PLACES AND POVERTY:
HOW CITY CONTEXT AFFECTS HARDSHIPS

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Valerie Lewis
Princeton University

ABSTRACT

The literature on urban poverty has always recognized the city as the location of urban poverty and poverty outcomes, but surprisingly little research to date has examined how various city characteristics shape poverty. I focus on hardships associated with poverty, including material hardship, satisfaction with city and neighborhood, and feelings of safety, and how these hardships differ across a set of US cities. Using data from the 1998 wave of Survey of Income and Program Participation on 33,306 individuals without college degrees along with data on 97 cities collected from the census and other sources, I use a hierarchical linear model to examine effects at the individual and city level. I focus on the effects of labor markets and race conditions while controlling for several other city characteristics. I find that there is significant variation across cities in hardship outcomes after controlling for city differences, but very few of the quantitative city characteristics explain this variation. Additionally, the effects of being black and Hispanic vary much from city to city, and these effects are also not explained well by city characteristics. These findings show that indeed disadvantaged individuals experience differing rates of hardship across cities. However, to understand how cities shape these differences, far more nuanced considerations of how cities work are needed.

The current literature on US urban poverty suffers a major problem. That problem is a bifurcation in the study of urban poverty in two separate directions. A large literature has developed in the ethnographic tradition. Here, researchers do in-depth studies of poverty or aspects of poverty in one city (although sometimes as many as two or three cities). These researchers often make connections between city characteristics (such as labor markets) and larger, structural forces (such as deindustrialization) that have led to the contemporary plight of the urban poor. The vast majority of these studies have been focused in old industrial cities of the northeast and Midwest. Very few studies have looked at urban poverty in cities of the south or the quickly growing cities of the southwest and west. While many brilliant pieces of ethnographic work have illuminated the impact of structural factors in case study cities, the lack of work outside old industrial cities leaves one to wonder how urban poverty may differ in cities of the south, southwest, and west, where there are often different physical geographies, economies, and racial compositions.

The second direction urban poverty research has gone is quantitative research that aggregates data on the urban poor throughout the United States. Often these studies focus on the poor population, looking at things such as what predicts the length of time in poverty or the probability of exiting poverty (Duncan 1984, Iceland 2003). Work in this vein includes studies such as those that come from the Panel Study of Income Dynamics and much work on racial segregation and the concentration of poverty using the census. Other studies examine how poverty affects various other outcomes such as health or education. While sometimes in this literature there is some descriptive data on how cities differ (for instance, Massey and Denton's (1993) data on hypersegregation of cities, or Jargowsky's (1997) data on concentration of poverty by cities), very rarely do such studies examine the impact of city differences on

individuals' outcomes. If there is any mention of cities impacting individuals, it is typically inferred from the national data and not examined at the individual level.

There is a need to integrate these traditions. Given the large variation across cities, it is reasonable to think there may be large city differences in poverty and the related experiences of poverty. Cities outside the northeast may have very different racial compositions, including higher proportions of Hispanic and Asian immigrants, economies that were built in the post-industrial era, and physical layouts that are more low density and sprawling than northeastern and Midwestern cities. Some previous researchers have begun to note the differences between cities and the need to incorporate these differences into our understandings of poverty. Small and Newman (2001) state, "Accounts [of urban poverty] . . . are also weakened by several important limitations. Three are particularly salient: (*a*) their focus on dense cities in the Midwest and northeast; (*b*) their almost exclusive focus on African-Americans; and (*c*) their relative neglect of the influx of new immigrants to the inner cities. . . . The major perspectives would be of little help in explaining the changes taking place over the past 30 years in Los Angeles, Houston, or Miami, cities not only outside the northeast-midwest belt but also populated by high proportions of nonblack poor people, many of whom are immigrants" (p. 26). It is time we bring the city to the study of quantitative urban poverty, and ask: when does city context matter in the study of urban poverty?

I am to tackle one part of this puzzle in this paper, looking at the impact of city characteristics on hardships experienced by the poor in 97 cities around the United States. Using data from the Survey of Income and Program Participation (the SIPP), I examine how individual level hardship is shaped by city level factors such as city sprawl, labor markets, city industries, and racial composition and segregation. I attempt to answer a straightforward question: when does city context matter in the study of poverty? One piece of this question is how city context

makes the life of the poor easier or harder. For instance, is life harder for the poor in sprawling cities or in dense cities?

Research on Hardship

The question of when city context matters to the study of poverty is a broad one given the many facets of poverty that researchers attempt to understand and explain. I attempt to measure a fuzzy concept: the difficulty of daily life of the disadvantaged. Several researchers have done research on the subject of hardships, and I follow their lead by conceptualizing hardship as the difficulty of daily life. I have chosen to focus in particular three sets of hardships often used in the literature: material hardships, or the ability to meet one's expenses; feelings of safety and security; and satisfaction with city services and one's neighborhood. These three sets of hardships are all related to the experience of poverty and disadvantage, but allow me to get a much more textured look at disadvantage than possible simply through comparing poverty rates. Economic hardships focusing on the ability to pay bills are one way to alternatively measure objective poverty and material need. Hardships focusing on feelings of safety measure on aspect of quality of life, an important part of the experience of poverty that I am trying to compare across cities. Lastly, hardships that focus on satisfaction with city services and neighborhoods measure an individual's satisfaction with their city and living conditions, again measuring a subjective measure of well-being that may vary with city context. Using these measures, we can get a snapshot of some of the daily struggles of the disadvantaged, including money troubles, troubles with feeling safe, and troubles with one's city services and neighborhood. To answer the question of how the lives of the disadvantaged vary by city context, the use of these hardships is far preferable to more basic studies on poverty status or oneself or one's neighborhood. These

three sets of hardships measuring several aspects of daily life allow me to triangulate to some extent the difficulty of daily life.

Several researchers have previously examined hardship. Several large surveys run by the US government started examining alternative poverty measures in the 1990s, which led to the inclusion of various modules aimed assessing hardship and spurned several official reports on material hardship (Short and Shey 1995, Bauman 1998, Bianchi and McArthur 1991, Citro and Michael 1995, Short 2001). Unfortunately, these reports are mostly descriptive, considering hardship as an alternative poverty measure, comparing it to the official poverty measure, and looking at demographic groups experience the most hardship.

Research has shown that hardship and poverty are related and overlapping concepts, but are distinct from one other. Mayer and Jencks (1989) work in Chicago found that income explained only 24% of the variation in material hardship. Beverley (2001) finds that material hardship is correlated with income levels, but not in a linear relationship. Short (2003) found that the alternative poverty measure proposed by the National Academy of Science (Citro and Michael 1995) was much more similar to material hardship than the traditional US poverty line. Most recently Iceland (forthcoming) finds that income is most closely related to material hardship, whereas it has a positive but weaker association with the more subjective hardships such as neighborhood satisfaction, housing quality, feelings of safety, and satisfaction with city services.

Several patterns in hardship are clear in literature. Beverly (2001a) uses the Survey of Income and Program Participation data and finds that more than 10 percent of Americans experienced at least one hardship in 1995, with the most common hardships being medical need and food insufficiency. Blacks and Hispanics are more likely to suffer hardship, as are those with less income, less education, the young, and those with young children (Ross and Huber 1985;

Beverley 2001a; Rector, Johnson, and Youssef 1999). Marriage and home ownership protect against material hardships (Mirowsky and Ross 1999). Hardship also declines with age, a different pattern than income poverty which increases at older ages (Mirowsky and Ross 1999a, Hardy and Hazelrigg 1999, Mirowsky and Ross 1999b).

A few researchers have started to examine how hardships relate to health, within the larger field of psychosocial stress and health. Ross and Huber (1985) found that economic hardship increased both husbands' and wives' depression levels, whereas personal earnings affected only men's depression. Ranjit, Young, and Kaplan (2005) found that hardship altered the balance of chemicals found in saliva; in particular hardship affected the levels of salivary cortisol, typically a result of stress.

A more common field of inquiry has been into how family structure and hardship are related. Many researchers have found that single mother families experience relatively high levels of material hardship compared to the rest of the population (Bauman 2002, Bianchi and McArthur 1991). Henley et al. (2005) found that welfare families received higher levels of emotional, instrumental, and informational support than financial support, indicating that social support is less helpful for directly addressing material hardship needs. Additionally, women transitioning from welfare to work experience not only high levels of materially hardship but increasing levels of cumulative hardship over time, and they are also likely to experience multiple forms of hardship (Heflin 2006). Conger et al. (19990) looked at how hardships affected marriages. They found that material hardship had an indirect negative effect on marital quality and marital stability because hardship promoted hostile interactions between spouses and it curtailed warm and supportive behaviors expressed between spouses. This process was particularly pronounced for men.

Notably, all the work to date on hardship has focused on individual level predictors and protections of hardship. The only study to look at the relationship between hardship and place (Mosley and Miller 2004) looked descriptively at housing hardships. They found that those in the western United States and central city residents (as opposed to rural residents) were more likely to experience housing hardship. Beyond these simple descriptive statistics of housing hardship, no one has examined how contexts may affect hardship. As sociologists, we know that context often dramatically affects people's outcomes, and so it is naïve of us to think that hardships would be affected only by an individual's characteristics and not their environment or context.

A few works have pointed out the fact that the poor face different challenges or life circumstances in different cities. Edin and Lein (1997) examine how poor women come up with enough money to pay their expenses. They find differences across the three cities they studied (San Antonio, TX; Charleston, SC; Chicago, IL; and Boston, MA) in terms of the share of budgets spent on necessities, transportation, isolation, the experience of hardships such as hunger, going without health care, and housing problems such as eviction and homelessness. Though their study included only four cities, it suggests that the experience of poverty could vary substantially by city. Their work on city differences was minimal given their small sample of cities and mostly descriptive, but it clearly points to how cities shape individuals' conditions.

Before moving on, I return to the question: why study hardships, and why at the city level? Public and academic discussions about poverty are often concerned with the question of reducing poverty. However, reducing poverty is usually a stand-in for more abstract goals of increasing the standard of living and improving the lives of those that are marginalized or at the bottom end of the economic resources ladder. Given that the US poverty line is an absolute standard entirely disconnected from contemporary costs and standards of living, and given also that the poverty line is not adjusted for region or cost of living, we can imagine there are some

better ways of measuring deprivation. While some have proposed alternative poverty lines, another way of tackling this question is by directly asking about the hardships we expect the poor experience at a higher rate than the rest of the population. This will give us a much more nuanced view of the actual hardships in the lives of the poor, and how these may differ city to city.

In particular, differences in regions and cities should be illuminated by more direct questions of hardship. For instance, the federal poverty line may classify two families with the same income as poor, one in Houston, TX and the other in Chicago, IL. However, the family in Houston may experience far fewer hardships given that housing is cheaper and the weather is warmer, allowing them to have a better (or stable) apartment as well as fewer health or safety problems that are related to cold weather. Alternatively, two cities may have very different housing subsidies, resulting in very different consequences for disadvantaged families in those cities. These brief examples hopefully illustrate both why hardships are a better measure of between city differences in the experience of deprivation and poverty. They also point to the role of cities in shaping hardships. A large literature has examined the effects of neighborhoods on individuals and families. Few researchers have truly examined the *city* as a unit of analysis, however. This is a large hole in the literature. We know that labor markets function at the metropolitan level, local politics are to a large extent at the city level, transportation is at the city level, and social services provided by a city are at the city level. Additionally, the degree of segregation of a city or the concentration of poverty often depend on city wide characteristics such as the overall racial composition of a city, the overall poverty rate, and the density of a city. Therefore, it is a major omission to forget cities in the lives of the poor.

Theory of City Context Effects

Thus, I set out to fill the gaps in the literature. First, to bridge the literature on individual hardship and city level effects. Second, to bring to light some city level factors that affect the disadvantaged population. There are two major sets of city conditions that I expect to shape individuals' hardship: urban labor markets and race conditions. In addition, I cover several other factors that may affect the experience of poverty that I include as controls. The goal of examining city level effects is to determine what city characteristics are most influential in shaping the hardships experienced by the disadvantaged. Given the slew of problems and challenges facing those working in policy, government, and advocacy around cities, determining what city characteristics are most salient to the hardships of poverty can speak to where action and funds may be best directed in the larger scheme of hardship reduction or alleviation at the city level.

Iceland (1997) did interesting work on how poverty exits are affected by urban labor markets. Using data from the Panel Study of Income Dynamics (PSID) data from 1970-1985, he found that urban labor markets with gains in manufacturing and trade employment had positive effects on individuals' exiting poverty. Segregation had a small impact, and there was no evidence of a skills mismatch. Iceland's analysis only included blacks and whites (because the PSID is representative only of the non-immigrant population and so includes very few Hispanic or Asian respondents), but he found large differences across races. Namely, city contexts generally had large effects on blacks, but very little effects on whites. This piece of research is the only piece of research that has examined city effects on poverty. Using the variables found in Iceland's model as a starting point, I here discuss various city effects and how they may impact the three kinds of hardships included here.

Urban labor markets: Strength and kind

Urban labor markets encompass two related but distinct components. The first is the industrial base of a city, be it manufacturing, technology, tourism, services, etc. The second component is the strength of the labor market. A strong or tight labor market is characterized by low unemployment, high vacancy rates, and high wages. The two components of a labor market can interact. For instance, if some industries result in higher wages or higher employment, the effects of industry and labor market strength are intertwined. In any case, both of these factors, industrial base and strength of the urban labor market, must be considered when looking at city context.

Economists have shown that labor markets function at the city level (Bartik 2001, Icleand 1997). Most residents of a metropolitan area work within a metropolitan area, and most workers in a metropolitan area also live there. Very few people each year move across metropolitan areas for work, and so it is most appropriate to treat labor markets as local to the urban metropolitan area. These facets of labor markets are especially important to the poverty population or disadvantaged population, as they lack the resources that the middle and upper classes may have to move across labor markets for work. Thus, the poverty population more than any other truly functions within a local city labor market.

Researchers have long focused on deindustrialization as a major factor in causing the current plight of the urban poor (e.g., Wilson 1987, Anderson 1999). Deindustrialization changes the industrial base of a city and also may change the strength of the low wage labor market. There is mixed evidence regarding these hypotheses about the effect of deindustrialization. Iceland (1997) found that a higher proportion of both manufacturing and trade employment was related to higher chances of exiting poverty for blacks, but had no effect on whites. In general, the deindustrialization hypothesis and the positive impact of manufacturing for the less skilled needs more focus.

The strength of local labor market should have straightforward impacts on hardships. In places with a tight labor market, the disadvantaged will be more likely to be employed and have higher wages. Let us imagine two people of the same race and gender, both high school dropouts. One is in a city with a tight labor market, while the other is in a city with a very loose labor market and high unemployment. The person in the tight labor market will most likely fare better than the one in the loose labor market, despite having identical individual characteristics. This is because in a tight labor market there is very high demand for labor, even low skilled labor. When labor markets are tight, low skilled workers tend to work more hours, get higher wages, and discouraged workers are drawn back into the labor force (Bartik 2001, Blank 1999). Additionally, even if the person in the loose labor market increases his human capital (say by completing a GED), it is possible and even likely that the person in the tight labor market will fare better. This simplistic example illustrates the importance of considering the context of urban labor markets when examining poverty.

In addition to straightforward effects of labor markets on individual hardship, there are also several plausible interactions. First, for several reasons labor markets and industry may have different effects on blacks and whites. Iceland (1997) found that higher shares of employment in manufacturing were beneficial to blacks but not whites for poverty exits. Thus, we may expect that a higher manufacturing base may be more beneficial for blacks than for whites in this study. Second, studies of the low wage labor market show that there is still significant discrimination against blacks and Hispanics at the point of hiring (Pager 2003, Pager 2005, Pager forthcoming). The presence of discrimination in hiring would most affect blacks and Hispanics living in cities with weak labor markets, where there is a surplus of employees and employers can be pickier. Thus, blacks and Hispanics living in cities with tight labor markets will most likely fare better and experience less hardship than those living in cities with weak labor markets.

Race Conditions: Segregation and racial composition

A large literature has looked at how racial segregation worsens the economic situation of blacks. Massey's (1993) argument was the first and most well-known: racial segregation compounds black disadvantage, creating neighborhoods that are very sensitive to even minor downturns in the economy and leaving neighborhoods of extreme disadvantage at the city center. Unfortunately, while segregation itself has become the focus of much research, little research has rigorously examined the links between segregation and poverty outcomes and how these differ across cities. Iceland (1997) examined how segregation affected blacks and whites poverty exits, and surprisingly found no negative impact of segregation on blacks.

Racial composition of a city might also contribute to differing impacts of being white, black, or Hispanic. For instance, group threat theory would predict that in a city with a high proportion of Hispanics, Hispanics might have a harder time getting a job because blacks and whites may see them as threatening, and therefore experience more hardships (Quillian 1995). Alternatively, a high proportion of one's own racial group might mean stronger networks to draw on for material resources such as money to help pay bills and more networks to help spread word on jobs or refer you to their potential employers, thus meaning Hispanics would experience less hardship. These hypotheses need testing.

Other factors

There are several other city characteristics that are important as controls. First is population size. It is possible that population size affects hardships in some way. For instance, if larger cities can sustain more social services, disadvantaged residents of those cities may experience lower hardships.

City Sprawl. City sprawl is a topic of debate in the public sphere and has moved into the academic sphere as well. An important question is how poor residents of sprawling cities are affected by their city's sprawl. One consequence of city sprawl is that cars become a more important means of transportation, as neighborhoods and entire cities are virtually inaccessible by foot. Public transportation in sprawling cities tends to be far worse than that in compact cities. Whether highways are the result of sprawl or the cause of sprawl, more highways for cars is typically related to less public transportation. As cars can be prohibitively expensive, the poor rely on public transportation, and therefore should suffer with a lack of it. Thus, sprawl and its accompanying lack of efficient public transportation could affect the daily mobility of the poor.

Cost of Living. Cities have always been more expensive than rural areas, but today in America there is also wide variation in the cost of living between cities. Rent and groceries in places like New York and Los Angeles is often several times that in cities such as Dallas, Atlanta, or many smaller cities. While some states and cities have their own minimum wage, the general ignorance of the cost of living in much federal and state anti-poverty policy is appalling. The direction of the relationship is straightforward and predictable.

Welfare benefits. Welfare benefits could have obvious impacts on poverty. In states where there are higher benefit levels, the disadvantaged will be receiving more cash transfers overall, and should therefore experience less hardship.

City wide poverty. A high level of poverty in a city may be detrimental to individuals for several reasons. First, a high level of poverty means a large supply of labor for low wage jobs. Research has shown that local labor markets do not fully compensate for large supplies of labor (Bartik 2001), and instead a large supply of low wage labor keeps unemployment high and depresses wages. Second, a high level of poverty may mean that local services are more strained and have to stretch their resources further, leaving less for each individual or family. Third, a

higher level of poverty in a city may contribute to a worse quality of life and result in accompanying hardships. Lastly, a high level of city poverty may mean networks with fewer resources to go around. Overall, all of these conditions would result in more hardships for those in cities with higher levels of poverty.

Location. Lastly, I control for climate and region. Several of the hardships may be affected by climate. One of the specific questions about economic hardship is about paying the gas bill. Gas bills will be higher in places with colder climates, and these residents will need more money to meet the same basic needs. Hardships dealing with living conditions and safety might also be affected by climate if it is more difficult or costly to keep up a cold weather city. (For instance, to keep up winter weather crews, replace potholes, etc.) This may make climate affect more subjective hardships as well. I control for region to take into account any regional variation not picked up by the previous variables.

DATA AND METHODS

Individual Level Data

Individual level data come from the 1996 panel of the survey of Income and Program Participation (SIPP). The SIPP is a household survey conducted in the United States by a branch of the Census Bureau. Each interview consists of a core component including income, labor force, and demographic information, and a topic module with questions on topics that changed at each wave. Interviews (waves) are conducted every four months. The eighth wave of the 1996 panel, collected from August through November 1998, contained a module on adult well-being. This module was an extensive set of questions on consumer goods, housing and neighborhood conditions, food security, and ability to meet basic needs such as rent, utility bills, and medical

costs. Several individual and family characteristics were included as controls, including age, gender, race, marital status, and family size.

Data on geographic location is recorded in the SIPP. For each respondent, their state of residence as well as urban versus rural residence is recorded. The SIPP records the specific metropolitan area for 97 census defined Metropolitan Statistical Areas (MSAs) and Consolidated Metropolitan Statistical Areas (CMSAs). I include only those respondents in one of these designated MSA and CMSA. Consolidated MSAs combine geographically close primary MSAs that share labor markets and commuting patterns, such as Baltimore, MD and Washington, DC. Unfortunately, if a respondent falls in a CMSA, only their CMSA is recorded, not their primary MSA. (So for instance, all one can see in the data is that a person lives in the greater Baltimore-Washington area, not if a person lives in the Washington DC MSA or the Baltimore MSA).[1]

Dependent variables. For dependent variables, I use three sets of survey items often used to measure hardships. The first is a scale of material hardship, which generally measures the ability to meet essential expenses. The questions ask if a respondent in the past year had trouble paying their rent or mortgage, utilities, phone bill, and essential expenses and if a respondent couldn't see a doctor or a dentist because of financial problems. The Cronbach's alpha reliability coefficient was 0.77, indicating these items are highly intercorrelated.

The second is a set of questions about how safe a respondent feels, including if they are afraid to walk alone at night, if they stay home at certain times, if they take someone along when

[1] Of the 97 metro areas, 18 are Consolidated MSAs. Of these CMSAs, not all are troubling. For instance, Cleveland-Akron, Ohio or Hamilton-Cincinnati, Ohio-Kentucky are consolidated MSAs that are relatively small. There are six CMSAs that are geographically large enough to be alarming: Boston, Chicago, New York, Los Angeles, Philadelphia, and San Francisco. I re-ran all of the models included in this analysis without New York and then without these six CMSAs. The results were substantively the same in showing variation across cities as well as variation across the race coefficients, but with few to no city characteristics explaining this variation.

they go out, if they consider their neighborhood unsafe, and if they consider the threat of crime enough to move. The Cronbach's alpha on these items was 0.62.

The last set of questions tackles city services and satisfaction. It asks a respondent how satisfied he/she is with the police, the fire department, health services (including hospitals, doctors, and health clinics), their neighborhood, and their neighbors. The Cronbach's alpha on these items was 0.77.

Each of the dependent variables was coded such that higher scores were worse: more hardships, more fear, or more dissatisfaction. When treated as additive scales, each of the dependent variables were heavily right skewed. Thus, I created factor scores for each of the three dependent variables. Table 1 shows detailed information on the factor analysis, including eigenvalues and factor loadings for each of the three dependent variables. The eigenvalues for each of the factors were above one and the factor loadings were typically above 0.5, indicating relatively reliable factors[2]. I use the factor scores generated as my dependent variables to correct for some of the right skew of the data as well as to appropriately weight individual items within the factor.

--Insert Table 1 about here--

In some ways, measuring hardship is alternative to measuring income poverty. Because of this, I opt to not always control for income poverty here. Instead, I focus on the group of people who have completed no more than a high school diploma. Much research has shown how this group has limited opportunities in the contemporary economy. Thus, the research question is: given people of equal disadvantage, in what contexts do they fare better or worse? In this case, we are using hardship as a measure of how people are faring, as opposed to using income poverty. Material hardship is a relatively direct alternative measure to income poverty, so I do

[2] A few items with factor loadings under 0.5 were left in the factors for theoretical reasons.

not control for income here. When I turn to feelings of safety and services satisfaction, I do control for income poverty, given that previous research has shown that income poverty is associated with these hardships, but not as strongly as with material hardship (Iceland Forthcoming).

Table 2 shows summary statistics of the individual characteristics of respondents in the SIPP as well as summary statistics of the dependent variables.

-- Insert Table 2 about here --

City Level Data

Data on city characteristics come from a variety of sources that for the first time have been brought together in one dataset. Here I discuss the data sources for data on each of the city characteristics of interest: strength of labor markets, major industries in a city, racial makeup of a city, racial segregation, urban sprawl, cost of living, social services, city size, and climate.

Data on local economies come from the US Census. To measure by proxy the strength of a local labor market, the unemployment rate and labor force participation rate were calculated using 2000 US census data. This was preferable to using Current Population Survey (CPS) data as the analysis requires rates at the metropolitan level which are not available using the CPS. Additionally, since the unit of analysis can be quite small, I chose to use Census data from 2000 rather than using Bureau of Labor Statistics *estimates* for 1998 due to the fact that these are only estimates. Data on city industry were also taken from the US Census. These data are calculated by looking at the proportion of total city employees working in each industry. I focused on manufacturing, trade, and service industries, as previous work has shown these industries are the most salient to the poor (Iceland 1997).

Data on racial composition of a city are from the 2000 census. Two statistics on racial segregation were included. Each are measures of the dissimilarity index calculated from 2000 US

census data. The dissimilarity index measures for two groups what proportion of each group would have to move to achieve complete integration of all neighborhoods in a city. Here, the black-white and Hispanic-white dissimilarity indices were included, since segregation from whites has proven a disadvantage for these minority groups (Masey and Denton, one for Hispanics). One problem is that these statistics are calculated only at the MSA and PMSA level. For consolidated MSAs, weighted averages of all component PMSAs were used.

Data on cost of living in a metropolitan area are difficult to get methodologically. In fact, some researchers have recommended not including cost of living in any poverty line adjustments because they feel the methodology used to obtain cost of living values are not of a high enough quality to justify their inclusion (Citro and Michael 1995). Others have gone ahead adjusting for cost of living arguing that any adjustment is better than no adjustment (Short 2001). I use fair market rents as an index of cost of living. Fair market rents are calculated annually by the Department of Housing and Urban Development. There are some problems with using fair market rents as a proxy for cost of living. First, they adjust for only one of many necessities a family pays for. Second, the Department of Housing and Urban Development does not create fair market rent data for this explicit purpose, thus they are wary of the extension of their data for this purpose (Short 2001). I use data on two-bedroom apartments at the 40^{th} percentile of the distribution of two bedroom apartment prices. I also checked data on 1, 3, and 4+ bedroom apartments as well as a combined index, but these indices all correlated above 0.97, so I went with the simplest (and most commonly used) measure: two bedroom fair market rents. I calculated a national urban two bedroom fair market rent mean, and divided each city's value by the grand mean to obtain a fair market rent index.

Data on welfare benefit levels were taken from the 1996-1997 State and Metropolitan Area Data Book published by the Census Bureau. Because welfare benefits are set at the state level, state level estimate are used.

Data on climate comes from the National Weather Service. The data are measured in terms of heating and cooling degree days. Degree days are calculated by summing the difference between a day's mean temperature and a benchmark temperature (usually 65 degrees) over the entire year. I use the 65 degree benchmark as it is the most commonly used mark for degree days. The data here are the average heating and cooling degree days averaged over 30 years, from 1971-2000. Temperatures are often recorded at more than one location in a city. This variance was not enough to change results so the reading in city proper was used.

Metropolitan area population numbers come directly from the 2000 US census. Data on city sprawl are simply density calculations from the 2000 US census: the total population of an MSA or CMSA divided by the total land area of the metropolitan area. Lastly, dummy variables for region (North, South, Midwest, and West) were included.

Table 3 shows summary statistics for each of the 97 metropolitan areas included in the sample.

-- Insert Table 3 about here --

Modeling

Because I have multiple respondents in each of my 97 cities (from as few as 7 to as many as several hundred in each MSA), an ordinary regression or generalized linear model would be in appropriate. Rather, the data require a modeling strategy that takes into account the clustering of individuals within larger units and the associated clustering of their errors. Previous work on city effects (Iceland 1997) has not utilized multilevel techniques, and therefore standard errors of

parameters would be underestimated. As a result, support for hypotheses about macro-level effects may be unjustified.

For this analysis I use a hierarchical linear model (also known as a mixed model) for nested data. This model has many advantages, and in particular it allow me to look at both individual level predictors of hardship as well as city level predictors of hardship, and allows for interactions across the levels. I use a two-level random intercept model. At the first level, or the micro level, hardship is predicted by individual characteristics. At the macro level, hardship is predicted by the various city characteristics. For each outcome variable, I start by examining a null random intercept model to determine if the specific hardship differs across cities. If it indeed does, I model the micro level and only the macro level effects on hardship, and put the two together without any interaction terms. I allow each level-1 predictor to vary randomly across cities, and finally I introduce interaction terms to try to explain any significant variation across cities.[3]

RESULTS

Hierarchical linear models were used to model each of the three outcomes factor scores. For all models, robust standard errors are reported. For each outcome, several models were run. The first (results not shown) was a null model testing only if there was random variation across cities. In all cases, the random intercept was significant, indicating that there indeed is variation across cities in each of the three hardship scores.

[3] Because I am not dealing with a random sample of US cities at level-2, but rather 97 of the 100 largest cities, interpreting my p-values as inferential statistics to take into account sampling error would not be appropriate. Rather, in this case it would be more appropriate to focus on the use of inferential statistical tests to take into account omitted variable bias (though not because of spuriousness) and measurement error.

The first model shown includes only city effects, or level 2 effects (this model is labeled Model 1 in each of the tables). The second model (labeled Model 2) includes city effects and individual level effects. The last model (Model 3) shows cross level interactions that attempt to explain variation across cities in the individual level effects. Only substantively relevant interactions are shown in the tables, while other interactions were tested and controlled for. Tables 4, 6, and 8 show the results of each of these hierarchical linear models for material hardship, feelings of safety, and services and neighborhood satisfaction. Additionally, I report information on how random coefficients vary across cities and the variance components from the Tau matrix. These are presented in tables 5, 7, and 9 for each of the outcomes.

-- Insert Table 4 about here --

-- Insert Table 5 about here --

Let us turn to the first outcome, material hardship, whose results are presented in tables 4 and 5. As a precursor, I reiterate from the discussion of measuring poverty that economic hardship is an alternative way to measure poverty and economic hardship. Therefore, I do not control for official poverty status in the models. Looking at model 1, including only city effects, the only city characteristics that has an effect is the percent black in a city: the higher the percent black, the more hardship. In model 2, I control for individual attributes. These coefficients run the direction the literature suggests they should run and are of little substantive interest in this paper. Notably, controlling for individual characteristics (including if a respondent is black) wipes out the effect of the city level percent black effect. This effect was most likely picking up a probability that a respondent was black, given that the individual model shows that black respondents have a higher likelihood of experiencing hardship.

If we look to the variance components in table 5, we can see how much the individual level effects are varying across cities. First, of note, is that despite including city level predictors,

the random intercept is still statistically significant. This means that even after controlling for the slew of city characteristics included in the data as well as individual characteristics making up each set of city respondents, there is still significant variation in hardship across cities.

Looking at the variance in level-1 coefficients, the black coefficient and the Hispanic coefficient have the most variation across cities. The black effect has a coefficient of .40, and the standard deviation across cities is .49; the Hispanic effect magnitude is .27, with a standard deviation across cities of .314. These are very large standard deviations on the coefficients, indicating these effects vary considerably across cities. The black and Hispanic slopes also contribute the most of any individual level predictors to the overall variance. We can calculate what percent of total variance is due to variance within cities (looking at the level-1 variance component in this table) as opposed to variation between cities on these factors. In fact, 28% of the total variance is variance in the race effect slopes, and 64% of the variance is within cities. While some of the other effects also varied randomly across cities, due to their very small contributions to the total variance, it is substantively not important to look at why these effects differ across cities.

In model 3 I include cross-level interactions to try to explain the variation between cities on the race effects. None of the city level effects are significant predictors, and none of the variance across cities on the black or Hispanic effects is explained. This means for reasons other than racial composition of a city, segregation in a city, region, city population and density, poverty rates, cost of living, AFDC benefit levels, and labor force participation, race effects are differing widely across cities.

Next I turn to the second outcome of interest: how safe people feel, presented in tables 6 and 7. Looking to model 1 of table 6, two city effects are significant in explaining how safe people feel: percent black and population density. With both increasing percent black and

increasing density people feel less safe. Next I introduce individual level predictors including poverty status. These effects all run in directions that make sense: those in poverty, females, blacks, and Hispanics all feel less safe; those who are married and in larger families feel more safe. Looking to the variation of these effects across cities, several of the random effects are significant; however, most of the variation is substantively quite small. The most important randomly varying effects in this model are the poverty status, black, and Hispanic effects. Again, the black effect is contributing the most to the overall variation. Looking to the variance components reported in table 7, however, we see that despite controlling for these city level characteristics and individual effects, again there is still significant variation across cities that is unexplained.

-- Insert Table 6 about here --

-- Insert Table 7 about here --

Looking at model 3, including the cross level interactions, we find a few significant interactions. Hypothesizing that feelings of safety for a person in poverty would be affected by the city-wide poverty climate including poverty and employment as well as welfare benefits along with racial climate, each of these variables was interacted with poverty status. Poverty status interacts significantly with labor force participation: the poor in cities with higher labor force participation are more scared. This effect is puzzling and I do not have a good explanation for it, but the effect is quite large and cannot be ignored. Further examination of this effect is needed.

Context may have a slightly different effect on black feelings of safety. Here, I hypothesize there may be variation by region because of unique racial histories of each region, direct effects of cities' racial composition and segregation, as well as effects of poverty and employment. Black interacts with the percent black, as blacks in cities with a higher percent

black feel safer. Additionally, blacks in the Midwest feel safer. The Hispanic effect also has a few important interactions. Hispanics in areas with higher Hispanic-white segregation feel more scared, and Hispanics in areas with higher labor force participation feel more safe. The city effect of percent black remains significant through all the models, indicating in the last model that whites in cities that have a higher percent black are more scared. We again look to the variance components to see how much of the variation we have explained, and overall we see that these interactions have explained very little of the random variation across cities in any of these effects.

Finally, the last outcome of interest: satisfaction with services and neighborhood shown in tables 8 and 9. Those in the west and those in cities with higher black-white segregation expressed more dissatisfaction (Model 1, table 8). Including individual effects, blacks, Hispanics, and those in poverty are more dissatisfied, in the same pattern as in the results about feeling safe. Those who are married are more satisfied with services and neighborhoods, and those with large families are less satisfied (Model 2, table 8). Looking at the variance in Table 9, once again there is significant variation in cities' intercept terms even after controlling for city and individual characteristics, implying again there is significant variation in satisfaction across cities that is not explained by the predictors in these models. The variance of the level-1 coefficients shows the poverty status, black, and Hispanic effects again have large variation across cities and contribute much to the overall variance.

-- Insert Table 8 about here --

-- Insert Table 9 about here --

Including interaction terms I try to explain the variation of the poverty, black, and Hispanic effects across cities. Given we are predicting satisfaction with city services and neighborhood, I included theoretically relevant interaction terms. Poverty status may again

interact with the citywide poverty climate, and so I include again interactions with poverty rate, labor force participation, and welfare benefits, as well as racial breakdown and segregation. Only the percent black interacted with poverty status, meaning the poor in cities with a higher percent black report less satisfaction. In this case it seems smart to include as few interactions with race as possible, as it is difficult to think theoretically of how race may interact with city effects to produce neighborhood satisfaction. That said, I interact race with only poverty rate, percent of the city that is one's own racial group, and segregation of one's racial group. For both blacks and Hispanics, higher segregation of one's own group predicted more dissatisfaction. In the final model, the main level-2 effect of being in a city in the west remained positive, indicating those in western cities expressed more dissatisfaction. Turning to the variance components again, we see that these variables included have hardly reduced the random variation of race effects across cities.

Overall, then a consistent story emerges from these three separate outcomes. First, very few city characteristics explain hardships of any kind, including material hardship, feelings of safety, and satisfaction with services and neighborhoods. Even including factors about urban labor markets, racial composition and racial segregation as well as indicators of welfare benefit levels, overall poverty rate, climate, population and population density, and region, there is significant variation between cities on all three kinds of hardships.

Second, the effects of being black and Hispanic and to some extent the effects of income poverty on hardships vary widely from city to city, and typical quantitative city characteristics do little to explain this variation.

CONCLUSIONS

First and foremost, it is clear that cities matter on all of the hardship outcomes I looked at. For each of the outcomes, cities had random effects even after controlling for the main set of individual level predictors. In this way it seems that one key hypothesis is correct: cities matter with regards to hardship. Cities have something about them that leads them to have higher and lower levels of hardship (be it material hardship, feelings of safety, or satisfaction with city services and neighborhoods).

Another notable finding of this paper is that the effects of being black and being Hispanic vary widely across city contexts. In addition to the race variables, the effect of poverty differs across city contexts, but is even more unexplainable than the race effects. A few factors such as segregation, racial makeup of a city, and region sometimes explain a bit of this variation, but they leave a large amount unaccounted for What is making the effects of race and poverty differ, then? This raises important questions on a range of topics.

The question of *why* cities matter in the distribution of hardship is much more difficult, and I have found little to explain this. In my study, few and sometimes none of the typical set of quantitative features we think of characterizing a city explain any of this variation. Labor markets and segregation, what I hypothesized as the two city characteristics with the largest potential for explaining hardship, explain close to nothing of city variation in hardships. In addition, other characteristics of cities such population size and density, poverty rates, labor force participation, climate, region, cost of living, welfare benefit levels, major industries, racial composition of a city, and segregation have few main effects on hardship. This may be frustrating to quantitative researchers who often characterize cities as a sum of their collective quantitative features. We often hear cities described in terms of their racial composition, their local labor markets, their size and density, their climate, their poverty rates, and so on. This study shows that a city is far more than the collection of these demographic characteristics, however.

Cities are uniquely shaping individual level economic hardship, feelings of safety, and satisfaction with city service and neighborhoods. How these various hardships are being shaped by cities is an unknown, but it is clear that a much more nuanced look at cities is required. For those studying urban poverty, these results are a clear picture against any policy recommendations that may be based on superficial quantitative evaluation. Rather, it is clear that researchers need to look deeper at cities to determine why the disadvantaged are experiencing more hardships in some cities rather than others. Possible realms of study may involve the political climate of cities, the policy and safety nets, the nature of organizations and non-profits operating in a city, as well as a closer look at labor markets, perhaps focusing only on the low wage labor market rather than the entirety of the urban labor market.

First, it points to questions about what makes cities and places unique. Molotch et al. (2000) asked this question by looking at two California urban areas that were demographically quite similar. Using qualitative and some historical methods, they focus on how places develop particular "characters" and local "traditions." They find that organizational structures of the two areas were largely responsible for the differing outcomes of the two cities. This work seems to confirm the finding that typical demographic city characteristics may not be able to at all explain differences in cities. Further work is needed on this topic. There is a need for more in-depth comparative work on cities to account for variation in poverty outcomes. If at all possible, this study along with Molotch et al. (2000) suggest that a combination of qualitative and quantitative work is needed to thoroughly assess how place and poverty are related around the country.

Second, the findings on the differing effects of race across cities point to a need for a more in-depth understanding of what it means to be black or Hispanic in the contemporary United States. This is needed not only for understanding culture, the meaning of race, and racial identity, but to understand quantitative *effects* of race such as material hardship. There needs to

be more joint work between those who study stratification and those who study the cultural meanings of race in different contexts, and particularly mixed methods work that can bridge the two subjects to give us a much more nuanced picture of race in America. Though we may have a one drop rule, it is clear that one drop does not have the same effect in every place. We need to know why this is to best understand stratification and make good anti-poverty or anti-hardship poverty.

Lastly, despite the power of quantitative social science models in describing our social world, I must more broadly concede that perhaps cities are too complex to be explained in typical quantitative regression-type models. As Abbott (1988) has pointed out, it may be that some parts of reality simply are too complex to be put into quantitative models. For instance, the questions of what makes a place unique may not be answerable by using current regression methods, given that it seems clear in this study that there are complex social functions that create very specific city contexts that are hardly explained by the demographics of cities. Again, it seems clear to me that we need careful mixed methods research to determine what cities are, if and how they affect individuals, and what makes them unique.

REFERENCES

Abbott, Andrew. 1988. "Transcending General Linear Reality." *Sociological Theory* 6:169-186.

Anderson, Elijah. 2000. *Code of the Street: Decency, Violence, and the Moral Life of the Inner City.* New York: Norton.

Bartik, Timothy. 2001. *Jobs for the Poor.* New York, NY: Russell Sage Foundation.

Bauman, Kurt. J. 1998. *Direct Measures of Poverty as Indicators for Economic Need: Evidence From The Survey of Income and Program Participation* (Population Division Technical Working Paper No. 30). Washington, D.C.: U.S. Census Bureau Population Division.

Bauman, Kurt J. 2002. "Welfare, work and material hardship in single parent and other households." *Journal of Poverty, 6*(1), 21-40.

Beverly, Susan G. 1999. *Economic poverty reconsidered: Material hardship and income-poverty in the United States*. Washington University, St. Louis, Missouri.

Beverly, Susan G. 2000. "Using measures of material hardship to assess well-being." *Focus,* 21(2).

Beverly, Susan G. 2001a. "Material Hardship in the United States: Evidence from the Survey of Income and Program Participation." *Social Work Research* 25:143-151.

Beverly, Susan G. 2001b. "Measures of Material Hardship: Rationale and Recommendations." *Journal of Poverty 5*: 23-41.

Bianchi, Suzanne and Edith McArthur. 1991. "Family Disruption and Economic Hardship: The Short-Run Picture for Children." *Current Population Reports: Household Economic Studies.* Washington, DC: US Census Bureau.

Blank, Rebecca. 1996. *It Takes a Nation*. Princeton, NJ: Princeton University Press.

Citro, C. F., & Michael, R. T. (Eds.). 1995. *Measuring poverty: a new approach*. Washington, DC: National Academy Press.

Conger, Rand D., Glen H. Elder, Jr., Frederick O. Lorenz, Katherine J. Conger, Ronald L. Simons, Les B. Whitbeck, Shirley Huck, and Janet N. Melby. 1990. "Linking Economic Hardship to Marital Quality and Instability." *Journal of Marriage and the Family* 52:643-656.

Duncan Greg J. 1984. *Years of Poverty, Years of Plenty: The Changing Economic Fortunes of American Workers and Families*. Ann Arbor, MI: Survey Research Center Institute for Social Research University of Michigan.

Edin, Kathryn and Laura Lein. 1997. *Making Ends Meet: How Single Mothers Survive Welfare*

and Low-Wage Work. New York, Russell Sage Foundation. Harvard University Press.

Hardy, Melissa A. and Lawrence E. Hazelrigg. 1999. "Fueling the politics of age: On economic hardship across the life course – Comment on Mirowsky and Ross." *American Sociological Review* 64:570-576.

Henley, Julia R., Sandra K. Danziger and Shira Offer. 2005. "The contribution of social support to the material well-being of low-income families." *Journal of Marriage and the Family* 67:122-140.

Heflin, Colleen M. 2006. "Dynamics of Material Hardship in the Women's Employment Study." *Social Service Review* 80:377-397.

Iceland, John. 1997. "Urban Labor Markets and Individual Transitions Out of Poverty." *Demography* 34:429-441.

Iceland, John. 2003. *Poverty in America: A Handbook.* Los Angeles, CA: University of California Press.

Iceland, John and Kurt Bauman. Forthcoming. "Income Poverty and Material Hardship: How Strong is the Association?"

Jargowsky, Paul. 1997. *Poverty and Place: Ghettos, Barrios and the American City*. New York: Russell Sage.

Massey, Doug and Nancy Denton. 1993. *American Apartheid: Segregation and the Making of the Underclass.* Cambridge, MA: Harvard University Press.

Mayer, Susan E. and Christopher Jencks. 1989. "Poverty and the Distribution of Material Hardship." *The Journal of Human Resources* 24:88-114.

McKernan, Signe-Mary and Carolien Ratcliffe. 2005. "Events that Trigger Poverty Entries and Exits." *Social Science Quarterly* 86:1146-1169.

Mirowsky, John and Catherine E. Ross. 1999. "Economic Hardship across the Life Course."

American Sociological Review 64:548-569.

Mirowsky, John and Catherine E. Ross. 1999. "Economic Hardship Declines with Age – Reply to Hardy & Hazelrigg." *American Sociological Review* 64:577-584.

Molotch, Harvey, William Fredenburg, and Krista E. Paulsen. 2000. "History Repeats Itself, but How? City Character, Urban Tradition, and the Accomplishment of Place." *American Sociological Review* 65:791-823.

Mosley, Jane and Kathleen M. Miller. 2004. "Material Hardship Across Place." Harry S. Trueman School of Public Affairs, Institute of Public Policy Report 57-2004.

Pager, Devah. 2003. "The Mark of a Criminal Record." *American Journal of Sociology* 108: 937-975.

Pager, Devah. 2005. "Double Jeopardy: Race, Crime, and Getting a Job." *Wisconsin Law Review* 2005: 617-660.

Pager, Devah. Forthcoming. *Marked: Race, Crime, and Finding Work in an Era of Mass Incarceration*. Chicago: University of Chicago Press.

Quillian, Lincoln. 1995. "Prejudice as a Response to Perceived Group Threat: Population Composition and Anti-Immigrant and Racial Prejudice in Europe." *American Sociological Review* 60:586-611.

Ranjit, Nalini, Elizabeth A. Young, and George A. Kaplan. 2005. "Material Hardship Alters the Diurnal Rhythm of Salivary Cortisol." *International Journal of Epidemiology* 34:1138-1143.

Rector, R., Johnson, K., & Youssef, S. 1999. The Extent of Material Hardship and Poverty in the United States. *Review of Social Economy* LVII: 351-385.

Ross, Catherine E. and Joan Huber. 1985. "Hardship and Depression." *Journal of Health and Social Behavior* 26:312-327.

Short, Kathleen. 2001. “Experimental Poverty Measures: 1999.” *Current Population Reports: Consumer Income.* Washington, DC: U.S. Census Bureau.

Short, Kathleen. 2005. “Material and Financial Hardship and Income-Based Poverty Measures in the USA.” *Journal of Social Policy* 34:21-38.

Short, Kathleen, and Shea, M. 1995. *Current Population Reports. Beyond poverty, extended measures of well-being: 1992* (P70-50RV). Washington, DC: U.S. Census Bureau.

Small, Mario Luis and Katherine Newman. 2001. “Urban Poverty after the Truly Disadvantaged: The Rediscovery of the Family, the Neighborhood, and Culture.” *Annual Review of Sociology* 27:23-45.

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

Table 1: Eigenvalues and factor loadings from principle components factor analysis for each of three sets of dependent variables

Economic hardship		*Feelings of safety*		*Satisfaction with city services and neighborhood*	
Item	loading	Item	loading	Item	loading
Meet expenses	.763	Walk alone	.575	Public services	.572
Pay rent	.600	Stay home	.711	Fire	.615
Pay gas	.697	Take someone out	.689	Police	.719
Pay phone	.469	Carry something	.353	Hospital	.547
See doctor	.514	Neighborhood safe	.455	Neighborhood	.652
See dentist	.513	Crime enough to move	.525	Neighbors	.541
				Bad enough to move	.432
Eigenvalue	2.18		1.98		2.42

Table 2: Respondent characteristics of urban population in the sample

Characteristic	Entire urban population, N=39964	Non-college population, N=33306
Independent effects		
Age	36.0 (22.5)	34.2 (23.4)
Under 18	27.1%	32.5%
Female	52.5%	53.3%
Income and poverty		
Annual income	55461 (54083)	50209 (47423)
Percent below poverty line	12.9%	14.4%
Percent 100-200% poverty line	17.8%	12.5%
Race		
White	67.8%	64.5%
Black	14.3%	15.7%
Hispanic	13.4%	15.3%
Asian	4.2%	3.9%
Family structure		
Married	41.8%	36.4%
Never married	43.5%	48.6%
Divorced or separated	8.6%	8.5%
Widowed	6.0%	6.6%
Family size	3.38 (1.72)	3.49 (1.76)
Education		
High school diploma	60.2%	52.2%
College degree	16.7%	--
Hardships		
Material hardship	0.0 (.88)	0.05 (.93)
Home problems	0.0 (.81)	0.02 (.85)
Home satisfaction	0.0 (.94)	0.04 (.96)
Feel safe	0.0 (.87)	0.03 (.90)
Neighborhood problems	0.0 (.79)	0.03 (.82)
Neighborhood satisfaction	0.0 (.91)	0.04 (.92)

Table 3: City characteristics, measurement and coding, and descriptive statistics, N=97

Characteristics	Measurement	Mean	St dev	Minimum	Median	Maximum	Range
Basic characteristics							
Population	Thousands of people	1926	3022	300	962	21200	20900
Heating degree days	Total degree-days under 65 degrees	3761	2207	0	3677	7876	7876
Poverty rate	Percent population in poverty	12.00%	4.02%	6.71%	11.04%	35.87%	29.16%
Percent white	Percent population	69.93%	17.26%	10.43%	74.67%	96.17%	85.73%
Percent black	Percent population	12.19%	9.70%	0.27%	8.74%	43.21%	42.94%
Percent Asian	Percent population	3.06%	5.06%	0.40%	1.82%	45.26%	44.86%
Percent Hispanic	Percent population	12.27%	16.00%	0.72%	6.16%	88.35%	87.62%
Sprawl							
Density	People per square mile	458.0	319.1	39.7	380.1	2028.7	1989.0
Average commute time	Minutes	23.32	2.95	17.58	23.24	32.32	14.74
Cost of living							
Fair market rent index	Average set to 1	1.01	0.17	0.73	0.99	1.81	1.08
Labor market conditions							
Labor force participation rate	Percent, 0-100	64.54%	4.95%	52.18%	64.93%	75.03%	22.85%
Unemployment rate	Percent, 0-100	5.62%	1.73%	3.01%	5.17%	12.04%	9.02%
Major industries							
Manufacturing	Share of total employment, 0-100	13.08%	5.25%	3.78%	12.24%	27.25%	23.47%
Trade	Share of total employment, 0-100	15.87%	1.26%	12.19%	15.80%	19.78%	7.59%
Extraction	Share of total employment, 0-100	1.38%	1.77%	0.20%	0.79%	12.33%	12.13%
Services	Share of total employment, 0-100	79.68%					
Social services							
Welfare benefit levels index	Average set to 1	0.98	0.37	0.44	0.90	1.71	1.27
Segregation							
Black-white segregation	Dissimilarity index, 0-100	57.6	12.0	26.4	57.1	81.8	55.4
Hispanic-white segregation	Dissimilarity index, 0-100	43.1	10.3	22.7	43.4	71.8	49.1

Table 4: Hierarchical linear models predicting material hardship factor scores

	Model 1: City effects		Model 2: City and individual effects		Model 3: Interactions		
	Coef.	SE	Coef.	SE		Coef.	SE
City effects							
Intercept	-0.143	0.517	0.080	0.58	Intercept	0.320	0.53
South	-0.053	0.066	-0.061	0.07	South	-0.017	0.07
Midwest	-0.026	0.061	-0.039	0.06	Midwest	-0.010	0.06
West	-0.001	0.061	-0.099	0.07	West	-0.021	0.06
Population	-0.011	0.023	0.007	0.02	Population	0.003	0.02
Density	0.000	0.000	0.000	0.00	Density	0.000	0.00
Percent poverty	0.691	0.885	0.167	0.85	Percent poverty	-0.236	0.94
Fair market rent	0.177	0.131	0.075	0.13	Fair market rent	0.121	0.14
LFPR	-0.120	0.479	-0.211	0.43	LFPR	-0.602	0.44
Manufacturing	-0.045	0.388	-0.219	0.35	Manufacturing	-0.048	0.38
Trade	0.346	1.421	-0.208	1.37	Trade	-0.385	1.38
AFDC benefits	0.048	0.070	0.037	0.07	AFDC benefits	0.032	0.08
Percent black	0.575*	0.248	-0.037	0.26	Percent black	-0.024	0.31
Percent Hispanic	0.365	0.221	0.176	0.23	Perc. Hispanic	0.152	0.23
Black-white segregation	0.001	0.002	-0.001	0.00	B-W seg.	-0.001	0.00
Hispanic-white segregation	-0.002	0.002	-0.002	0.00	H-W seg.	-0.002	0.00
Individual Effects							
Female			0.017	0.01	Female	0.016	0.01
Black			0.402***	0.06	Black *	0.390	1.82
					South	-0.373	0.25
					Midwest	0.114	0.23
					West	-0.390	0.29
					LFPR	0.865	1.76
					Percent black	0.003	0.80
					B-W segregation	-0.001	0.01
Hispanic			0.268***	0.05	Hispanic *	-0.752	1.41
					South	-0.140	0.23
					Midwest	-0.188	0.19
					West	-0.152	0.21
					LFPR	0.259	1.52
					AFDC benefits	-0.043	0.21
					Percent Hispanic	-0.549	0.58
					H-W segregation	-0.004	0.01
Married			-0.162***	0.01	Married	-0.156***	0.01
Family size			0.035***	0.01	Family size	0.035***	0.01

*p<0.05, **p<0.01, ***p<0.001

Table 5: Variance of effects across cities in material hardship model

Random effect	Model 2			Model 3	
	Coef	St. dev.	Variance component	St. dev.	Variance component
Intercept	.080	.260***	.068	.249***	.062
Female	.017	.024	.001		
Black	.401	.493***	.243	.498***	.245
Hispanic	.268	.314***	.099	.348***	.121
Married	-.161	.045	.002		
Family	.035	.078***	.006	.078***	.006
Level-1		.879	.771	.879	.772

*p<0.05, **p<0.01, ***p<0.001

Table 6: Hierarchical linear models predicting fear of safety factor scores

	Model 1: City effects		Model 2: City and individual effects		Model 3: Interactions		
	Coef.	SE	Coef.	SE		Coef.	SE
City effects							
Intercept	-0.762	0.50	-0.379	0.43	Intercept	-0.044	0.40
South	-0.093	0.06	-0.029	0.06	South	-0.042	0.06
Midwest	-0.026	0.05	0.003	0.06	Midwest	0.014	0.05
West	0.156*	0.06	0.126	0.06	West	0.127	0.05
Population	0.004	0.02	-0.007	0.02	Population	-0.009	0.02
Density	0.000	0.00	0.000	0.00	Density	0.000	0.00
Percent poverty	0.833	0.94	0.034	0.80	Percent poverty	-0.115	0.92
Fair market rent	0.126	0.15	0.054	0.12	Fair market rent	0.051	0.11
LFPR	0.468	0.44	0.508	0.40	LFPR	0.145	0.42
AFDC benefits	-0.117	0.07	-0.010	0.06	AFDC benefits	-0.022	0.06
Percent black	0.562*	0.24	0.502*	0.24	Percent black	0.521*	0.21
Percent Hispanic	0.192	0.25	0.282	0.21	Percent Hispanic	0.222	0.20
Black-white segregation	0.004	0.00	0.001	0.00	B-W seg.	0.000	0.00
Hispanic-white segregation	-0.001	0.00	-0.003	0.00	H-W seg.	-0.003	0.00
Individual Effects							
Poverty status			0.194***	0.04	Poverty status	-1.643*	0.66
					Percent poverty	1.200	1.44
					LFPR	2.286**	0.82
Female			0.056***	0.01	Female	0.055***	0.01
Black			0.279***	0.05	Black *	-0.038	1.13
					South	-0.126	0.17
					Midwest	-0.357*	0.16
					West	-0.279	0.18
					LFPR	-0.125	1.31
					Percent Black	-1.378*	0.57
					B-W seg.	0.012	0.01
Hispanic			0.125***	0.03	Hispanic *	0.505	0.59
					South	0.054	0.14
					Midwest	0.016	0.14
					West	-0.009	0.14
					LFPR	-1.457*	0.72
					Percent Hispanic	-0.364	0.33
					H-W seg.	0.010**	0.00
Married			-0.051***	0.01		-0.046***	0.01
Family size			-0.017*	0.01		-0.017*	0.01

*p<0.05, **p<0.01, ***p<0.001

Table 7: Variance of effects across cities in fear of safety model

Random effect	Model 2			Model 3	
	Coef	St. dev.	Variance component	St. dev.	Variance component
Intercept	-.379	.230***	.053	.215***	.046
Poverty status	.194	.016***	.000	.292***	.086
Female	.056	.300	.090		
Black	.279	.410***	.168	.377***	.142
Hispanic	.125	.181***	.033	.181***	.033
Married	-.051	.040	.002		
Family size	-.017	.063***	.004	.063***	.004
Level-1		.856	.732	.856	.733

*p<0.05, **p<0.01, ***p<0.001

Table 8: Hierarchical linear model predicting satisfaction factor scores

	Model 1: City effects		Model 2: City and individual effects		Model 3: Interactions		
	Coef.	SE	Coef.	SE		Coef.	SE
City effects							
Intercept	-0.796	0.59	-0.922	0.56	Intercept	-0.384	0.58
South	0.047	0.09	0.045	0.08	South	0.058	0.09
Midwest	-0.026	0.08	-0.024	0.07	Midwest	0.006	0.07
West	0.223**	0.07	0.208**	0.06	West	0.210**	0.07
Population	-0.022	0.03	-0.017	0.03	Population	-0.027	0.02
Density	0.000	0.00	0.000	0.00	Density	0.000	0.00
Percent poverty	1.209	1.14	0.855	1.07	Percent poverty	0.769	1.26
Fair market rent	0.127	0.14	0.180	0.12	Fair market rent	0.148	0.12
LFPR	0.460	0.67	0.464	0.61	LFPR	0.143	0.61
AFDC benefits	-0.007	0.09	0.017	0.08	AFDC benefits	-0.010	0.08
Percent black	0.097	0.33	-0.237	0.34	Percent black	-0.261	0.38
Percent Hispanic	-0.390	0.24	-0.421	0.22	Percent Hispanic	-0.177	0.24
Black-white segregation	0.007**	0.00	0.006*	0.00	B-W seg.	0.004	0.00
Hispanic-white segregation	0.002	0.00	0.003	0.00	H-W seg.	0.001	0.00
Individual Effects							
Poverty status			0.236***	0.03	Poverty status x	-0.762	0.64
					Poverty rate	1.863	1.10
					LF part. rate	0.631	0.79
					Percent black	1.010**	0.34
					Percent Hispanic	-0.344	0.32
					B-W seg.	-0.003	0.00
					H-W seg.	0.006	0.00
Black			0.347***	0.04	Black x	-0.306	0.29
					Poverty rate	0.062	1.80
					Percent black	-0.755	0.43
					B-W seg.	0.013***	0.00
Hispanic			0.073	0.04	Hispanic x	-0.203	0.23
					Poverty rate	-1.185	1.35
					Percent Hispanic	-0.240	0.32
					H-W seg.	0.010**	0.00
Married			-0.038**	0.01	Married	-0.042***	0.01
Family size			0.020**	0.01	Family size	0.020**	0.01

*p<0.05, **p<0.01, ***p<0.001

Table 9: Variance of effects across cities in satisfaction model

Random effect	Model 2			Model 3	
	Coef	St. dev.	Variance component	St. dev.	Variance component
Intercept	-.796	.267***	.071	.252***	.064
Poverty status	.236	.270***	.073	.267***	.071
Black	.347	.364***	.033	.342***	.117
Hispanic	.073	.317***	.101	.286***	.082
Married	-.038	.033	.001	--	--
Family size	.020	.032***	.004	.061***	.864
Level-1		.863	.746	.864	.746

*p<0.05, **p<0.01, ***p<0.001