *Phylon* 37:73–84.
- Henretta, J. C.**
1979 "Racial differences in middle-class lifestyle: The role of home ownership." *Social Science Research* 8:63–78.
- Higgins, P. C., P. J. Richards, and J. H. Swan**
1976 "Crowding and urban crime rates: Comment." *Urban Affairs Quarterly* 11:309–316.
- Hill, Martha S.**
1992 *The Panel Study of Income Dynamics: A User's Guide*. Newbury Park, CA: Sage Publications.
- Jackman, M. R., and R. W. Jackman**
1980 "Racial inequalities in home ownership." *Social Forces* 58:1221–1234.
- Klerman, L. V., and M. Parker**
1990 *Alive and Well? A Review of Health Policies and Programs for Young Children*. New York, NY: National Center for Children in Poverty.
- Land, K. C., and S. T. Russell**
1996 "Wealth accumulation across the life course: Stability and change in sociodemographic covariate structures of net worth data in the Survey of Income and Program Participation." *Social Science Research* 25:423–462.
- Leonard, P. C. Dolbeare, and E. Lazere**
1989 *A Place to Call Home: The Crisis in Housing for the Poor*. Washington, DC: Center on Budget and Policy Priorities and Low Income Housing Information Service.
- Levy, F., and R. Michel**
1991 *The Economic Future of American Families*. Washington, DC: The Urban Institute Press.
- Liddell, Christine**
1994 "South African children in the year before school: Towards a predictive model of everyday behaviour." *International Journal of Psychology* 29:409–430.
- Mahaffey, K. R., J. L. Annett, and J. Roberts**
1982 "National estimates of blood lead levels: United States, 1976–1980: Association with selected demographic and socioeconomic factors." *New England Journal of Medicine* 307(1):573–579.
- Massey, D. S., and N. Denton**
1993 *American Apartheid: Segregation and the Making of the Underclass*. Cambridge, MA: Harvard University Press.
- McLanahan, S., and G. Sandefur**
1994 *Growing Up with a Single Parent: What Hurts, What Helps*. Cambridge, MA: Harvard University Press.
- National Center for Children in Poverty**
1990 *Five Million Children: A Statistical Portrait of America's Youngest Poor*. New York: Columbia University School of Public Health.
- Oliver, Melvin L., and Thomas S. Shapiro**
1995 *Black Wealth/White Wealth*. New York: Routledge.
- Parcel, Toby L.**
1982 "Wealth accumulation of black and white men: The case of housing equity." *Social Problems* 30:199–211.
- Quah, R., A. Stark, and J. W. Meigs**
1982 "Children's blood levels in New Haven: A population based information demographic profile." *Environmental Health Perspectives* 5:128–134.

Rosenbaum, Emily

- 1994 "The structural constraints on minority housing choices." *Social Forces* 72(3):725-747.
- 1995 "Racial/ethnic differences in home ownership and housing quality, 1991." *Social Problems*. 43:403-426.

Ruggles, Patricia

- 1990 *Drawing the Line: Alternative Poverty Measures and Their Implications for Public Policy*. Washington, DC: The Urban Institute Press.

Spilerman, S., N. Lewin-Epstein, and M. Semyonov

- 1993 "Wealth, intergenerational transfers and life chances." In A. Sorensen and S. Spilerman (eds.), *Social Theory and Social Policy*: 165-186. New York: Praeger.

Stegman, Michael

- 1988 *Housing and Vacancy Report: New York City, 1987*. New York: New York City Department of Housing Preservation and Development.