Title

Space and Poverty: The Effect of Concentrated Poverty on Employment in Large Urban Areas

Author

O'Regan, Katherine M.

Publication Date

1992-09-01

Space and Poverty: The Effect of Concentrated Poverty on Employment in Large Urban Areas

Katherine M. O'Regan

Working Paper
UCTC No. 150

The University of California
Transportation Center

University of California
Berkeley, CA 94720

The University of California Transportation Center

The University of California Transportation Center (UCTC) is one of ten regional units mandated by Congress and established in Fall 1988 to support research, education, and training in surface transportation. The UC Center serves federal Region IX and is supported by matching grants from the U.S. Department of Transportation, the California State Department of Transportation (Caltrans), and the University.

Based on the Berkeley Campus, UCTC draws upon existing capabilities and resources of the Institutes of Transportation Studies at Berkeley, Davis, and Irvine; the Institute of Urban and Regional Development at Berkeley; the Graduate School of Architecture and Urban Planning at Los Angeles; and several academic departments at the Berkeley, Davis, Irvine, and Los Angeles campuses. Faculty and students on other University of California campuses may participate in Center activities. Researchers at other universities within the region also have opportunities to collaborate on selected studies. Currently faculty at California State University, Long Beach, and at Arizona State University, Tempe, are active participants.

UCTC's educational and research programs are focused on strategic planning for improving metropolitan accessibility, with emphasis on the special conditions in Region IX. Particular attention is directed to strategies for using transportation as an instrument of economic development, while also accommodating to the region's persistent expansion and while maintaining and enhancing the quality of life there.

The Center distributes reports on its research in working papers, monographs, and in reprints of published articles. For a list of publications in print, write to the address below.

University of California Transportation Center

108 Naval Architecture Building
Berkeley, California 94720
Tel. 415/643-7378
FAX 415/643-5456

Authors of papers reporting on UCTC-sponsored research are solely responsible for their content. This research was supported by the U.S. Department of Transportation and the California State Department of Transportation, neither of which assumes liability for its content or use

Space and Poverty: The Effect of Concentrated Poverty on Employment in Large Urban Areas

Katherine M. O'Regan

Yale School of Organization and Management
New Haven, CT 06520

Working Paper
September 1992

UCTC No. 150

The University of California Transportation Center
University of California at Berkeley

Support for this research has been provided by the U.S. Department of Transportation and the Summer Support Fund of the Yale School of Organization and Management.

I. Introduction

From 1970 to 1980, the percent of poor living in high poverty census tracts (poverty rates of forty percent or greater) increased by 27 percent (Jargowsky and Bane, 1991). This increase in the concentration of poverty has occurred almost exclusively in large urban areas and among minorities (Massey and Eggers, 1989). For minority poor living in such areas, the 'area-poverty' experienced by the poor has increased quite dramatically. A greater proportion of the people with whom poor residents come into contact are also poor; fewer are nonpoor. If living in such areas of concentrated poverty affects the chances of escaping poverty, then this increase has profound social and policy implications.

In the following, we refer to the impact of the spatial concentration of poverty on the life chances of the poor as a "concentration effect." This paper is an empirical exploration of the presence and magnitude of a concentration effect on employment.

The role of space in affecting the prospects and outcomes for urban poor has a long research history.[1] William J. Wilson's introduction of the term "underclass" to the literature on poverty sparked a renewed interest in the spatial dimensions of poverty, and in the effects of space on the poor (Wilson, 1986). The debate and research that has ensued has focused frequently on the definition of the term, empirical tests on the size and growth of the "underclass," and on the insight provided by the concept into the more general problems of poverty.[2] Rather than join in this debate, the objective of this paper is much more narrowly focused on the effects of the spatial concentration of poverty on employment. Specifically, does the concentration of poverty itself increase unemployment, for metropolitan areas and for

---

[1] See Kain (1968) and Holzer (1991).

[2] See Jenks and Peterson for a review.

youth?

There are currently a variety of plausible explanations of a negative effect of concentrated poverty upon employment for urban residents. Wilson's thesis is that concentration itself is caused by the lack of job opportunities in urban areas. This has led to a decrease in the number of marriageable males, an increase in the prevalence of single-headed households, a decrease in mainstream role models and job contacts for urban minority youth, and the creation of a socially and geographically isolated minority poor. This isolation of minority urban poor itself handicaps the poor in finding and maintaining employment. A counter-thesis, which is a resurgence of the "culture-of-poverty" thesis suggests that, in such areas, an alternative culture which places little weight on stable labor force participation and mainstream values becomes the dominant social view (Mead). Regardless of the mechanism, each of these thesis suggests that there may be negative consequences arising from the spatial proximity of the poor.

Empirical evidence for such consequences is limited. In their review of existing literature on the effects of poor neighborhoods, Jenks and Mayer concluded that the empirical work conducted to date had not demonstrated the existence or importance of neighborhood effects. This finding was attributed, in part, to the sparse number of studies which focus specifically on the effect of poor and extremely poor neighborhoods (Jenks and Mayer, 1990). Two recent papers have found significant area composition effects on youth. Crane's work with the 1970 neighborhood census data found a sizeable impact of neighborhood socioeconomic status on both dropout rates and teen childbearing rates for youth living in the most deprived neighborhoods (Crane, 1991). Using data from the 1980 School and Beyond survey, Mayer found that racial and socioeconomic composition of schools affects high school dropout rates and teen childbearing rates (Mayer, 1991).

This paper uses 1980 metropolitan and individual level data to test for the effects of spatially concentrated poverty on metropolitan unemployment rates and youth employment probabilities in large urban areas. Concentrated poverty is a measure of the extent to which poor people live in proximity to other poor people and thereby are influenced, in an undetermined manner, by other people's poverty. The two empirical tests conducted suggest that concentration itself increases unemployment, at least in large urban areas where the concentration of poverty is high. Employment probabilities for youth living in the central city of large urban areas are negatively affected by poverty concentration. No attempt is made at discerning the mechanism which causes this effect. Rather, this paper is focused on the question of whether policymakers need to consider the existing or resulting spatial aspects of poverty in policy design.

II. Measuring Poverty Concentration

Throughout the empirical tests, we rely on a measure of poverty concentration calculated by Massey and Eggers (1989) for forty seven of the largest metropolitan areas in 1980. The measures are based on a standard segregation index, the isolation index, for poor whites, blacks and hispanics.[3] This index calculates the extent to which members of one group reside in proximity to members of the same group, and are thereby isolated from contact with members of other groups. The isolation index has been used extensively in work on racial segregation (Lieberson and Carter, 1982; White, 1986; Massey and Denton, 1989). An appealing aspect of this index is its easy interpretation; it equals, for the average member of group i, the probability that a randomly selected resident of the same census tract is also a member of the same group. It is essentially an average of the representation of group i in each tract, weighted by the proportion of group i in each tract. It is calculated as follows:

[3] For a comprehensive review of segregation measures and their interpretation see White, 1986; Miller and Quigley, 1991.

$$ {}_iI_i = \sum n_{it}/N_i \cdot n_{it}/n_t $$

where

${}_iI_i$ = probability of interaction between i and j
n_{it} = number of i type people in tract t
N_i = total number of i people living in metropolitan area
n_t = total number of people in tract t

Massey and Eggers' isolation indices are based on 1980 census tract data. Whites, blacks, and hispanics were classified by poverty status.[4] The expression above is modified slightly:

$$ {}_{pi}C_p = \sum n_{pit}/N_{pi} \cdot n_{pt}/n_t $$

where

${}_{pi}C_p$ = probability of contact between poor of race i and all poor
n_{pit} = number of poor of race i in tract t
N_{pi} = total number of poor of race i in metropolitan area
n_{pt} = number of poor in tract t
n_t = number of people in tract t

The measure relies upon count of households by poverty, race and census tract status. Poverty proportions are summed over census tracts, weighted by the percent of poor of a given race residing in a tract. This measure is equivalent to the average census tract poverty rate experienced by white, black and hispanic poor. This version of the isolation index was selected to measure the concentration of poverty because it best captures the notion of concentrated poverty we are interested -- the extent to which poor are spatially proximate to other poor and interact solely with other poor.[5] Appendix A1 lists the Metropolitan Statistical Areas (MSA) included in our sample and their levels of poverty concentration for 1980.

---

[4] Isolation indices for poor Asians were also calculated, which we do not consider in our analysis. The specific measures used are taken from table 7 (Massey and Eggers, 1989).

[5] A cruder measure, utilized by Jargowsky and Bane, relies upon an arbitrary threshold (Jargowsky and Bane, 1991). They calculated census tract poverty rates, designated some threshold level as 'high poverty' (40%), and calculated the percent of poor in a metropolitan area who lived in high poverty tracts. Their measures are highly correlated with the Massey and Eggers' measures.

The average concentration of poverty index for white poor in our sample is 0.134. On average, a poor white person lived in a census tract in which the poverty rate was 13.4%. This is a considerably lower level of concentration than for black or hispanic poor, who, on average, lived in census tracts with poverty rates of 30.1% and 23.4%, respectively. Appendix A2 presents simple correlations among the concentration indices and between the indices and various metropolitan characteristics, including poverty and unemployment rates.

Concentration of poverty is presumed to increase unemployment. Unfortunately, concentration of poverty is likely to itself be affected by unemployment. An increase in unemployment could lead to an increase in poverty concentration. We have taken two approaches for dealing with this simultaneity problem. The first is to account directly for simultaneity by using mulitvariate statistical techniques. The second is to limit the extent to which simultaneity is an issue by focusing on employment for at-home youth. Evaluating these approaches requires first setting forth in more detail the relationship between concentration of poverty and employment outcomes.

III. Model of Concentration

In developing the relationship between poverty concentration and unemployment, we start by considering a model in which there is no segregation by income or by race. Residents of a metropolitan area are evenly distributed across census tracts, and each census tract has the same poverty rate. In this case, the concentration index (C) will equal the poverty rate (P), and unemployment (U) will affect poverty concentration through its relationship to P.

$$(1)\ C = P$$

$$(2)\ P = g(U)$$

Equation (2) depicts the first potential source of simultaneity in estimating the effect of concentration on unemployment. As unemployment rises, poverty rates will increase, and the concentration of poverty must increase.

Next, consider the impact of residential segregation by income and race. Poor people will now more likely live in census tracts with other poor people. The concentration of the poor will depend on the poverty rate, but rather than equal P, C will always exceed P. Residential segregation adds an additional complication to the above relationships. Since poverty rates vary by race, and residences are not only segregated by income but by race, the concentration of poverty will depend not only the poverty rate of that group, and the extent to which members of that group live near other members of that group, but also on the poverty rate of other groups and the extent to which these groups interact (I).

(1a) $C = f(P, I)$

where C, P, and I are vectors with race-specific variables. The effect of an increase in unemployment on the concentration of poverty is no longer certain. The sign of the effect depends on the extent to which households adjust their residence choice in response to changes in their employment status.

Consider the initial impact of an increase in unemployment on the concentration of poverty for immobile households. The effect of such an increase will depend on where the newly poor households live. The addition of newly poor to census tracts with poverty rates greater than those faced by the average poor resident (prior to the increase in unemployment) will cause an increase in the concentration of poverty. This positive link from unemployment to concentration will be countered by the negative effect of newly poor living in census tracts with poverty rates below that previously faced by the average poor resident. If households are

immobile, the increase in poverty could lead to either an increase or a decrease in the concentration of poverty. Simultaneity exists, but the sign of the relationship is unknown.

Once household mobility is permitted, however, the relationship is no longer indeterminate. If households sort across tracts by income so as to maintain the pre-existing level of income segregation, an increase in metropolitan unemployment which increases poverty would again be expected to increase the concentration of poverty.

Unemployment may now affect the level of concentration directly through its effect on poverty rates and the effect of poverty rates on concentration, or indirectly through poverty's effect on the interaction of groups.

(3) $I = h(P)$

The set of relationships is completed by considering the relationship between unemployment and concentration.

(4) $U = j(C)$

IV. Testing for Concentration Effects

Our first approach to test for a concentration effect on unemployment relies on 1980 metropolitan level data for forty seven of the largest MSAs to estimate equations (1a), (2),(3) and (4). Three groups are considered: whites, blacks, and hispanics (i=1,2,3 respectively). Three equations specify the concentration rates:

(1a)' $Con_i = f(P_1, P_2, P_3, {}_iI_1, {}_iI_2, {}_iI_3, N_i)$

where N_i is the fraction of metropolitan population of group i.

Poverty concentration for group i is a function of poverty rates for all groups, residential interactions between group i and all groups (including i), and the relative sizes of the various groups. Racial interaction indices are measured using standard interaction indices, of which the isolation index presented in Section II is one form. Group i's interaction with group j is, for the average i person, the proportion of tract residents who are members of group j.[6] Again, three equations specify the poverty rates.

(2)' $P_i = g(U_i, M)$

where M represents a vector of metropolitan specific characteristics.

The poverty rate for group i depends on group i's unemployment rate and a selection of metropolitan characteristics. Clearly, the type of employment in the MSA will affect local poverty rates. We use four industry mix variables to control for the composition of MSA employment: percent of MSA employment in the manufacturing, trade, business and related services, and professional services industries. Characteristics of the population are also likely to affect poverty rates. Percent of population i who are high school graduates and median age of population i are included for demographic controls.

---

[6] Interaction indices are calculated as follows:

$${}_iI_j = \sum n_{it}/N_x \cdot n_{jt}/n_t$$

where

${}_iI_j$ = interaction between group i and group j
n_{it} = number of i type people in tract t
N_i = total number of i people living in metropolitan area
n_{jt} = number of j type people in tract t
n_t = total number of people in tract t

(3) ${}_iI_i = h(P_i, N_i)$

Interaction indices between and among the groups are a function of all groups' poverty rates and the relative sizes of the populations.

(4) $U_i = j(M, Con_i)$

Unemployment for group i is a function of the same metropolitan characteristics included in (2), and the concentration of poverty for group i.

Concentration, poverty rates, racial interactions, and unemployment are all endogenous to the model. Exogenous variables include percent of the population of a given race or ethnicity, percent of employment in four industry categories (manufacturing, trade, business and related services, and professional services), percent of a particular population who are high school graduates, and median age of that population.

Test I: Aggregate Data

Equations 1(a)'- (4)' were estimated jointly using three stage least squares. Estimation results for the first series of equations, with poverty concentration as the dependent variable, are in Table 1A. For each equation, the own-group poverty rate is significantly positive. For the concentration of white poverty, the black poverty rate is also significantly positive. Racial interaction terms are insignificant in all equations, while some population composition variables have significant effects.[7] Concentration of white poverty is higher in MSAs with proportionately larger hispanic populations. Concentration of black poverty is higher in MSAs with larger black populations; concentration of black poverty is significantly lower in areas

[7] In all equations, the omitted category for racial interactions is interaction with whites.

with proportionately larger hispanic populations. In such areas, blacks have more contact with hispanics, and hispanic poverty rates are lower than black poverty rates. Composition of the population has no significant effect on the concentration of hispanic poverty.

Table 1B presents results for the poverty equations. Not surprisingly, a group's unemployment rate significantly positively affects its poverty rate. All poverty rates are significantly affected by local industry mix, but the effects differ across groups. All poverty rates are significantly lower in MSAs with a greater share of employment in the manufacturing industry. The business services industry significantly decreases white poverty rates but significantly increases black and hispanic poverty rates. Professional services has a significant affect on white poverty rates only, and the effect is negative.

After controlling for unemployment, some population characteristics independently affect poverty rates. White and black poverty rates are lower in MSAs with older populations. Black and hispanic poverty rates are lower in MSAs in which a greater share of the relevant populations are high school graduates. Since poverty rates significantly affect the concentration of poverty, these equations provide evidence of the first avenue of simultaneity from unemployment to concentration.

The second route of reverse causation between concentration and unemployment is explored in Table 1C, through the impact of poverty on racial interaction. Poverty rates significantly affect interaction among groups in a manner consistent with expectations. Whites are more likely to interact with blacks when white poverty rates are higher and black poverty rates are lower. Whites are significantly less likely to interact with hispanics when hispanic poverty rates are higher. Black-black contact is significantly higher when black poverty rates are higher, and significantly lower when white poverty rates are high. Black-hispanic contact

increases with hispanic poverty. Hispanic-black contact increases with hispanic poverty. Hispanic-hispanic contact is negatively affected by white poverty and positively affected by both black and hispanic poverty. The population composition variables are significant and of the expected sign.

Results for the final equations, unemployment rates, are contained in Table 1D. Industry mix variables are significant in each equation, and the pattern is similar across groups. Manufacturing increases unemployment and business services decreases unemployment. Professional services is significant only for hispanic poverty, and it has a positive effect. Almost all demographic variables are insignificant.

Concentration of poverty has a significantly positive coefficient in each equation. After controlling for the impact of unemployment on measures of concentrated poverty, the concentration of poverty increases MSA unemployment. The impact of poverty concentration on metropolitan unemployment rates is quite large.

Table 2 reports estimated MSA unemployment rates using coefficients from the unemployment equations, Table1D. If white poverty concentration in all MSAs were as low as the minimum level in our sample, white unemployment would decline from 5.11 percent to 2.91 percent, 43%. If all MSAs experienced the same level of concentration of black poverty as the sample minimum level of black poverty concentration, black unemployment rates would decline from 11.28 percent to 5.94 percent, a decrease of 47%. For hispanics, a decline in hispanic poverty concentration to the minimum would result in hispanic unemployment decreasing from 8.7 percent to 6.77, or 22.9%. Were the average level of black and hispanic poverty concentration equivalent to the actual average level of white poverty concentration, black unemployment would decrease by 40.3%; hispanic unemployment would decrease by 20.4%.

Test II: Individual Data

An alternative means of addressing the simultaneity problem is to limit the reverse causation between employment outcomes and concentration by focusing on employment outcomes of youth living at home. To the extent that youth earnings play only a minor role in the determination of family poverty status, the first source of simultaneity is minimized. By focusing on youth who live at home, youth's residential choice is presumed to be influenced by the parent's employment status, but not by their own. This limits the effect youth employment has on the concentration of poverty through the second avenue of simultaneity.[8] Equation (4) can be estimated independently of the system. To better control for individual level characteristics, individual employment probabilities rather than metropolitan employment rates were estimated.

Data are from the 1980 Public Use Micro Sample (Sample B), for all 16 to 19 year old white, black and hispanic youth living with at least one parent, in 47 of the largest MSAs. For this sample of over 55,000 youth, we have both individual and household level information, including MSA identification and whether the youth resides in the central city. These data are used for logit estimates of the probability of employment, controlling for a variety of individual, household, and metropolitan characteristics, including concentration of poverty.[9] Individual level variables are: youth's gender, residence, age, school enrollment status, and years of education. The logits also include industrial affiliation of youth.[10] Household level variables are: whether the youth resides in a female headed household, years of education of the head parent, and family income net of the youth's earnings. Metropolitan adult white

---

[8] In essence, $dP/du_y = 0$, and $dI/du_y = 0$.

[9] Note that for sample size reasons, we have switched our focus from unemployment to employment.

[10] The selection of individual level variables was guided by those found to be significant in previous studies (Freeman, 1982; Ihlandfeldt and Sjoquist, 1989).

unemployment is included to control for local employment conditions. Three region dummy variables are also included.

Three versions of the logit were estimated. The first, reported in column 1 of Table 3, included three measures of MSA poverty concentration, white, black and hispanic. Only white concentration has a significant affect on youth employment.

Since our expectation is that youth of a particular race or ethnicity will be affected by poverty concentration for that group, column 2 reports the results of the second logit, in which the concentration measures were interacted with race/ethnicity dummy variables.[11] In this regression, all concentration measures have a significantly negative affect on youth employment probabilities.[12] Concentration of poverty for the youth's race or ethnic group significantly negatively affects the youth's probability of employment. The final logit includes both concentration and concentration interacted with race or ethnicity. The interacted measures remain significantly negative, and the magnitude of the coefficients is unaltered. The additional concentration measures are insignificant.[13] Concentration of poverty of a specific group negatively affects the probability of employment for a youth of that demographic group. Concentration of poverty for other groups has no effect on youth employment probabilities.

A surprising and troubling result of including the concentration measures with interaction terms is the loss of coefficient significance on race and ethnicity dummies. In

---

[11] For example, white concentration is interacted with a race dummy variable which is equal to 1 for white youth and 0 for all other youth.

[12] Note the loglikelihood is substantially lower when the interaction form of concentration measures is used.

[13] $X^2 = 2(23959.44 - 23959.01) = 0.86$, with three degrees of freedom.

similar logits, run without youth industrial affiliation, the coefficients on race and ethnicity remain significant, and the pattern of significance on measures of concentration is exactly as reported in Table 3. Inclusion of both industrial affiliation and interacted concentration terms appears to capture differences in youth employment probabilities across race and ethnicity.

To test further whether the significance of the concentration coefficients is spuriously caused by race and ethnicity differences, we estimate logits separately for white, black and hispanic youth (Table 4). Employment probabilities of white and black youth remain significantly negative affected by concentration. The size of the coefficients are essentially unchanged.

The coefficient on hispanic concentration also remains the same size, but decreases in significance, and is only significant at the .10 level. Due to the much decreased sample size for the hispanic youth logit, a number of variables significant in the white and black logits are insignificant, including youth's years of education and the MSA unemployment rate. The decrease in level of significance for the coefficient on concentration appears to be a sample size effect. The effect of concentration measures in the aggregate does not appear to be an artifact of racial or ethnic differences in employment probabilities.

While the concentration measure used in this analysis is based on the full metropolitan area, concentration of poverty is at its highest in central cities. To test whether concentration differentially impacts central city youth, we re-estimated the aggregated logit from column 2 of Table 3, incorporating three additional measures of concentration interacted with a central city dummy variable. Table 5 presents the coefficients of the six concentration measures.

Residential location of youth significantly affects the results.[14] Poverty concentration significantly negatively affects all central city youth's employment probabilities. Independent of this effect, black youth as a group are also significantly affected by the level of demographically-specific concentration of poverty.[15]

Relying on individual level data has improved our ability to control for relevant population characteristics. Individual industry affiliation and MSA unemployment serve to control for local labor market conditions. However, it is still possible that some MSA specific characteristic which jointly affects youth employment probabilities and poverty concentration has been omitted. To better control for local factors, a final employment logit was estimated incorporating forty-six MSA specific dummy variables.[16] Results for the coefficients on concentration measures are presented in Table 6.

Metropolitan-specific effects significantly affect youth employment (X^2 =2(23949.36-23892.89)=112.94 with 46 degrees of freedom) but do not affect our results for concentration. After including MSA dummy variables, concentration of poverty significantly negatively affects employment probabilities for central city youth.

The size of the effect can be seen by comparing youth employment probabilities at various level of poverty concentration, presented in Table 7. If white poverty concentration in all MSAs were at the sample minimum, the employment probability for a white central city youth would increase 9.1 percent. For white youth residing outside the central city, the

---

[14]Comparing loglikelihood functions from column 2 of Table 3 and Table 5, X^2 = 2(23959.44 - 23949.36)=20.16 with three degrees of freedom.

[15] Note that 76% of black youth live in central cities, compared to 24% of white youth and 56% of hispanic youth.

[16] The omitted comparison MSA is Washington, DC.

increase would be much smaller, 2.4 percent. For black youth, the effect of a decline in black poverty concentration to the sample minimum would be much larger, 41.0 percent for central city youth and 20.1 percent for non-central city youth. For hispanic youth, the corresponding increases in employment probabilities are 12.7 percent and 1.2 percent. Were black poverty concentration levels as low as the average level of white poverty concentration, employment probabilities for black youth would increase 36.9 percent for central city residents and 17.9 percent for non-central city youth. If hispanic poverty concentration were at this level, employment probabilities would increase 11.8 percent for central city hispanic youth but only 1.0 percent for non-central city hispanic youth.

VII. Conclusion

These empirical tests provide evidence that the spatial concentration of poverty has an impact on the employment prospects of residents of areas where poverty is particularly highly concentrated. Using three stage least squares to control for the impact of unemployment on poverty concentration, we still find that unemployment is higher in metropolitan areas in which poverty is more spatially concentrated. Using individual level data, youth living in MSAs with more highly concentrated poverty are less likely to be employed. The effect is found mainly for central city youth, even after controlling for metropolitan specific conditions with MSA dummy variables.

Estimates of the size of the effect vary for the two approaches taken. Using aggregate data and simultaneous equations, the effect is strikingly large for all groups. When individual level data is used to estimate employment probabilities, minority youth residing in central cities are most affected. Black youth are by far the most strongly negatively affected by the concentration of poverty.

These results suggest that, for policy makers currently uncertain of the relevance of the term "underclass" or the importance of such a distinction when considering local poverty policy, there are effects which arise from the spatial distribution of poverty. Any policy which would serve to isolate further isolate the poor from the nonpoor will have an additional negative impact on the employment outcomes of the poor. Regardless of the mechanism which conveys this effect, or the normative assignment of responsibility, space matters.

References

Crane, Jonathan (1991) "Effects of Neighborhoods on Dropping Out of School and Teenage Childbearing" in Jenks and Peterson.

Jargowsky, Paul and Mary Jo Bane (1991) "Ghetto Poverty in the United States, 1970 - 1980" in Jenks and Peterson.

Jenks, Christopher and Susan Mayer (1990) "The Social Consequences of Growing up in a Poor Neighborhood" in Laurence Lynn and Michael McGeary (ed) Inner-City Poverty in the United States (Washington , D.C.: National Academy Press).

Jenks, Christopher and Paul E. Peterson (1991) The Urban Underclass (Washington, D.C.: Brookings Institute).

Freeman, Richard B. (1982) "Economic Determinants of Geographic and Individual Variations in the Labor Market Position of Young Persons" in Richard B. Freeman and David Wise (eds) The Youth Labor Market Problems: Its Natures, Causes, and Consequences (Chicago: University of Chicago Press).

Holzer, Harry J. (1991) "The Spatial Mismatch Hypothesis: What Has the Evidence Shown?" Urban Studies 28:105-122.

Ihlanfeldt, Keith R. and David L. Sjoquist (1991) "The Role of Space in Determining the Occupations of Black and White Workers" Regional Science and Urban Economics 21:295-315.

Kain, John F. (1968) "Housing Segregation, Negro Employment, and Metropolitan Decentralization" Quarterly Journal of Economics 82:175-197.

Lieberson, Stanley and Donna K. Carter (1982) "Temporal Changes and Urban Differences in Residential Segregation: A Reconsideration" American Journal of Sociology 88:2 296-311.

Mayer, Susan (1991) "How much does a High School's Racial and Socioeconomic Mix Affect Graduation and Teenage Fertility Rates" in Jenks and Peterson.

Massey, Douglas and Nancy Denton (1987) "Trends in the Residential Segregation of Blacks, Hispanics and Asians: 1970-1980" American Sociological Review 52 802-825.

Massey, Douglas and Mitchell Eggers (1989) "The Ecology of Inequality: Minorities and the Concentration of Poverty, 1970-1980" Population Research Center discussion paper series, University of Chicago.

Miller, Vincent P. and John M. Quigley (1990) "Segregation by Racial Demographic Group: Evidence from San Francisco" Urban Studies 27:1 3-21.

White, Michael J. (1986) "Segregation and Diversity Measures in Population Distribution" Population Index 52 198-221.

Wilson, William J. (1987(The Truly Disadvantaged: The Inner City, the Underclass, and Public Policy (Chicago: University of Chicago Press).

Table 1A
3SLS Estimate of Concentration Model
Dependent Variable: Poverty Concentration

Variable	Log White Poverty Concentration	Log Black Poverty Concentration	Log Hispanic Poverty Concentration
Intercept	-4.948**	-3.171**	-3.996**
	(9.66)	(4.79)	(6.56)
Log Poverty rate:			
White	0.800**	0.066	0.340
	(6.83)	(0.44)	(1.64)
Black	0.245*	0.677**	0.129
	(2.62)	(3.86)	(0.72)
Hispanic	-0.045	-0.062	0.511**
	(0.74)	(0.69)	(4.69)
Log Racial Interaction*:			
with Blacks	-0.055	-0.062	0.041
	(0.65)	(0.64)	(0.45)
with Hispanics	-0.120	0.113	-0.028
	(1.72)	(1.82)	(0.24)
Log % Black	0.126	0.157*	0.117
	(1.66)	(2.55)	(1.26)
Log % Hispanic	0.147*	-0.121*	-0.062
	(2.26)	(2.51)	(0.62)

* P>.05 ** P>.01

t Statistics in parenthesis

* Interaction indices are for the same racial group as the dependent variable i.e. the white concentraction equation includes white interaction with blacks, and white interaction with hispanics.

Table 1B
3SLS Estimate of Concentration Model
Dependent Variable: Poverty

Variable	Log White Poverty Rate	Log Black Poverty Rate	Log Hispanic Poverty Rate
Intercept	4.742	5.711**	2.736
	(1.55)	(2.97)	(1.30)
Log % Employment			
Manufacturing	-0.002*	-0.001*	-.002**
	(2.55)	(2.18)	(3.48)
Trade	-0.246	0.066	-0.186
	(0.43)	(0.18)	(0.43)
Business Services	-0.597*	0.533*	0.747**
	(2.14)	(2.12)	(2.71)
Professional	-1.179*	-0.261	0.305
Services	(2.21)	(0.82)	(0.71)
Log % High School	0.444	-0.570**	-0.555**
Graduates*	(1.05)	(3.45)	(3.56)
Log Median Age*	-1.241**	-0.800*	-0.444
	(2.76)	(2.12)	(.148)
Log Unemployment			
White	1.439**	--	--
	(5.59)		
Black	--	0.762**	--
		(3.91)	
Hispanic	--	--	0.886**
			(4.45)

* For same demographic group as dependent variable.
* P>.05 ** P>.01
t Statistics in parenthesis

Table 1C
3SLS Estimate of Concentration Model: Racial Interaction

Variables	Logs of Interaction Indices					
	White-Black	White-Hispanic	Black-Black	Black-Hispanic	Hispanic-Black	Hispanic-Hispanic
Intercept	-3.819**	-3.873**	-3.508**	-5.487**	-4.978**	-7.234**
	(5.48)	(4.27)	(4.53)	(4.00)	(7.08)	(6.67)
Log Poverty						
White	0.892**	-0.029	-0.624*	-0.429	-0.437	-2.004**
	(3.39)	(0.08)	(2.06)	(0.79)	(1.59)	(4.79)
Black	-0.595*	0.166	0.920**	0.157	0.088	1.270**
	(2.11)	(0.45)	(2.91)	(0.28)	(0.31)	(2.89)
Hispanic	-0.250	-0.425*	-0.080	0.967**	0.737**	1.201**
	(1.63)	(2.10)	(0.46)	(3.17)	(4.77)	(4.97)
Log % Black	0.848**	-0.003	0.500**	-0.514**	0.577**	-0.300**
	(12.97)	(0.04)	(6.64)	(3.88)	(8.55)	(2.91)
Log % Hispanic	-0.015	0.915**	-0.117**	0.776**	-0.171**	0.941**
	(0.43)	(19.88)	(2.97)	(11.27)	(4.91)	(17.41)

t Statistics in parenthesis.
* P>.05 ** P>.01

Table 1D
3SLS Estimate of Concentration Model: Unemployment

Log Unemployment

Variable	White	Black	Hispanic
Intercept	-1.635	0.722	0.294
	(0.68)	(0.27)	(0.12)
Log % Employment in:			
Manufacturing	0.002**	0.002*	0.001
	(3.05)	(2.63)	(1.71)
Trade	0.002	0.358	0.525
	(0.00)	(0.69)	(1.07)
Business Services	-0.622**	-.858**	-0.614*
	(3.03)	(4.18)	(2.46)
Professional Services	-0.506	0.670	1.159*
	(0.97)	(1.63)	(2.67)
Log % High School Graduates*	0.698	0.355	-0.094
	(1.03)	(0.81)	(0.53)
Log Median Age*	0.732*	0.011	-0.282
	(2.54)	(0.02)	(0.94)
Log Concentration of Poverty*	1.264**	0.979**	0.507*
	(3.46)	(2.76)	(2.68)

* For same demographic group as dependent variable.

t statistics in parenthesis

* p> .05 ** p> .01

Table 2

Estimated MSA Unemployment rates
Using Coefficients from Table 1A

Concentration	Unemployment rates White	Black	Hispanic
Actual levels	5.11	11.28	8.79
At race-specific minimum	2.91	5.94	6.77
At average white concentration	5.11	6.73	7.00

Percentage decline, compared to unemployment at actual concentration levels

	White	Black	Hispanic
At race-specific minimum	43.1	47.3	22.9
At average white concentration	--	40.3	20.4

Table 3

Logit Models of Employment Probabilities for At-Home Youth
(t-ratios in parentheses)

Variable	Model I	Modle II	Model III
Sex (1=female)	0.016 (0.69)	0.016 (0.68)	0.016 (0.68)
Residence (1=Central City)	-0.071** (2.68)	-0.059* (2.22)	-0.058* (2.20)
Age (years)	-0.079** (5.37)	0.079** (5.37)	0.079** (5.39)
Education (years)	-0.159 (14.29)	0.158 (14.24)	0.158** (14.20)
In-School (1=yes)	-0.529** (17.54)	-0.530** (17.56)	-0.530** (17.55)
Female Headed Household (1=yes)	-0.211** (6.51)	-0.207** (6.39)	-0.207** (6.39)
Education of head parent (years)	-0.028** (7.23)	-0.028** (7.25)	-0.028** (7.24)
Family income (thousands of dollars)	-0.003** (3.87)	-0.003** (3.93)	-0.003** (3.94)
MSA unemployment rate (adult, white workers)	-0.048** (4.85)	-0.049** (5.05)	-0.050** (5.00)
Race (1=black)	-0.696** (18.47)	0.088 (0.43)	0.087 (0.41)
Ethnicity (1=hispanic)	-0.193** (4.41)	0.043 (0.28)	0.013 (0.08)
Concentration: White	-1.903** (2.61)	----	0.237 (0.20)
Black	-0.344 (1.05)	----	0.084 (0.25)
Hispanic	0.081 (0.22)	----	0.223 (0.59)
Concentration interacted with youth's race: White * White youth	----	-1.974** (3.13)	-2.595* (2.04)
Black * Black youth	----	-3.270** (5.45)	-3.525** (5.04)
Hispanic * Hispanic youth	----	-2.101** (3.75)	-2.335 (3.56)
Log likelihood Number of observations	23974.91 55,411	23959.44 55,411	23959.01 55,411

* P>.05 **P>.01

Logit models also include 10 variables indicating youth industrial affiliation, 3 region dummies, and intercept terms.

Table 4

Logit Models of Employment Probabilites for At-Home Youth
(t-ratios in parentheses)

Variable	White	Black	Hispanic
Sex (1=female)	0.023 (0.88)	0.028 (0.85)	-0.152 (1.89)
Residence (1=central city)	-0.052 (1.68)	-0.071 (1.05)	-0.024 (0.28)
Age (years)	0.047** (2.66)	0.089* (2.42)	0.188** (4.24)
Education (years)	0.190** (13.41)	0.152** (5.55)	0.051 (1.94)
In-School (1=yes)	-0.538** (15.10)	-0.468** (6.48)	-0.522** (5.46)
Female headed household (1=yes)	-0.203** (5.13)	-0.213** (2.99)	-0.104 (1.02)
Education of head of household	-0.037** (8.00)	0.014 (1.37)	-0.019* (2.02)
Family income (thousands of dollars)	-0.003** (4.31)	0.001 (0.45)	0.002 (0.79)
MSA unemployment rate (adult, white worker)	-0.049** (4.59)	-0.075** (2.77)	0.050 (1.04)
Concentration	-2.329** (3.56)	-1.737* (2.53)	-1.968 (1.86)
Log likelihood Number of observations	18435.73 40289	3389.87 9667	2033.66 5455

* P > .05 ** P> .01

Logit models also include 10 variables indicating industrial affiliation of youth, 3 region dummy variables, and an intercept term.

Table 5

Logit Coefficients for Concentration Effects interacted with Central City Residence

Variables	Coefficients
White youth:	
White Concentration	-0.827
	(1.19)
White Concentration *Central City	-4.333**
	(429)
Black youth:	
Black Concentration	-1.919**
	(2.81)
Black Concentration *Central City	-2.000**
	(4.30)
Hispanic youth:	
Hispanic Concentration	-0.273
	(0.35)
Hispanic Concentration *Central City	-2.593**
	(3.99)
Log likelihood	23949.36
Observations	55,411

** P >.01

Logits include all control variables noted in Table 2.

Table 6
Logit Coefficients for Concentration effects
interacted with Central City Residence

Including MSA Dummies

Variables	Coefficients
White youth:	
White Concentration	-1.412
	(1.05)
White Concentration *Central City	-3.710**
	(3.47)
Black youth:	
Black Concentration	-2.253**
	(2.81)
Black Concentration *Central City	-1.811**
	(3.71)
Hispanic youth:	
Hispanic Concentration	-0.358
	(0.41)
Hispanic Concentration *Central City	-2.255**
	(3.30)
Log Likelihood	23892.89
Observations	55,411

* P >.05 **P <.01

Logits include all control variables noted in Table 2. Region dummies are omitted; MSA dummies are included.

Table 7

Estimated Youth Employment Probabilities
Using Logit Coefficients from Table 6

Concentration	Employment Probabilities					
	White		Black		Hispanic	
	CC	Non-CC	CC	Non-CC	CC	Non-CC
Actual levels	.474	.490	.217	.268	.323	.409
At race-specific minimum	.517	.502	.306	.322	.364	.414
At average white concentration	.474	.489	.297	.316	.361	.413

Percentage change, compared to employment probability at actual concentration levels

Concentration	White		Black		Hispanic	
	CC	Non-CC	CC	Non-CC	CC	Non-CC
At race-specific minimum	9.1	2.4	41.0	20.1	12.7	1.2
At average white concentration	--	--	36.9	17.9	11.8	1.0

APPENDIX

Table A1

Poverty Concentration Measures, 1980

Metropolitan Area	White	Black	Hispanic
Albany	0.139	0.296	0.184
Anaheim	0.087	0.110	0.123
Atlanta	0.125	0.371	0.240
Baltimore	0.139	0.346	0.252
Birmingham	0.164	0.246	0.236
Boston	0.142	0.329	0.304
Buffalo	0.144	0.362	0.329
Chicago	0.103	0.367	0.237
Cincinnati	0.144	0.357	0.232
Cleveland	0.128	0.380	0.306
Columbus	0.174	0.326	0.269
Dallas	0.117	0.312	0.196
Dayton	0.146	0.316	0.255
Denver	0.116	0.272	0.255
Detroit	0.124	0.315	0.250
Fort Lauderdale	0.111	0.295	0.135
Greensboro	0.139	0.266	0.245
Houston	0.102	0.237	0.159
Indianapolis	0.137	0.270	0.214
Kansas City	0.121	0.284	0.215
Los Angeles	0.137	0.293	0.224
Louisville	0.173	0.402	0.319
Miami	0.175	0.333	0.230
Milwaukee	0.117	0.332	0.246
Minneapolis	0.117	0.306	0.216
Nashville	0.158	0.366	0.289
New Orleans	0.157	0.409	0.215
New York	0.177	0.376	0.380
Newark	0.123	0.341	0.327
Oklahoma City	0.158	0.284	0.231
Philadelphia	0.138	0.347	0.372
Phoenix	0.132	0.312	0.261
Pittsburgh	0.126	0.335	0.212
Portland	0.121	0.264	0.138
Providence	0.158	0.321	0.281
Riverside	0.148	0.201	0.183
Rochester	0.128	0.298	0.300
Sacremento	0.144	0.218	0.204
Saint Louis	0.119	0.331	0.231
Salt Lake City	0.123	0.254	0.184
San Antonio	0.168	0.318	0.301
San Diego	0.143	0.240	0.206
San Francisco	0.120	0.279	0.172
San Jose	0.088	0.141	0.146
Seattle	0.107	0.214	0.145
Tampa	0.156	0.375	0.222
Washington, DC	0.076	0.222	0.126
Average	0.134	0.301	0.224

Appendix

Table A2
Concentration & Poverty Correlations

	Poverty Concentration		
	White	Black	Hispanic
Concentration			
White	1.00	.513	.590
Black	.513	1.00	.677
Hispanic	.590	.677	1.00
Unemployment			
White	.296	.160	.295
Black	.158	.312	.361
Hispanic	.159	.143	.480
Poverty Rates			
White	.677	.045	.125
Black	.565	.828	.555
Hispanic	.409	.350	.802
% of Population			
White	-.192	-.113	-.129
Black	.109	.426	.236
Hispanic	.139	.222	-.041