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Distinguishing Between the Effects of Residential Mobility and Neighborhood Change on Children's Well-Being: A Research Note *

Margot I. Jackson
Robert D. Mare

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DISTINGUISHING BETWEEN THE EFFECTS OF RESIDENTIAL MOBILITY AND NEIGHBORHOOD CHANGE ON CHILDREN'S WELL-BEING: A RESEARCH NOTE*

Margot I. Jackson, Brown University
Robert D. Mare, UCLA

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ABSTRACT

Although the quality of a child's neighborhood can fluctuate because of either his own migration or the movement of those around him, these two processes do not necessarily influence children in the same way. Identifying the independent influence of each, if it exists, is an important step toward fully understanding how much and how characteristics of neighborhoods influence children. Using data from the Child Development Supplement of the Panel Study of Income Dynamics, we develop a method for separating the effects of residential mobility and neighborhood change on children's well-being, and report the results of an analysis using that method. Small amounts of change in a five-year window prevent the identification of potentially striking variation in the effects of different compositional changes within and across children's neighborhoods. Nonetheless, our results suggest differences in the influence of compositional change depending on whether it occurs within or across neighborhoods. The data permit demonstration of the utility of the method and allow us to uncover findings that suggest the importance of separately considering the sources of variation in children's neighborhoods. This research will inform studies using data over a longer period of time, which will soon be available. In addition, although we focus on the case of the neighborhood, the method used here may serve as a useful starting point for separating components of temporal processes in other settings.

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Characteristics of children's neighborhoods are linked to their leisure activities, academic performance, psychological and physical well-being, albeit to a smaller extent than individual and family characteristics (Pebley and Sastry 2004). The design of most studies of the neighborhood environment poses an important barrier to understanding these relationships in depth, by making it impossible to identify the sources of variation in children's environments, whether changes in neighborhoods are influential, and which changes matter most. The composition of children's neighborhoods can vary either because they stay in neighborhoods that change around them or because they move to new neighborhoods. Moreover, moving itself may be a source of stress for children, independent of any increase or decrease in residential quality. We develop a method for separating the effects of compositional changes within versus across neighborhoods, and report findings from an analysis using that method. Disentangling potentially competing processes provides a useful step toward establishing whether and how neighborhood characteristics matter for children's welfare.

Why Separate the Effects of Residential Mobility and Neighborhood Change?

Jackson and Mare (2007) add a temporal dimension to neighborhood effects research by examining how much of the variability in children's neighborhood environments over time is explained by movement between neighborhoods versus changes within them, and whether incorporating this variation into regression estimates yields different findings from those observed in the cross-section. Findings suggest that residential mobility plays a significant role in determining the variation in children's neighborhood quality. Although incorporating residential histories into neighborhood effects estimates does not yield a strikingly different picture from cross-sectional estimates, the differences observed over a short time period suggest that larger variability in

children's local environments would produce greater differences. In addressing one limitation of cross-sectional study designs, Jackson and Mare (2007) uncover an additional challenge. Even longitudinal measures of the neighborhood environment do not distinguish among the sources of variability in neighborhood characteristics over time, or their potentially different relationships with children's outcomes.

Changes in the neighborhood environment are simplest to describe for children who do not move, or "stayers." Migration —a consequence of urban redevelopment, housing size and quality, socioeconomic and racial/ethnic composition, and proximity to economic activity—alters the composition of and amenities within neighborhoods over time (e.g., Harris 1999; Park 1916). Changes occurring in neighborhoods around stayers may have both positive and negative effects. Residents of poor neighborhoods are plagued by under-funded social services, higher crime rates, low housing and environmental quality, and the sources of stress that accompany social and economic disadvantage (Aber et al. 1997; Ross, Reynolds and Geis 2000). Differential neighborhood resources, systems of social organization that create social and economic role models, and access to labor markets may create both positive and negative outcomes for children. On the one hand, families' ability to access these resources may improve as their availability increases. Conversely, stayers in neighborhoods that become more resource-poor face a difficult environment not conducive to productive and healthy lifestyles.

Understanding neighborhood changes is more complex for children who move. "Movers" face two sources of variation in neighborhood quality. First, they experience changes within their neighborhoods between moves. Because their residence in a particular neighborhood will be of shorter duration than among stayers, within-neighborhood change is likely to be less consequential for movers. Movers also face a second source of variation in neighborhood quality from moving with their families. Whereas processes of neighborhood change are more likely to occur slowly over

time, the effects of moving to a new environment may accrue in the very short term, if children are removed from or introduced to the negative influence of delinquent peers, lower-quality housing and institutions.[1] Movers face one additional source of influence that is independent but difficult to separate from the neighborhood environment. The negative relationship between residential mobility and children's well-being (Astone and McLanahan 1994; Haveman et al. 1991) suggests that residential instability is a source of stress for children, independent of their origins and destinations. Most research on residential instability treats mobility as an indicator of family stress, finding a negative association with a host of academic outcomes. These findings assume that all moves equally influence on children, whether they involve an upward or downward shift in neighborhood quality.

The diversity of explanations for temporal variation in children's neighborhood environments demonstrates that there is no reason to expect each process to equally influence children's welfare. Without disaggregating longitudinal measures of children's neighborhoods, it is not possible to evaluate whether changes in neighborhood composition and children's well-being reflect the transition of residential mobility, changes in neighborhood quality due to mobility, or changes within neighborhoods.

Data and Measures

We use the Child Development Supplement (CDS) of the Panel Study of Income Dynamics (PSID). PSID respondents were selected to participate in the CDS if they had at least one child under the age of 13. PSID-CDS data are currently available for 1997 (N=3,563 children) and 2002

[1] There may also be longer-run benefits or risks associated with moving. Because persistent exposure to disadvantage will comprise a larger portion of children's cumulative experience than a short-lived spell in a poor neighborhood, mobility out of poverty may reduce the long-term negative impact of neighborhood disadvantage. There is also evidence of a lagged effect of transitioning to a higher-quality environment, as children and their families change their peer networks and proceed through successive stages of development (e.g., Sampson, Sharkey and Raudenbush 2008).

(N=2,907), along with retrospective residential histories providing geocoded data for children's residences. We link children's residential histories to tract-level data on neighborhood characteristics from the U.S. Census. Decennial data are used to linearly interpolate values for neighborhood characteristics in the years between 1997-2002.

We examine children's academic achievement and behavioral well-being to provide comparability with the measures used in Jackson and Mare (2007) and other existing research. Scores on the Peterson-Zill Internalizing (withdrawn, sad) and Externalizing (aggressive, angry) Behavior Problems Index (BPI), reflecting parent reports of the frequency of a particular behavior, measure behavioral well-being. Standardized scores on the Woodcock-Johnson math achievement test measure children's academic achievement.[2] Finally, we examine psychological distress among *mothers*; we choose this measure because of its strong relationship with residential mobility in the Moving to Opportunity Study (Kling, Liebman and Katz 2007). Mothers' scores on the six-item K6 psychological distress scale indicate levels of generalized psychological distress; higher values indicate greater distress (Kessler et al. 2003).

Measures of the neighborhood environment are from the U.S. Census. We focus on measures of neighborhood socioeconomic and racial/ethnic composition because they enable comparison with other studies; they are consistently measured across years; and their continuous form allows us to demonstrate the utility of the method. Despite our illustrative focus on composition, it should be emphasized that our approach is relevant to other neighborhood characteristics that may more directly assess local institutions and quality, including crime rates, the availability of after-school programs, and the quality of local parks and public spaces.

To describe the socioeconomic quality of a neighborhood we measure its *proportion poor*. We construct similar measures of neighborhood racial/ethnic composition by measuring the *proportion*

[2] In analyses not shown here, we conduct a parallel analysis with verbal achievement. Results are generally similar.

black and *proportion Latino*. Increases in the composition of a particular racial/ethnic group are not as simple to interpret as increases in poverty; neighborhoods' resources and institutions do not increase or decrease with changes in racial/ethnic composition as predictably as they do for poverty or other socioeconomic markers. Measures of racial/ethnic composition therefore reflect neighborhoods' socioeconomic resources as well as the presence of ethnic networks.[3]

Method

We illustrate the method using neighborhood poverty. First, we observe children's outcomes in 1997 and 2002. Secondly, information about children's neighborhoods (i.e., tracts) is available in 1997, 1999, and 2001, with information about those neighborhoods' characteristics also available in 1998 and 2000 through interpolation. Finally, we know whether children move between two intervals: 1997-1999, and 1999-2001.[4] With this information we estimate within-child changes in the outcomes as a function of the influence of changes in neighborhood composition due to mobility; compositional changes among both stayers and movers due to shifts within the neighborhood; and the transition of residential mobility itself.

Let ΔY be the change in markers of children's well-being between 1997 and 2002. X_1, X_2 and X_3 indicate the proportion poor in children's 1997, 1999 and 2001 neighborhoods, respectively. We compute a set of "changeless" measures that assume no poverty change within tracts between time points:

[3] We also measure individual and family-level variables correlated with neighborhood economic and racial/ethnic composition, and with the academic and behavioral outcomes: logged total family income, the number of children in the household, child race/ethnicity, and the educational attainment and marital status of the primary caregiver. Because the PSID is a largely non-Hispanic black and white sample, children not in one of those two groups are combined into an "Other" category.

[4] Because we do not know which neighborhoods children occupy in 1998 and 2000, this requires an assumption about how long a child lives in each neighborhood, if they live in different tracts at the beginning and end of a time interval. We assume that children who move within a time interval (e.g., between 1997 and 1999) live in each tract for one year; we are unable to allow for multiple moves within an interval, or for variation in the length of residence in each tract. In 1997 the PSID switched from annual to biennial data collection: although we know whether children moved between 1997 and 1999, we do not know if multiple moves occurred within that interval, or where the child lived in the interim.

$X_{1.5}$ = 1999 tract with 1998 proportion poor;

$X_{2.5}$ = 2001 tract with 2000 proportion poor

$X_{1.5}$ and $X_{2.5}$ indicate the poverty values that children's current neighborhoods would have at the end of a time interval if they experienced no compositional change between years. A neighborhood with a 30% poverty rate in 1998, for example, is assumed to also have a 30% poverty rate in 1999.

Next, a set of "change" measures allows for poverty change within tracts between time points. $X'_{1.5}$ and $X'_{2.5}$ indicate the poverty change in children's neighborhoods within time intervals:

$X'_{1.5}$ = 1997 tract with 1998 proportion poor;

$X'_{2.5}$ = 1999 tract with 2000 proportion poor

Finally, *m* denotes moving at least once between 1997-2002 (1997-1999, or 1999-2001). We combine these terms into the following:

$$\Delta Y = \alpha + \gamma_1[(X_3 - X_1)](1-m) + \gamma_2[(X_3 - X_{2.5}) + (X_2 - X_{1.5}) + (X'_{2.5} - X_2) + (X'_{1.5} - X_1)]m + \gamma_3[(X_{2.5} - X'_{2.5}) + (X_{1.5} - X'_{1.5})]m + \gamma_4 m \quad (1)$$

Isolating the effect of neighborhood change for stayers is simple: γ_1 is the effect of changes in neighborhood poverty. Children who move can be influenced by change in both their old and new neighborhoods. γ_2 is the influence of neighborhood change, in *both* neighborhoods within a time interval, for movers. γ_2 equalizes the tracts but allows for poverty variation within tracts across years. By examining within-tract differences between current poverty values (X_1, X_2 X_3) and poverty values in the same tract at previous years ($X_{1.5}$ and $X_{2.5}$), γ_2 removes the influence of compositional changes due to mobility. As an example, take the difference between the 2001 tract with its 2001 poverty rate, and the 2001 tract with its 2000 poverty rate.

γ_3 is the poverty difference between movers' new and old neighborhoods due to mobility. γ_3 equalizes the year of observation but allows the tracts to vary. By examining poverty differences

across tracts (e.g., difference between the 2001 tract with 2000 poverty rate from the 1999 tract with 2000 poverty rate), γ_3 removes the effects of within-neighborhood compositional changes.

Finally, γ_4 is the effect of mobility status, independent of whether the move involves compositional change. Whereas γ_1 - γ_3 indicate changes in neighborhood composition, γ_4 indicates mobility status (i.e., being a mover), rather than the influence of *changes* in mobility (i.e., going from stayer to mover status) on ΔY.

After estimating (2) we interact compositional changes with baseline neighborhood composition. The influence of neighborhood compositional changes may depend on children's baseline conditions. A sizable increase in the proportion of black residents in a neighborhood, for example, may more strongly impact children who do not begin in a predominantly black neighborhood. In this scenario, the incremental influence of neighborhood compositional changes for those already immersed in highly concentrated environments may be small.[5] We aggregate 1997 neighborhood composition into three categories: low (less than 10% poor, black or Latino); medium (10-24%); and high (greater than or equal to 25%).[6] We then interact these measures with each of the three measures of neighborhood compositional change: within-neighborhood change for stayers, within-neighborhood change for movers; and neighborhood compositional changes due to mobility.[7]

[5] Similar "prevalence of disadvantage" patterns have been seen in the smaller negative influence of family disruption among blacks (Smith 1997) and the smaller influence of health problems on educational attainment among disadvantaged groups (Jackson, forthcoming).

[6] Values greater than 25% indicate significant concentrations of poverty or racial/ethnic segregation, following previous research (e.g., Quillian 2003). Variations on these measures, where we increase the threshold of the "high" category, do not produce different findings.

[7] We also consider racial/ethnic differences in the influence of changes of neighborhood quality, given variation in levels of neighborhood quality, mobility histories and choice sets across groups (e.g., Jackson and Mare 2007; Sampson and Sharkey 2008). We examine interactions between race/ethnicity and changes in neighborhood quality, and find no consistent evidence of racial/ethnic differences.

FINDINGS

Table 1 displays weighted descriptive characteristics of the sample in 1997, as well as the variance and standard deviation for the dependent variables and neighborhood change measures. Although there is larger variation in the racial/ethnic composition of children's neighborhoods than in the proportion poor, changes in neighborhood composition are very small in the five-year period observed (1997-2002).[8] Table 2 presents additive relationships between neighborhood compositional changes between 1997-2002 and the dependent variables. Estimates are shown for the influence of within-neighborhood compositional changes for movers; compositional changes due to mobility; mobility status; and within-neighborhood compositional changes for stayers. Because the compositional effects for movers are conditional on mobility, coefficients for movers are interpreted in combination with the mobility status coefficient (i.e., as interaction terms).

Table 2 shows little evidence of additive differences in the effects of neighborhood compositional changes, with one main exception: increases in neighborhoods' proportion Latino due to mobility are related to significant decreases in children's internalizing behaviors (3.4), externalizing behaviors (4.7) and mothers' psychological distress (6.3). Tests of equality suggest that the differences among the compositional change coefficients are significant at the .01 level. In contrast, increases in the proportion Latino *within* tracts are not related to children's and mothers' outcomes for movers or stayers. These differences warrant further exploration, especially since the models in Table 2 do not permit variation depending on children's baseline environments.

Starting Points Matter

Table 3 allows the influence of neighborhood compositional change to vary depending on whether children's 1997 neighborhood composition is low (<10%); medium (10-24%); or high (25% or greater). At the bottom of the table is an F test of incremental improvement in the R^2 over the

[8] We examine correlations among the three change variables to check for multicollinearity. Correlations never exceed 0.5.

additive model, as well as a coefficient equality test for each group of coefficients. Although changes in neighborhood poverty consistently have no significant relationship with the outcomes, and no markers of composition are significantly related to academic achievement, changes in neighborhood racial/ethnic composition are related to children's and mothers' behavioral well-being. Table 3 provides evidence that staying in a neighborhood as it changes in composition is less consequential if children begin in a similar neighborhood. This is particularly true for *stayers*: an increase in a neighborhood's proportion black is related to significantly more internalizing and externalizing behaviors (4.2 + 2.2) among children who begin in low-concentration black 1997 neighborhoods. This relationship is stronger still among those who begin in mid-concentration neighborhoods, with predicted increases of almost nine internalizing (4.2 + 4.7) and over five externalizing behaviors (2.2 +3.3). Among children who began in high-concentration black neighborhoods, however, this relationship is significantly attenuated, reducing it to the level of no difference from children experiencing no compositional change (4.2-4.2 internalizing, 2.2-2.4 externalizing). A similar, though weaker, pattern is observed among *movers*: increases in the proportion black within movers' neighborhoods are related to a higher number of internalizing (1.67-.01= 1.66) and externalizing (2.07 + .06= 2.13) behaviors only among children who begin in low-concentration 1997 neighborhoods. The weaker relationship among movers is consistent with the idea that moving attenuates the negative influence of neighborhood change. Within-neighborhood changes in the proportion Latino are less consistently related to the outcomes. In addition, mobility status is not independently related to changes in the outcomes.

Changes Within vs. Across Neighborhoods

Equally interesting is the influence of compositional changes within tracts versus across tracts due to *mobility*. Table 3 shows that increases in the proportion of black residents in a child's neighborhood due to mobility are related to significantly *fewer* internalizing and externalizing

behaviors among children, and *lower* levels of psychological distress among mothers, relative to those who experience no increase. Among children who begin in low-concentration neighborhoods in 1997, increases in neighborhoods' proportion black are related to almost 5 fewer internalizing (-4.77-.01) and 3.4 fewer externalizing behaviors. Among those in mid-concentration 1997 neighborhoods the differences are even more striking, and are also significant for mothers' psychological distress. Decreases in mothers' psychological distress are also observed with increases in neighborhoods' proportion Latino due to mobility. An increase of 100% in the proportion of Latino residents due to mobility is associated with an almost 11.5 point decrease in psychological distress among mothers who begin in low-concentration 1997 neighborhoods (-11.65+.244), and close to a 29 point decrease among those in mid-concentration 1997 neighborhoods. These differences are large, equivalent to several standard deviations and statistically meaningful.

DISCUSSION

In designing local and national interventions, policymakers are forced to consider the costs and benefits of moving children out of poor neighborhoods versus investing in improvements to their surroundings. Making this decision requires an understanding of how the welfare of children and families is shaped by levels of disadvantage and by instability in the quality of their surroundings. In turn, a focus on change and instability requires consideration of the sources of instability and their potentially different consequences. We develop a method for separating the effects of compositional changes within versus across neighborhoods.

Small amounts of variability within the short (five-year) temporal window observed prevent identification of what could be more striking differences over a longer time period, where larger amounts of variation in children's environments would likely exist. Nonetheless, a number of findings suggest the importance of separately considering the sources of variation in neighborhood

composition. The findings suggest differences in the influence of compositional change depending on whether it occurs within or across neighborhoods. Whereas within-neighborhood increases in the proportion black are related to poorer behavioral well-being, increases in the proportion black and Latino of children's neighborhoods due to mobility are associated with large and significant *reductions* in internalizing and externalizing behaviors among children, and lower levels of psychological distress among mothers. One possible interpretation of this finding relates to residential choice: to the extent that families choose to relocate to environments with a dense network of co-ethnic peers, there may be behavioral benefits. The data also suggest that children's "starting points" matter. Because residents of highly segregated black and Latino neighborhoods already experience these environments on a daily basis, they may face to gain or lose less from an increase in concentration.

We find no evidence that mobility status is related to changes in children's and mothers' outcomes, independent of the changes in neighborhood environment that accompany a move. This finding is not inconsistent with evidence of a negative relationship between residential instability and children's well-being. Rather, it suggests that moving over a relatively short period of time is not a significant determinant of changes in children's achievement and behaviors.

The differences observed within the available period of time suggest that there is more to be understood in this vein, and the short time frame, despite the constraints it imposes, allows for demonstration of the utility of this method. The next step is to use appropriately rich and long-term data on both neighborhoods and individuals, which will soon be available, to even further disentangle the multitude of changes that occur within neighborhoods, within residents, and across residents' neighborhoods over time. In addition, the implications of this exercise are not limited to neighborhoods. Studies of family instability, for example, risk confounding the stress of family disruption with changes in the family environment, such as the quality of parent-child relationships,

financial resources and housing. By using longitudinal data to consider characteristics of children's environments at different points in time, it is possible to isolate potentially disparate processes and to gain a more precise understanding of their influence.

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Table 1: Weighted Baseline Descriptive Statistics and Measures of Variability (N=2,139)

Race/Ethnicity		
Non-Hispanic White	65%	
Black	16%	
Other	19%	
Neighborhood Composition in 1997		
Mean Proportion Poor	0.143	
Mean Proportion Black	0.231	
Mean Proportion Latino	0.172	
Child and Maternal Outcomes in 1997		
Mean Applied Problems Score (Scale 43-168, N=1,534)	108.602	
Mean Internalizing BPI Score (Scale 0-14, N=2,139)	2.548	
Mean Externalizing BPI Score (Scale 0-17, N=2,139)	5.571	
Mean Maternal Psychological Distress Score (Scale 0-24, N=1,812)	3.469	
Other Factors in 1997		
Mean Logged Family Income	10.491	
Mean Number of Children in Household	2.453	
Mean Educational Attainment of Primary Caregiver	12.758	
Proportion of Caregivers Married	0.74	
Measure of Variability	Variance	S.D.
Applied Problems Score Difference (Scale 43-168)	238.32	15.44
Internalizing BPI Difference (Scale 0-14)	15.979	3.997
Externalizing BPI Difference (Scale 0-17)	10.313	3.211
Maternal Psychological Distress Difference (Scale 0-24)	16.795	4.018
Movers (Compositional Differnece due to Tract Change)		
Proportion Poor	0.0039	0.062
Proportion Black	0.0544	0.233
Proportion Latino	0.055	0.235
Movers (Compositional Difference due to Mobility)		
Proportion Poor	0.0053	0.072
Proportion Black	0.0222	0.15
Proportion Latino	0.00174	0.0418
Stayers (Compositional Difference due to Tract Change)		
Proportion Poor	0.002	0.044
Proportion Black	0.0422	0.205
Proportion Latino	0.045	0.212

Table 2: Regression of Changes in Outcomes on Changes in Neighborhood Composition due to Residential Mobility and Neighborhood Change: PSID-CDS, 1997-2002

Variables	Applied Problems	Internalizing Behaviors	Externalizing Behaviors	Maternal Mental Health
PROPORTION POOR				
Movers				
Prop. Poor Increase due to Tract Change	-12.548†	-1.698	-1.062	0.323
	(7.23)	(1.63)	(1.29)	(1.83)
Prop. Poor Increase due to Mobility	1.068	0.273	0.745	1.151
	(6.49)	(1.46)	(1.07)	(1.68)
Moved >=1 from 1997-2002	1.853*	-0.029	0.0731	0.144
	(0.80)	(0.18)	(0.15)	(0.21)
Stayers				
Prop. Poor Increase due to Tract Change	-14.687†	-1.689	-0.013	1.270
	(7.68)	(1.75)	(1.29)	(2.28)
Constant	-3.350**	0.0646	0.720**	0.393**
	(0.52)	(0.11)	(0.09)	(0.12)
F Test of Coefficient Equality				
x2 (2)	1.31	0.45	0.42	0.06
$p>x^2$	0.27	0.64	0.66	0.94
PROPORTION BLACK				
Movers				
Prop. Black Increase due to Tract Change	-2.503	0.593	0.853**	0.383
	(2.14)	(0.45)	(0.34)	(0.49)
Prop. Black Increase due to Mobility	5.157†	-0.697	-0.460	0.828
	(2.81)	(0.75)	(0.51)	(0.79)
Moved >=1 from 1997-2002	2.001†	-0.083	0.157	0.175
	(0.80)	(0.19)	(0.27)	(0.21)
Stayers				
Prop. Black Increase due to Tract Change	0.046	0.246	0.156	-0.135
	(1.69)	(0.34)	(0.27)	(0.38)
Constant	-3.228**	0.093	0.730**	0.362**
	(0.54)	(0.12)	(0.09)	(0.12)
F Test of Coefficient Equality				
x2 (2)	1.76	0.86	1.88	0.96
$p>x^2$	0.17	0.42	0.15	0.38
PROPORTION LATINO				
Movers				
Prop. Latino Increase due to Tract Change	-1.907	0.380	0.595†	-0.132
	(2.22)	(0.43)	(0.33)	(0.51)
Prop. Latino Increase due to Mobility	-10.030	-3.401*	-4.699**	-6.260**
	(8.83)	(1.69)	(1.30)	(1.88)
Moved >=1 from 1997-2002	1.782*	-0.045	0.0326	0.138
	(0.82)	(0.19)	(0.15)	(0.21)
Stayers				
Prop. Latino Increase due to Tract Change	0.890	-0.145	-0.103	-0.118
	(1.63)	(0.31)	(0.26)	(0.35)
Constant	-3.151**	0.0537	0.702**	0.359**
	(0.55)	(0.12)	(0.093)	(0.12)
F Test of Coefficient Equality				
x2 (2)	1.16	2.57	7.84	5.20
$p>x^2$	0.31	0.08	0.00	0.01
N	1534	2139	2139	1812

† p<.10 * p<.05 ** p<.01

Models control for child race and for 1997-2002 changes in logged family income, education of household head, marital status and the number of children in the household.

Table 3: Regression of Changes in Outcomes on Changes in Neighborhood Composition and Baseline Neighborhoods: PSID-CDS, 1997-2002

	Proportion Poor				Proportion Black				Proportion Latino			
Variables	Applied Problems	Internalizing Behaviors	Externalizing Behaviors	Maternal Mental Health	Applied Problems	Internalizing Behaviors	Externalizing Behaviors	Maternal Mental Health	Applied Problems	Internalizing Behaviors	Externalizing Behaviors	Maternal Mental Health
Movers												
(1) Increase due to Tract Change	-30.339	0.538	3.809	-5.557	-1.323	1.670*	2.070**	-0.750	0.402	0.426	0.718	-0.536
	(18.80)	(3.66)	(3.90)	(4.76)	(3.47)	(0.80)	(0.67)	(0.97)	(2.90)	(0.61)	(0.45)	(0.98)
(1) * 1997 10-24%	18.854	-4.545	-4.245	5.932	-1.092	-1.055	-1.310	0.382	9.458	-1.866	-0.120	-0.0497
	(22.73)	(4.69)	(4.48)	(5.53)	(5.89)	(1.18)	(1.09)	(1.32)	(10.51)	(1.58)	(1.56)	(1.35)
(1) * 1997 25% +	8.919	4.660	7.046*	-4.207	-16.837†	4.291	3.423	-0.107	2.156	-13.056†	-7.836	0.910
	(18.10)	(4.36)	(3.27)	(4.56)	(9.85)	(2.69)	(2.08)	(2.22)	(33.99)	(7.13)	(5.08)	(5.64)
(2) Increase due to Mobility	-7.393	-4.532	-5.837*	2.379	13.027†	-4.770*	-3.458*	-2.327	-13.042	1.222	-2.096	-11.652**
	(16.02)	(3.49)	(2.62)	(3.51)	(6.80)	(2.17)	(1.42)	(1.41)	(14.91)	(3.24)	(2.50)	(4.03)
(2) * 1997 10-24%	-1.493	-2.006	-3.963	1.065	14.988	-7.940*	-2.830	-14.010**	42.144	-16.939*	-11.346	-17.186*
	(23.25)	(5.01)	(4.43)	(5.69)	(15.04)	(3.47)	(2.28)	(3.89)	(33.73)	(7.34)	(8.70)	(8.68)
(2) * 1997 25% +	17.543	-1.214	-6.776	8.227	-3.088	-1.419	-1.928*	2.265†	-8.982†	0.107	-0.307	0.692
	(21.58)	(4.37)	(4.31)	(5.51)	(4.80)	(1.07)	(0.82)	(1.18)	(4.82)	(0.97)	(0.76)	(1.20)
(3) Moved >=1 from 1997-2002	2.287**	0.0251	0.0893	0.186	1.927*	-0.0106	0.0640	0.408†	1.297	-0.0524	-0.00548	0.244
	(0.85)	(0.19)	(0.16)	(0.22)	(0.86)	(0.20)	(0.16)	(0.23)	(0.86)	(0.20)	(0.16)	(0.23)
Stayers												
(4) Increase due to Tract Change	-11.465	1.598	4.206	-2.266	2.393	4.241**	2.200†	-0.372	-1.203	2.204	0.211	0.519
	(20.10)	(4.41)	(4.11)	(4.57)	(4.73)	(1.51)	(1.18)	(1.02)	(6.66)	(1.45)	(0.62)	(1.47)
(4) * 1997 10-24%	4.299	5.914	-6.776	1.751	-9.004	4.743*	3.349*	4.050*	7.275	-6.250	-2.972	10.439*
	(19.60)	(4.05)	(4.31)	(4.33)	(7.60)	(2.34)	(1.54)	(1.73)	(20.20)	(3.94)	(3.11)	(4.38)
(4) * 1997 25% +	-15.042	-5.992	7.800**	10.554†	-3.815	-4.230**	-2.373*	0.349	1.567	-2.558†	-0.276	-0.770
	(29.92)	(5.50)	(2.97)	(6.18)	(5.15)	(1.56)	(1.21)	(1.13)	(7.13)	(1.54)	(0.76)	(1.57)
(5) 10-24%	-1.366	0.223	0.169	0.196	2.272	-0.304	-0.558*	-0.233	-1.703	-0.246	-0.120	1.038*
	(0.92)	(0.19)	(0.16)	(0.22)	(1.42)	(0.33)	(0.26)	(0.37)	(1.71)	(0.40)	(0.31)	(0.50)
(6) 25% +	-3.215**	0.115	-0.0282	0.757*	-0.843	0.0766	-0.279†	-0.113	-0.705	-0.110	0.0428	-0.0514
	(1.18)	(0.27)	(0.21)	(0.34)	(0.90)	(0.20)	(0.16)	(0.24)	(1.83)	(0.37)	(0.31)	(0.39)
Constant	-2.303**	-0.0683	0.634**	0.209	-3.237**	0.0332	0.842**	0.473**	-3.005**	0.0293	0.682**	0.254*
	(0.76)	(0.15)	(0.13)	(0.15)	(0.67)	(0.14)	(0.11)	(0.14)	(0.55)	(0.12)	(0.098)	(0.13)
F Test of R^2 Incremental Improvement												
x2 (2)	0.43	0.82	1.62	1.60	0.32	2.24	1.85	5.2	1.11	1.94	0.68	2.10
p>x^2	0.86	0.55	0.14	0.14	0.72	0.03	0.08	0.00	0.35	0.06	0.66	0.03
F Test of Coefficient Equality												
x2 (2)	0.86	0.71	1.42	1.14	1.14	1.96	1.93	4.1	1.29	1.97	0.75	2.59
p>x^2	0.55	0.68	0.18	0.33	0.33	0.04	0.04	0.00	0.27	0.06	0.59	0.02
N	1534	2139	2139	1812	1534	2139	2139	1812	1534	2139	2139	1812

† p<.10 *p<.05 **p<.01

Models control for changes between 1997-2002 in logged family income, education of household head, marital status and the number of children in the household.