How Diverse Are U.S. Suburbs?

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Abstract

American suburbs are popularly perceived as demographically homogeneous compared to central cities. Social scientists have long challenged this perception; indeed, some cite recent evidence on suburban diversity to assert that the suburb-city distinction has become irrelevant. Here we introduce several conceptual, methodological, and theoretical improvements that allow us to better adjudicate claims about the extent and nature of suburban diversity. Our analysis examines patterns and potential antecedents of population composition at both the suburban ring and place levels for 65 large U.S. metropolitan areas. We show that rings and their constituent places are much more diverse than traditionally imagined. However, important differences still exist between suburbs and central cities on specific dimensions. We also find that suburban diversity varies with metropolitan population size and suburban size, density, dominance, and distance from the central city.

How Diverse Are U.S. Suburbs?

Two perspectives capture popular thinking about suburbs in the United States. The 'suburban dream' perspective regards suburbia as a symbol of goal fulfillment: the place where families can buy a home, avoid urban ills, commune with nature (and each other), send their children to good schools, and climb the social mobility ladder (Fava 1956; Fishman 1987; Jackson 1985; Marsh and Kaplan 1976; Palen 1995). Critics, however, have been vocal about everything from the monotonous physical sprawl of suburbia to its bleak social environment, in which conformity, boredom, and moral minimalism supposedly prevail and opportunities for creativity and authentic experience are stifled (Baumgartner 1988; Duany et al. 2000; Mumford 1961; Riesman 1958; Whyte 1956). Aptly, we refer to the critical position as the 'suburban nightmare'.

While the dream and nightmare perspectives would seem to stand in opposition, they agree on an essential demographic point: that the suburbs are homogeneous, consisting predominantly of white, married, middle-class homeowners with children. Yet the reality of suburbia may be quite different than popularly believed. For decades, research has documented the heterogeneity extant in many suburbs (see, e.g., Berger 1960; Dobriner 1963; Kramer 1972; Masotti and Hadden 1973; Muller 1981; Palen 1995). This finding can be traced to reductions in housing discrimination, the spatial assimilation of minority groups, and the movement of immigrants to new destinations, all of which have altered the ethnic mix of suburbs and their central cities. Similarly, the decentralization of manufacturing jobs has produced a spatial structure that does not conform as well as it might once have to the blue-collar city/white-collar suburb stereotype. Aging population and housing stock in inner suburbs and targeted housing developments (for singles, seniors, and the like) on the metropolitan periphery also call into question the notion of suburban homogeneity.

Current scholarship reinforces the view that suburbs are now demographically diverse. In an article in this journal, Hanlon, Vicino, and Short (2006) examine suburban places for a small sample of metropolitan areas between 1980 and 2000. They find that these places have become much more diverse in their racial and socioeconomic composition. On other dimensions as well (e.g., household structure), contemporary suburbs depart from their past profiles (Frey and Berube 2003). The rise of 'boomburbs' and suburban-oriented metropolises (Garreau 1991; Lang and LeFurgy 2007; Palen 1995) has increased awareness of groups traditionally associated with the central city, prompting experts to argue that "the demographic differences between cities and suburbs are narrowing" (Katz and Lang 2003:11). Some contend that the central city-suburban dichotomy, and even the concept of suburb itself, increasingly lack relevance (Bourne 1996).

In our opinion, this conclusion—though not necessarily inaccurate—is premature, for several reasons. Most demographic studies of suburbia have focused on only one or two aspects of population composition. In those cases where investigators have achieved broader coverage, they have drawn suburbs from a small number of metropolitan areas. More fundamentally, little consensus exists over how diversity should be defined or measured. Inconsistencies are also apparent in the treatment of suburbia, which can be conceived in collective (i.e., suburban 'ring'[1]) or individual (place or municipality) terms. Finally, scant attention has been paid to the antecedents of suburban diversity; descriptive analyses dominate. Because of these shortcomings, we are reluctant to jump on the diversity bandwagon, believing that the issue posed in our title remains open, as does the best way to address it.

The present inquiry pursues a more comprehensive and precise approach to diversity. Assembling a large sample of metropolitan areas, we use the entropy index to estimate levels of diversity along multiple dimensions of demographic composition for both suburban rings and suburban places. Guiding our efforts are the following questions: (1) How does suburban ring diversity compare to central city diversity in the aggregate? (2) Are differences in suburban ring diversity (vis-à-vis the central city) apparent for metropolitan areas? (3) To what extent do suburban places differ in diversity across and within each ring? and (4) How do the characteristics of individual suburban places and their respective metropolitan areas shape diversity in the suburbs? In response to the last question, we formulate a tentative theoretical framework that considers diversity a function of non-compositional attributes of community structure.

The importance of these four questions lies in the potential consequences that follow from demographic diversity. To take but one dimension, racial and ethnic diversity may affect the level of intergroup exposure in a suburb (Iceland 2004). According to the contact hypothesis, the interaction that accompanies exposure should reduce the prejudices of in-group members toward the out-group (and vice-versa), leading to greater tolerance (Allport 1954; Pettigrew and Tropp 2000). Alternatively, such exposure could generate intergroup competition and conflict over resources (Morawska 2001; Shanahan and Olzale 1999). Other consequences of suburban racial diversity include heightened political mobilization (Hill and Leighley 1999; Horton 1995), policy responses by schools (e.g., whether to provide bilingual education) and service agencies (Singer 2005), and implications for the local tax base (Orfield 2002).

Background

Suburban Research

Despite the apparent hold of the dream and nightmare perspectives on the collective imagination, social scientists have long challenged the assumed homogeneity of suburbia. Early quantitative and qualitative research (Berger 1960; Dobriner 1963; Gans 1967; Schnore 1963, 1964) documented substantial variation in socioeconomic composition, lessening the credibility of assertions about a universal suburban status advantage and some shared suburban way of life (e.g., Fava 1956). Recently, Hanlon et al. (2006) and Mikelbank (2004) have used census data to identify several types of distinctive suburbs, including manufacturing suburbs and struggling or poor suburbs. The latter type may become even more common in the future, given the dramatic increases in suburban poverty documented by contemporary studies (Berube and Frey 2005; Berube and Kneebone 2006; Jargowsky 2003; Madden 2003; Murphy 2007; but see Cooke and Marchant 2006). The presence of moderate- and lower-income residents raises doubts about the stereotypic image of the affluent bedroom community, suggesting instead that suburban places are stratified by income (Logan 1976; Logan and Schneider 1981; Orfield 2002).

The racial mix of American suburbs is no longer unequivocally homogeneous, either. Although older investigations highlighted central city-suburban contrasts in black-white composition (Farley 1970; Schnore et al. 1976), Hanlon et al. (2006) report that over 75 percent of the suburban places in their sample experienced black population gains between 1980 and 2000. Other studies have emphasized the impact of shifting immigrant destinations and Hispanic and Asian spatial assimilation on suburban racial diversity (Alba and Logan 1991; Frey 2005; Li 1998; Singer 2005; Suro and Singer 2003). Frey (2003b), for example, finds that the racial minority share of suburban population increased by more than two-fifths during the 1990s in the largest metro areas, with nearly half of all minorities in ‘melting pot’ metropolises living in the suburbs in 2000 (also see Farrell 2005; Lang and LeFurgy 2007; Logan 2003; Mikelbank 2004).

Compared to racial and socioeconomic composition, fewer researchers have examined life cycle and household patterns. Census data from the 1960s and 1970s revealed the expected suburban over-representation of married couples in the childrearing stage but also hinted at nascent trends, including the suburbanization of single persons and the elderly (Fitzpatrick and Logan 1985; Guest 1972; Long and Glick 1976). As of 2000, suburbs are home to fewer 'married with children' households than nonfamily households, and about a quarter of suburban households with children are headed by single parents (Frey and Berube 2003). Suburban populations are experiencing rapid growth in the middle and older age groups as well (Frey 2003a). Such trends have helped transform suburban demographic diversity since 1990, not to mention earlier decades.

Critique

We judge the existing literature deficient on several counts. One aspect in need of improvement is the range of diversity dimensions covered. As noted above, prior work has stressed either socioeconomic or racial composition; only in recent years has the menu of demographic characteristics begun to expand. Nevertheless, owner/renter status, length of residence, and other potentially important characteristics are overlooked, and most studies still focus on a lone dimension of suburban diversity (for exceptions, see Hanlon et al. 2006; Mikelbank 2004). These studies are also marked by small sample sizes. A few scholars (e.g., Berube and Frey 2005; Frey 2003a; Madden 2003) have featured suburbs in a greater number of metropolitan areas, but their approach to diversity remains unidimensional. Obversely, analyses that cover more diversity dimensions are often based on a relative handful of metro areas (Hanlon et al. 2006). What is missing is a comprehensive inquiry that employs a large sample to investigate many dimensions of diversity. [2]

Another problem has to do with the meaning of diversity, which tends to be treated as a single facet of some demographic variable of interest (e.g., the percentage of the suburban population that is black). We contend, however, that diversity has a more precise definition: it refers to the *evenness* with which suburban residents are distributed across categories of a variable (for conceptual discussions of diversity, see Patil and Taillie 1982; White 1986). Thus, we can think of maximum racial diversity occurring when blacks, whites, Hispanics, and Asians are equally represented in a suburb, and minimum diversity—or complete homogeneity—occurring when one racial group contains the entire population. To date, most investigators have neglected this nuanced approach to diversity in favor of suburban means (or mean percentages) on selected characteristics.

Like diversity, the concept of suburbia is not handled uniformly in the literature. For some researchers it consists of the suburban ring, that portion of the metropolitan area outside of the central city (e.g., Frey and

Berube 2003), while for others it comprises the individual places that make up the ring (e.g., Hanlon et al. 2006). Suburban places in turn can be incorporated as municipalities or can remain unincorporated. Researchers occasionally decide to exclude the latter type of suburb or to restrict their sample to places that reach a certain size. Determining what 'suburb' means at the place or ring level is further complicated by the fluidity of political boundaries, with central city encroachment into suburbia (via annexation) varying across metropolitan areas. Since results may depend on the definition of suburbia employed, these are not inconsequential issues.

Our own study addresses each of the foregoing limitations. Our approach is intended to be comprehensive, both with respect to sample size and dimensions of diversity. Because we investigate suburban diversity in 65 major metropolitan areas, we are better able to arrive at generalizable conclusions and to ascertain the pervasiveness of any patterns detected. Full coverage of diversity is insured by including eight specific suburban (and central city) demographic dimensions: race, nativity, age, household type, education, income, housing tenure, and duration of residence. These dimensions represent four broad compositional axes—race/nativity, life cycle, socioeconomic, and residential—that have figured prominently in past scholars' efforts to distinguish among parts of the metropolis (Logan and Molotch 1987; Schwirian 1974; White 1987). They are also relevant to policy concerns about group differences in access to housing, services, employment, and schools.

Given the multi-category nature of these demographic variables, we conceptualize diversity in a manner—stressing distributional evenness—that allows us to avoid dichotomous thinking about population composition. The *entropy index*, one of several appropriate statistical measures,[3] is well suited for capturing the demographic mix of suburbs and their central cities; its computation and interpretation are discussed in a later section. A differentiated strategy is adopted to deal with the competing geographic definitions of suburbia. To allow for city-suburban and cross-metropolitan comparisons, we operationalize suburbia in 'whole cloth' or ring terms. Yet the ring is sufficiently large that it can mask variation in diversity among individual suburbs. Hence, we examine the demographic composition of suburban places (incorporated and unincorporated, of all sizes) as well. In the last portion of our analysis, places are nested within their suburban rings and metropolitan contexts using multilevel modeling techniques.

Theoretical Framework

The suburban literature says surprisingly little about why diversity should be expected to vary across rings and places. This lack of attention to theory may reflect both the descriptive bent in demographic research and the inability of any single paradigm to provide an adequate explanation. Of necessity, then, our modest theoretical framework is eclectic, drawn from assorted traditions in urban scholarship. It is also structural in orientation, concerned with how community populations are shaped by developmental processes operating along many paths (political, economic, spatial, etc.). Analytically, it seeks the antecedents of diversity in the properties of metropolitan areas (when the focus is on suburban rings or places) and in the properties of individual suburban places (but only when the focus is on places). The structural properties of particular interest to us are scale, dominance, fragmentation, age, and location.

Scale denotes the magnitude or intensity of settlement. During the Chicago School's heyday, Wirth (1938) maintained that the demographic diversity of a community was related to two aspects of its scale: population size and density. Fischer (1975) subsequently refined Wirth's view, proposing that greater size and density allow numerous groups to achieve 'critical mass'. A parallel interpretation of high-density suburbs—that they are at an advanced stage of development and thus become accessible to a wide range of income groups—has been offered to account for trends in suburban socioeconomic status (Guest and Brown 2005). In line with this work, we anticipate that metropolitan scale will positively influence suburban ring diversity, and that a suburb's size and density will mirror any positive metro effects at the place level.

A second structural attribute, *dominance*, indicates the extent to which "suburbs are no longer *sub*" (Palen 1995:7), rivaling or exceeding central cities in functional importance (Dear 2002; Hughes 1995; Lang and LeFurgy 2007; Mikelbank 2004; Stanback 1991). Suburban demographic dominance—the ratio of ring to city population—often portends a strong political and economic presence. Politically, dominant suburbs should be better able to resist intrusion (e.g., annexation attempts) by central city governments. When suburbs are dominant economically, they occupy key positions in business, industry, real estate, and other metropolitan-wide activities, and their jobs and housing draw people from varied backgrounds. Suburban ring dominance should therefore have a positive impact on suburban ring diversity. We also predict a positive impact on place diversity, assuming that dominant rings contain many large (and heterogeneous) individual suburbs.

Metropolitan areas marked by high *fragmentation* have rings that are divided into numerous municipalities. From a political economy perspective, fragmentation may intensify competition for scarce resources (including desirable types of employment and households) and heighten inequalities among places (Logan 1976, 1978; Wood 1958). A fragmented situation appears conducive to the segregation of demographic groups into homogeneous suburban niches, with housing costs, institutional forces, and service preferences driving the process (Baldassare 1992; Fischel 2001; Logan and Schneider 1981; Miller 1981; Oliver 2001; Orfield 2002). Accordingly, we hypothesize that individual suburban places within fragmented metropolises will be less diverse than their counterparts in metropolitan areas with fewer suburbs. However, the relationship between fragmentation and suburban ring diversity should take the opposite sign. Because metro areas with many suburbs presumably have a greater variety of suburbs, ring diversity should be influenced positively by the number of suburban places.

The *age* of a metropolitan area has implications for diversity as well. Some urban ecologists contend that suburbs play more specialized roles over time in the intrametropolitan 'division of labor' (Frisbie and Kasarda 1988). These roles are rooted in distinctive origins (e.g., as an affluent enclave or a manufacturing site) that can persistently privilege or penalize a suburb (Farley 1964; Logan 1976, 1978). On average, suburban places in older metro areas will have developed over a longer period, so we expect them to be less diverse (or more specialized) demographically than suburbs in newer areas.[4] For suburban rings, though, the direction of the metropolitan age effect should be positive. If the specialization argument has merit, within-place homogeneity will cumulate in ring-wide diversity. The null hypothesis here is worth noting: if, in older metropolises, the oldest suburbs experience the greatest risk of absorption by the central city, the surviving suburbs might not differ much in age or composition from those in younger areas.

Our final structural property, *location*, is relevant only to suburban places, referring to their distance from the central city. Dobriner's (1963:23) observation 45 years ago that suburbs "become more urbanized…the nearer you get to the city border" still appears accurate today, thanks to a combination of dynamics. The mixed housing stock of mature suburbs, population spillover from proximate urban neighborhoods, and the arrival of immigrants should all boost diversity in the inner ring. By contrast, exurban communities should be accessible primarily to a narrow slice of the demographic pie (i.e., white affluent professionals). This diversity-by-distance gradient receives support from recent research showing that suburbs on the metropolitan fringe are less heterogeneous than closer-in suburbs, at least with respect to racial and socioeconomic composition (Berube et al. 2006; Farrell 2005; Frey 2005; Palen 1995; Talen 2006; but see Nelson and Sanchez 1999). We thus anticipate the demographic diversity of individual suburban places to be negatively associated with distance from the urban core.

Data

Sample

Census 2000 provides the data for our study of suburban diversity. We have identified 65 metropolitan areas with a population of at least 500,000 that contain one or more central cities and a minimum of 25 suburban places. The metro sample was selected after disaggregating consolidated metropolitan statistical areas (CMSAs) into their primary metropolitan area parts. This decision was motivated both by historical perspective (the existence of a CMSA requiring that two nearby but formerly separate metro areas expand to the point that their peripheries overlap) and by practical considerations (maximizing cases in the metropolitan sample; avoiding the ambiguities associated with a few CMSAs of disproportionate size or with numerous central cities).

We have proceeded inclusively in the selection of suburbs. For our purposes, suburbs comprise all census-defined places in a metro area that lie outside of the central city. Two types of suburban places are represented in the analysis: *incorporated* places, which align with political jurisdictions (e.g., towns, townships, boroughs, villages), and *census-designated* places, which refer to unincorporated population concentrations that are locally recognized as communities. No population size criterion must be met for entry into the suburban portion of the sample. Altogether we examine 5,801 places—5,645 of which are suburbs (two-thirds incorporated) and the rest central cities—nested in the 65 metro areas. Our sample captures one-half or more of all U.S. metropolitan (56%), central city (63%), and suburban (51%) residents.

Measures

The diversity measures featured in our analysis are all entropy indexes or ratios. Symbolized by *E*, the entropy index gauges the evenness with which members of a population are distributed across groups or categories on some variable of interest (for more detailed discussions, see Massey and Denton 1988; Theil 1972; Patil and Taillie 1982; White 1986). The index is formally defined as follows:

$$E = \sum_{r=1}^{n} p_r \ln\left(\frac{1}{p_r}\right)$$

where p_r refers to a group *r's* proportion of the population in some geographic area. The formula sets the maximum value of *E* to the natural log of the number of groups. So, for example, the maximum entropy would be log 4 or 1.39 with four racial groups. Such a value would be reached when all groups are of equal size (e.g., each race constitutes one-quarter of the population). To facilitate comparisons among diversity dimensions with different numbers of groups or categories, we standardize *E* by dividing the computed score by its maximum possible value. This procedure results in a range of scores from 0 to 1, with 0 signifying no diversity (all cases in one group) and 1 signifying complete diversity (equal representation of all groups). In the present study, higher scores denote more demographically diverse suburban rings, suburban places, or central cities.[5]

Drawing on Summary File 3 (U.S. Census Bureau 2005), we construct eight entropy indexes that cover four broad components of population composition: race/nativity, life cycle, socioeconomic status, and residential status. (Appendix Table A reports the pooled suburban and central city group proportions underlying each index.) We create two entropy measures to depict the *race/nativity* component. The first taps racial/ethnic diversity and uses information on the representation of Hispanics and non-Hispanic whites, blacks, and Asians. The second captures diversity both in nativity and citizenship, differentiating among natives, naturalized immigrants, and non-naturalized immigrants.[6]

Our first *life cycle* entropy measure indicates the extent to which different age groups are evenly represented in the population. Four categories—children (under age 18), young adults (18 to 39), middle-aged adults (40 to 64) and older adults (65 or over)—are used to generate the measure. The second lifecycle measure reflects the household composition of the population, incorporating five types of households: married couples with children present, married couples without children, single-parent families, single persons living alone, and nontraditional (cohabiting) couples.

For the *socioeconomic* component, a five-category entropy index—based on the percentages of adults (25+ years) with less than a high school education, a high school diploma, some college, an undergraduate college degree, or a graduate degree—captures educational diversity. We measure income diversity by summarizing the distribution of households across seven annual income categories (from less than $15,000 to $100,000 or more).

The initial *residential status* measure refers to diversity in tenure and dwelling type. Four categories make up this variable: the proportion of households residing in owned single-unit dwellings, in owned multi-unit dwellings, in rented single-unit dwellings, and in rented multi-unit dwellings. The other measure indicates diversity in duration of residence and uses information on the occupants' length of time at their current dwelling (six categories ranging from less than one year to 30 or more years).

Results

Mean Suburb-City Comparisons

Table 1 shows mean diversity (entropy) scores on the eight characteristics just described for the suburban ring and central city components of large U.S. metropolitan areas. To produce these scores, we have summed census counts separately for all suburbs and cities within each metro area, computed the corresponding *E* values, then averaged them across the 65 areas in our sample. Although marked central city advantages occur in racial and tenure diversity, perhaps the most striking finding from the table is the degree to which suburban rings resemble cities demographically, at least in the aggregate. Both rings and cities exhibit highly diverse age, household type, education, income, and duration-of-residence compositions, with mean *E*s approaching the maximum on the 0-1 scale. Similarities are also evident in the proportional distributions that underpin the entropy index, holding for city comparisons with either incorporated or census-designated suburbs (second and third columns of Appendix Table A), suburbs above some minimum size, suburbs in CMSAs, and suburbs grouped by the presence or absence of non-trivial central city annexation activity.[7] As expected, then, suburbia appears substantially more heterogeneous than the dream or nightmare scenarios suggest.

[Table 1 about here]

Patterns for Metropolitan Areas

We next explore variation in diversity for individual metropolitan areas. Table 2 presents suburban ring to central city diversity ratios, i.e., the quotients of ring and city entropy indexes. Ratios greater than 1 tell us that the ring is more diverse than the city; ratios less than 1, that the city is more diverse than the ring. Thus, the race ratio for the Akron metro area (top row) depicts a level of suburban racial diversity only one-third that of Akron city proper. Included in the table are ratios for three dimensions of diversity: (1) race, which is similar in magnitude to the nativity, household type, and tenure ratios, (2) income, which mirrors the age and duration ratios, and (3) education, which stands alone between the more broadly representative race and income dimensions. The mean ratios in the first column are simply the metro-specific averages of all eight diversity ratios.[8] These mean ratios indicate that cities are typically more diverse than their suburban rings, with only Atlanta, Fort Lauderdale, Miami, and Newark having more diverse rings than cities. According to the mean dimension-specific ratios (bottom row), the racial diversity of suburbia tends to be low and its income diversity high vis-à-vis the central city. No suburb-city difference exists in educational diversity, on average.

[Table 2 about here]

Preoccupation with mean ratios can mask suburban ring diversity if central cities are much more diverse on a handful of measures. It is therefore informative to calculate the number of times that ring diversity is greater than city diversity for each metropolitan area. According to the last column of Table 2, many metropolises have rings that exceed their city counterparts on at least half of the diversity dimensions. (All eight dimensions are considered here, not just the race, education, and income exemplars in the table.) Specifically, about one-third of the metro areas (21 of 65) have four or more diversity ratios greater than 1, demonstrating that departures from the supposed norm of suburban homogeneity are far from unusual.

Indeed, on several dimensions a majority of suburban rings appear more demographically diverse than their central city counterparts. Figure 1 summarizes information from the full set of suburb-city diversity ratios. The top bar in the figure reveals that four-fifths of the suburban rings have greater diversity in their income distribution than do their corresponding cities; in some areas (e.g., Cleveland-Lorain-Elyria) the difference is considerable. Likewise, three-fourths of the rings have greater age diversity, and two-thirds greater duration-of-residence diversity, than their cities. On other diversity dimensions, cities are more diverse than rings. Barely one-tenth of the metropolitan areas have suburban rings with greater racial diversity than their central cities, and many of the suburb-city differences in racial diversity are enormous (e.g., Buffalo-Niagara Falls). Thus, it is clear that overly broad generalizations about suburban diversity should be avoided when the urban core serves as a basis for comparison.

[Figure 1 about here]

Suburban Place Diversity

What is less clear is how much variation exists across and within suburban rings when we shift our focus to individual suburbs. The first and third columns of Table 3 address cross-ring variation by identifying the five most and least diverse metro areas on each demographic dimension in terms of mean suburban place diversity. This measure of diversity averages entropy scores for all of the suburban places that comprise a particular ring rather than basing entropy computations on pooled place data (as in Tables 1 and 2).

[Table 3 about here]

Several metropolitan areas are listed more than once in Table 3, typically either in the left half (most diverse) or right half (least diverse) of the table. Los Angeles-Long Beach and Orange County both score highly on the mean racial, nativity, and tenure diversity of their suburban places, and Buffalo-Niagara Falls (age, income, duration of residence) and Hartford (income, education, duration of residence) achieve three top-five diversity rankings as well. At the opposite extreme, the suburbs of Tulsa and Denver rank in the bottom five on mean place diversity three times, with nine other metro areas appearing twice each among the least diverse suburban rings. Honolulu's suburbs exhibit top-five levels of racial and tenure diversity, but they are quite homogeneous (bottom five) in their age, household type, and duration-of-residence mix. In addition to Honolulu, five metro areas—Buffalo-Niagara Falls, Fresno, Pittsburgh, San Francisco, and West Palm Beach-Boca Raton—show up in both the left and right halves of Table 3.

The place diversity standard deviations in the second and fourth columns of the table indicate that, even in metropolises with the most and least diverse suburban rings, there is non-trivial variation among the individual suburban places that constitute the ring. The average Miami suburb, for instance, is remarkably diverse on the nativity dimension. Yet the standard deviation of .18 for Miami can push a suburb into almost perfect diversity or into moderate diversity. A parallel pattern holds for the least diverse metropolitan areas with respect to nativity, where standard deviations imply either nearly perfect or more modest homogeneity for some suburbs. Like nativity, the racial and tenure dimensions are characterized by large standard deviations when compared to their respective means. This rule applies to the suburban portions of all metro areas, not just to those at the high and low ends of the diversity continuum. More generally, Table 3 documents sizeable between-place and between-ring differences in diversity but fails to account for them. The remainder of our analysis takes up that explanatory challenge.

Explaining Ring Diversity

We formulate multivariate models that incorporate the potential antecedents of diversity discussed earlier. The initial models treat suburban ring diversity (i.e., entropy) as a function of four structural characteristics of metropolitan areas measured in census year 2000, plus region. The first characteristic, metropolitan population size, captures scale, reflecting the 'critical mass' logic of Wirth (1938) and Fischer (1975). The next characteristic, suburban dominance, is operationalized as the ratio of the suburban ring population to central city population. We simply sum the number of suburbs (including both incorporated and census-designated places) within each metropolis to measure suburban fragmentation. To test the developmental idea that suburbia as a whole becomes more diverse as a metropolitan area matures, we compute metro age as the number of years since the oldest central city in the area first exceeded 50,000 residents in a decennial census.

The final variable, region, lacks an explicit theoretical rationale but is included as a control given its association with suburban demographic composition in previous studies (Farrell 2005; Frey 2003a; Frey and Berube 2003). The results from Table 3 provide further justification: the fact that the majority of metro areas in 14 of the table's 16 panels come from a single region (although not the same one every time) is at least suggestive of systematic regional influences. We measure region with census-defined Midwest, South, and West dummy variables; the Northeast serves as the reference (omitted) category.

Ordinary least squares (OLS) regression is used to estimate the effects of the structural characteristics on each dimension of suburban ring diversity and on mean diversity (the average of the eight specific diversity dimensions; see the first column of Table 2).[9] Table 4 reports unstandardized coefficients generated by the regression procedure.[10] One straightforward lesson from the coefficients concerns the broad support for scale. Across a majority of dimensions, ring diversity increases with the size of the corresponding metropolitan population. The impact of size is particularly strong on racial and nativity diversity. For these measures, a population gain of one thousand people boosts diversity by about .007. We do not, however, detect such an influence on household type, income, or duration-of-residence diversity.

[Table 4 about here]

Also consistent with hypotheses, diversity generally increases as suburban dominance does. That is, in metropolitan areas where the total suburban population is large relative to the central city population, suburban ring diversity tends to be greater. Like metro size, the suburban/city ratio registers especially substantial effects on measures of racial and nativity diversity but falls short of significance on other dimensions. We find only limited evidence that ring diversity is influenced by suburban fragmentation. Just two of the eight diversity dimensions and the mean diversity measure reveal significant effects associated with the number of individual suburban places, and—contrary to expectations—all of these effects are negative.

Mixed support exists for the idea that metropolitan age leads to greater demographic diversity at the suburban ring level. On three dimensions, metro age is positively and significantly related to diversity as hypothesized, though for the nativity dimension and a few others age exhibits a negative sign. The region dummy variables yield mixed results as well. If there is any tendency, it is for Midwestern metropolitan areas to have less diverse rings than do Northeastern areas. Metro areas in the South and West resemble those in the Northeast on certain dimensions, yet they differ markedly from their Northeastern counterparts in terms of racial and age diversity, being more diverse on the former but less so on the latter. [11]

The R^2 statistics at the bottom of Table 4 offer further insight into how well structural characteristics of metropolitan areas account for variation in suburban ring diversity. The characteristics explain anywhere from under one-tenth (in the case of income diversity) to over three-fifths (in the case of mean, racial, and nativity diversity) of the total variance. Given that racial and nativity diversity fluctuate more from one metro area to the next than do other aspects of composition, it is perhaps not surprising that our models fit these dimensions better. At the same time, the modest magnitude of most of the R^2 values suggests the need for additional theoretical and empirical work.

Explaining Place Diversity

We have already seen that quite a bit of variation in demographic diversity can occur within suburban rings, that is, from one place to the next. Further, some metropolitan characteristics (e.g., suburban fragmentation and metro age) may affect place diversity differently than ring diversity. In recognition of such possibilities, we conclude our analysis with a hierarchical linear modeling (HLM) exercise in which the diversity of suburban places is dependent on structural properties of those places and of the larger metropolitan context in which they are embedded. Three place characteristics that tap scale and location are added to the five metro-level predictors featured in the preceding section: (1) the total population of a place, (2) place population density, operationalized as persons per square kilometer, and (3) the distance (in kilometers) between the population centroid of a place and the population centroid of the nearest city.

To gauge the effects of both metro- and place-specific structural characteristics, we have selected random intercept models from the HLM toolkit. These models allow for estimation of linear equations containing nested observations.[12] In our data, individual suburban places (i.e., level-1 observations) nest within metropolitan areas (level-2 observations), a circumstance that violates the regression assumption of independence since the places within each metropolis presumably have much in common. Random intercept models, which permit the intercept of the level-2 observations to vary, are one solution to the nesting problem (Bryk and Raudenbush 2002). Results from Hausman tests confirm our choice of random over fixed effects estimators. Simply put, this advanced HLM methodology allows us to simultaneously evaluate the impact of suburban place and metropolitan characteristics on suburban diversity in a statistically sound manner.

Table 5 presents regression coefficients for random intercept models of suburban place diversity. A key message, apparent in the concentration of significant coefficients in the top three rows of the table, is that the characteristics of suburban places are more likely than those of metropolitan areas to have pervasive effects. Perusing the place-level covariates, we see that on nearly all dimensions—and in an average sense (first column)—the diversity of a suburb increases with its population size and density. This finding supports the hypothesis that population heterogeneity is related to community scale, for places as well as entire metropolises.

[Table 5 about here]

Location matters almost as often as the scale measures do. The distance of a suburban place from the nearest central city is significantly associated with seven diversity indicators, although the direction of the effect varies. As expected, distance negatively influences racial and nativity diversity, with scores declining by about .12 points for each additional kilometer. Hence a suburb 25 kilometers away should be about 3 points less diverse, on average, than an otherwise similar suburb adjacent to the city. Distance also registers negative impacts on educational and duration-of-residence diversity. But for the tenure and household type dimensions, diversity is positively related to distance. This is surprising since fringe suburbs have traditionally been considered havens for homeowners and families with children. Perhaps the greater mix of housing and households on the periphery reflects once-independent (and still relatively diverse) small towns converted into suburbs by metropolitan expansion. Alternatively, the large, affordable tracts of land far from the city core are well suited for multi-unit developments (apartments, condominiums, etc.). Developments of this sort attract a wide variety of household types, as does the advice to "drive until you qualify" for mortgage financing.

Despite the fact that metropolitan characteristics are less frequently important in shaping suburban place diversity than are the characteristics of places themselves, the former still play a role. Place diversity increases with the population size or scale of a metropolitan area, as hypothesized. And the fragmentation variable (number of suburbs), while usually non-significant, shows the expected negative sign for six of the eight diversity dimensions. Moreover, it registers a significant negative effect on mean place diversity, suggesting that as suburban rings become more fragmented the homogeneity of individual suburban places increases. Consistent with our previous findings, the effects of metropolitan age are mixed. Educational and duration-of-residence diversity rise with metropolitan age; racial and nativity diversity fall. Lastly, the scattered regional coefficients that reach statistical significance all take a negative sign. This indicates that individual suburbs in the Midwest, South, and West are not as diverse as those in the Northeast, most notably with respect to age, educational, tenure, and duration-of-residence diversity. [13]

Conclusion

The emphasis of the dream and nightmare perspectives on suburban homogeneity receives little support from our analysis. Like previous researchers, we find the opposite to be true: suburbs are quite heterogeneous demographically. None of the metropolitan areas in our sample has a suburban ring that is less diverse than its corresponding central city on all eight dimensions of population composition, and about one-third of the rings are more diverse than their cities on at least half of those dimensions. Yet our work departs from some recent studies by demonstrating persistent and meaningful suburb-city differences. Central cities remain far more diverse than their rings in both racial and nativity mix, dimensions that can shape the climate of intergroup relations within a variety of institutional domains (education, politics, the local economy, etc.). Thus, dismissing the distinction between central cities and suburbs as irrelevant seems a bit hasty.

Our analysis also reveals substantial variation in demographic diversity across suburban rings and places. To explore possible antecedents of such variation, we have estimated regression models that treat suburban diversity as a function of metropolitan and place-specific structural characteristics. Many of the regression results—the positive effects of community scale and suburban dominance, the negative impact of distance—are consistent with the urban scholarship synthesized in our theoretical framework. At the same time, metropolitan age and suburban fragmentation exert smaller influences on diversity, and not always in the hypothesized direction. This limited success is to be expected, given the first-pass nature of our explanatory efforts. Future theoretical improvements will hinge in part on capturing more directly the processes and features proxied by the abstract structural variables used here. What we have in mind are detailed measures of housing stock, land use patterns, employment opportunities, municipal services, and residential discrimination, any of which could help determine the types of people living in a specific suburb or ring.

The need for such measures is reinforced by the regional findings in Tables 4 and 5. Most of the significant coefficients take a negative sign, implying that Northeastern suburban rings and places are more diverse than their counterparts elsewhere. One can come up with reasonable ad hoc interpretations for this pattern. Historically, it might be traced to the origins of Northeastern cities as compact industrial centers that were hemmed in early by adjacent political jurisdictions; hence, overflow growth has made the surrounding suburbs less selective on a number of demographic dimensions. Variables already in the regression equations—metropolitan age and scale in particular—may get at the historical distinctiveness of the Northeast to some extent. However, the fact that regional effects still emerge hints at incomplete model specification. If, as we believe, region lacks inherent meaning, then its occasional statistical significance must reflect properties of metro areas (or suburban rings or places) that are not measured but should be.

Another task for future investigations is to clarify what demographic diversity looks like. Despite its many attractive attributes, the entropy index can produce similar diversity scores for very dissimilar populations. As an illustration, the race *E* value (.62) for Monterey Park, CA, a suburb of Los Angeles, is virtually identical to that (.63) for Oak Park, IL, a suburb of Chicago, although the racial composition of the former (8% white, 0% black, 30% Hispanic, 63% Asian) diverges sharply from the latter (49% white, 47% black, 1% Hispanic, 3% Asian). Supplementing an analysis such as ours with percentage breakdowns (along the lines of Appendix Table A) or graphic displays of data would appear an obvious solution, but these procedures quickly become cumbersome when multiple compositional dimensions are examined for a large sample of geographic units. The trick is how to retain the efficiency of the entropy index *and* enrich the information that it conveys. Ultimately, we want to say something about the sizes of the specific groups underlying a particular diversity score.

As advances are made in theory and methods, a broader lesson from the present study is worth remembering: one size does not fit all. Certainly this applies to conclusions about the levels and antecedents of suburban diversity, which vary by compositional component, metropolitan context, and suburban definition. The lesson also suggests that, instead of proceeding one dimension at a time (our approach), researchers would be wise to explore interrelationships among different aspects of diversity, as much for policy as scholarly reasons. Consider Talen's (2006) finding that Chicago neighborhoods with a mix of housing types exhibit greater income diversity than do housing-homogeneous areas. Given the connection between housing and income, perhaps the first dimension could be manipulated in pursuit of the second, assuming that income diversity represents a desirable goal. Of course, if the diversity dimensions of interest turn out to be relatively independent of each other,[14] or if their antecedents differ, no single program or policy intervention is likely to have an across-the-board impact. Service needs will require specialized attention as well, contingent on the type and extent of diversity. Compare, for example, the municipal government priorities in a multiethnic suburb with many non-English-speaking immigrants to those in an age-heterogeneous community where senior citizens are as numerous as school children. Our point here is that a one-size policy will not suffice, either to promote suburban diversity or to respond to its consequences.

Notes

[1] To some readers, suburban 'ring' may connote a monolith marked by demographic uniformity. It is not our intention to perpetuate such an image; rather, we employ the term for lack of a better alternative with which to distinguish between suburbs in the aggregate and suburbs as individual places. ('Suburban region' and 'suburban area' have their own problems.) Precedent also favors 'ring', which has long been part of the vocabulary of urban studies.

[2] Mikelbank (2004) would seem to fill this void, utilizing numerous demographic, geographic, economic, and government-related variables to portray incorporated suburbs throughout the U.S. The purpose of his research, however, is different than ours: to group suburban places together (via cluster analysis) based on their overall similarities. The resulting typology, while valuable, obscures variation among places in levels of diversity on specific dimensions of population composition.

[3] Other measures include the Simpson index of diversity, the index of qualitative variation, and the species count (see Agresti and Agresti 1977; Patil and Taillie 1982; White 1986).

[4] The legacy of discriminatory practices and dual housing markets in older areas is also consistent with the expected negative relationship between metro age and suburban diversity, although this rationale pertains mainly to the racial and nativity dimensions of composition.

[5] The entropy index and the closely related Simpson index have been applied to several types of spatial units, including urban places with populations of 10,000 or more (Allen and Turner 1989), census tracts (Clark 1996), and block groups (Talen 2006).

[6] We define persons born in Puerto Rico and U.S. Island Areas and those born to American parents overseas as naturalized immigrants.

[7] We have replicated Table 1 for suburban places exceeding 1,000 and 5,000 in population, with no appreciable impact on the results. The same pattern of results also persists for the eight CMSAs to which some of our sample metropolitan areas belong: Chicago-Gary-Kenosha, Cleveland-Akron, Dallas-Fort Worth, Los Angeles-Riverside-Orange County, Miami-Fort Lauderdale, New York-Northern New Jersey-Long Island, San Francisco-Oakland-San Jose, and Washington-Baltimore. Finally, suburban composition does not differ much (either absolutely or in relation to central cities) when suburbs are subdivided based on their location in metro areas where 1990-2000 annexations boosted central city population by more than 1,000 or fewer than 1,000 residents. These replicational analyses are available upon request.

[8] Diversity ratios and raw E scores for all dimensions are available upon request.

[9] Diversity (i.e., entropy) measures in our multivariate models are multiplied by 100 to facilitate the interpretation of the results. Although these measures can take values anywhere between 0 and 100, their truncated range makes OLS an inappropriate estimation procedure, technically speaking. However, an inspection of residual plots reveals no major violations of regression assumptions due to truncation. Also, both histograms and skewness/kurtosis statistics suggest that the E values for each diversity dimension approximate a normal distribution.

[10] Given the sample size (N = 65 metro areas) and the exploratory nature of our multivariate analyses, we identify nearly significant coefficients ($p < .10$) as well as those achieving significance at conventional levels.

[11] As with our earlier descriptive findings, the results in Table 4 prove robust to the potentially confounding influences of annexation and agglomeration. Significant structural effects remain essentially unaltered when either a dichotomous or a continuous central city annexation measure (1990-2000 annexation-driven population increase greater than 1,000; total annexation increase) is added as a predictor. Moreover, annexation fails to

achieve statistical significance in 16 of 18 equations (two annexation variables x nine suburban ring diversity variables). Results are similarly unaffected by the inclusion of a dummy variable indicating whether the metropolitan area containing the ring is part of a larger CMSA.

[12] For each diversity dimension, the models that we estimate take the general form:

$$E_{mp} = \beta_0 + \beta_1 Subpop_{mp} + \beta_2 Density_{mp} + \beta_3 Distance_{mp} + r_{mp}$$

$$\beta_0 = \gamma_{00} + \gamma_{01} Pop_{\mathrm{m}} + \gamma_{02} Sub\text{-}CC\text{-}Pop_m + \gamma_{03} Subs_m + \gamma_{04} Age_m + \gamma_{05} Region_m + \mu_{0m}$$

where p refers to suburban places and m to metropolitan areas. E_{mp} represents the standardized entropy score (multiplied by 100) for suburban place p in metropolitan area m. It is a function of the intercept (β_0), suburban place population (*Subpop*), suburban place population density (*Density*), suburban place distance from the nearest central city (*Distance*), and a stochastic error term (r_{mp}). β_0, the intercept of diversity for metropolitan areas, is a function of six metropolitan characteristics—total population (*Pop*), the suburban ring to central city population ratio (*Sub-CC-Pop*), number of suburbs (*Subs*), age of the urban core (*Age*), and dummy terms for *Region* (the Northeast serves as the referent)—and is allowed to vary by a random term μ_{0m}. We use the *xt* suite in Stata to specify and estimate these models.

[13] In separate analyses identical to those reported earlier (see note 11), we have confirmed the stability of the Table 5 results once annexation and agglomeration (CMSA status) are controlled.

[14] Our place-level data yield an interclass (mean) correlation of .27 among the eight dimensions of demographic composition, indicating that suburbs diverse on one dimension are only modestly likely to be diverse on others.

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Figure 1: Proportion of Metropolitan Areas with Greater Suburban Ring than Central City Diversity

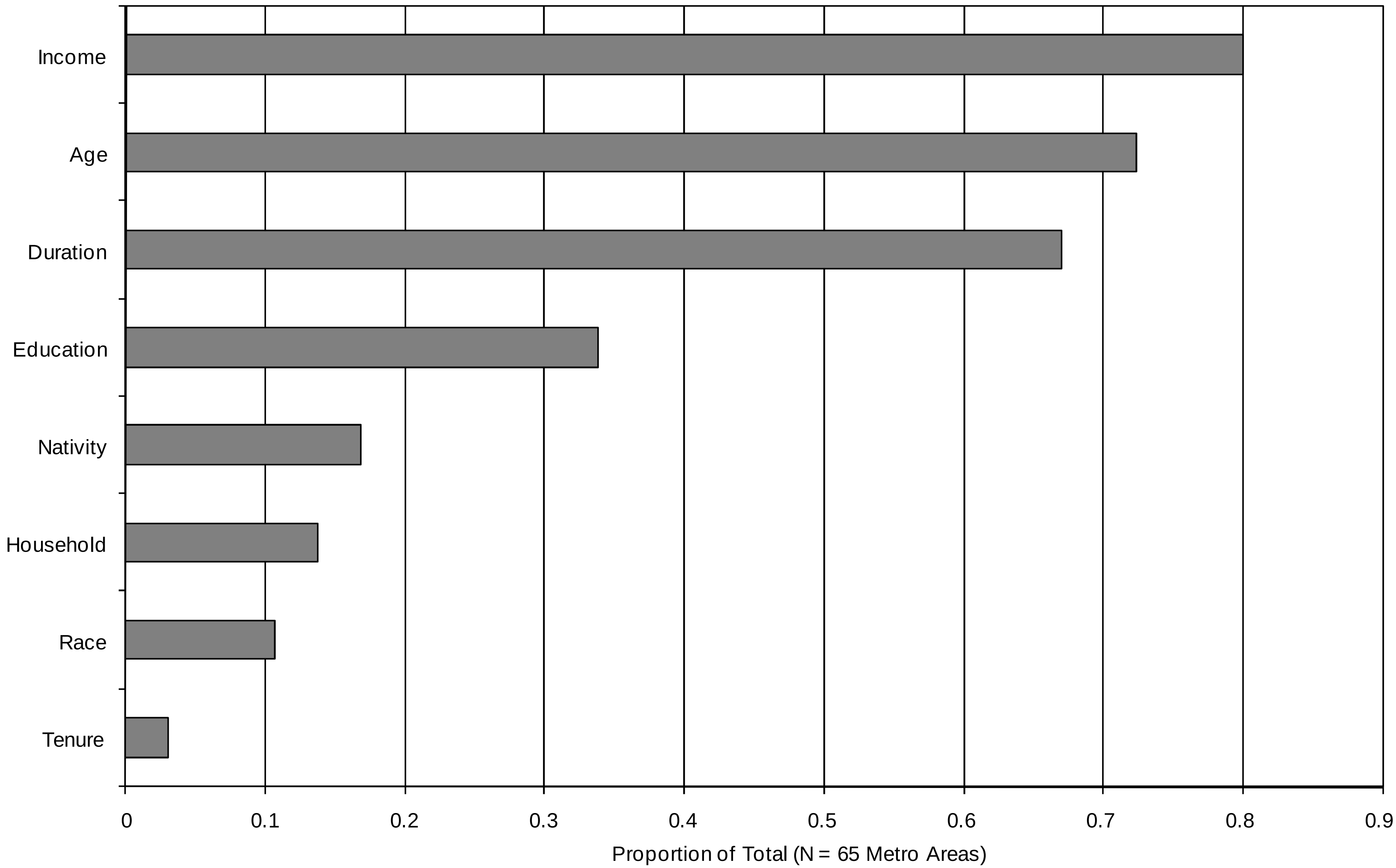

Table 1: Mean Suburban Ring and Central City Diversity

Diversity Dimension	Suburb	City
Race	.50	.69
Nativity	.38	.46
Age	.96	.95
Household Type	.90	.92
Education	.94	.95
Income	.98	.96
Tenure	.63	.77
Duration of Residence	.94	.93

Note: N=65 metro areas

Table 2: Suburban Ring to Central City Diversity Ratios by Metropolitan Area

Metro Area	Suburb-City Diversity Ratio Mean	Race	Education	Income	Suburb Diversity > City Diversity
Akron, OH	0.912	0.330	1.018	1.069	4
Albuquerque, NM	0.934	0.877	0.962	0.996	1
Atlanta ,GA	1.029	1.144	0.988	1.036	5
Austin-San Marcos, TX	0.912	0.793	0.970	0.999	2
Bakersfield, CA	0.996	0.898	0.923	0.965	3
Baltimore, MD	0.994	0.877	1.033	1.062	3
Birmingham, AL	0.977	0.920	1.041	1.120	3
Boston, MA	0.909	0.444	0.983	1.004	3
Buffalo-Niagra Falls, NY	0.875	0.215	0.996	1.109	3
Charlotte-Gastonia-Rock Hill, NC	0.926	0.676	0.982	1.007	3
Chicago, IL	0.900	0.697	1.000	0.998	2
Cincinatti, OH	0.927	0.451	0.979	1.073	4
Cleveland-Lorain-Elyria, OH	0.928	0.518	1.097	1.108	4
Columbus, OH	0.911	0.430	1.000	1.030	4
Dallas, TX	0.916	0.788	0.989	1.011	3
Dayton-Springfield, OH	0.954	0.571	1.046	1.077	5
Denver, CO	0.913	0.680	0.961	1.011	3
Detroit, MI	0.951	0.661	1.083	1.060	4
Fort Lauderdale, TX	1.009	1.093	0.974	1.018	5
Fort Worth-Arlington, TX	0.919	0.621	0.980	1.000	2
Fresno, CA	0.951	0.749	0.958	1.017	4
Gary, IN	0.953	0.776	1.067	1.096	3
Grand Rapids-Muskegon-Holland, MI	0.896	0.500	0.986	1.030	3
Greensboro--Winston-Salem--High Point, NC	0.942	0.722	0.964	1.005	3
Hartford, CT	0.931	0.562	1.050	1.069	4
Honolulu, HI	0.966	1.283	0.959	0.999	2
Houston, TX	0.923	0.851	1.009	1.023	3
Indianapolis, IN	0.904	0.365	0.994	1.019	2
Jacksonville, FL	0.943	0.548	1.018	1.016	3
Kansas City, MO	0.899	0.405	0.994	1.017	2
Las Vegas, NV	0.978	0.901	0.974	0.991	3
Los Angeles-Long Beach, CA	0.993	0.989	1.000	1.022	4
Louisville, KY	0.945	0.604	0.991	1.072	1
Memphis, TN	0.933	0.624	1.004	1.053	2
Miama, FL	1.013	1.119	1.052	1.105	5
Milwaukee-Waukesha, WI	0.858	0.256	1.016	1.049	4
Minneapolis-St. Paul, MN-WI	0.848	0.368	0.938	1.009	3
Nashville, TN	0.923	0.532	0.982	1.020	3
New Orleans, LA	0.976	1.018	0.956	1.065	4
New York, NY	0.942	0.745	1.022	0.990	4
Newark, NJ	1.018	1.013	1.202	1.086	5
Oakland, CA	0.949	0.860	0.972	0.984	2
Oklahoma City, OK	0.934	0.650	0.973	1.014	2
Omaha, NE	0.927	0.543	0.949	1.003	1
Orange County, CA	0.967	0.926	1.025	0.980	4
Orlando, FL	0.964	0.848	0.987	1.028	3
Philadelphia, PA	0.921	0.574	1.041	1.072	3
Phoenix-Mesa, AZ	0.944	0.913	0.986	1.007	2
Pittsburgh, PA	0.910	0.453	0.967	1.056	3
Portland-Vancouver, OR-WA	0.950	0.759	0.975	1.013	1
Raleigh-Durham-Chapel Hill, NC	0.962	0.831	0.996	1.003	3
Riverside San Bernadino, CA	0.979	1.000	0.980	1.016	2
Sacramento, CA	0.914	0.652	0.975	1.025	2
St Louis, MO	0.935	0.664	1.032	1.076	3
Salt Lake City-Ogden, UT	0.881	0.611	0.938	1.024	2
San Antonio, TX	0.948	0.947	1.013	1.031	4
San Diego, CA	0.950	0.837	0.967	1.000	3
San Francisco, CA	0.962	0.873	0.990	0.959	3
Seattle-Bellevue-Everett, WA	0.936	0.780	0.966	0.997	3
Tacoma, WA	0.946	0.754	0.980	1.022	1
Tampa-St. Petersburg-Clearwater, FL	0.933	0.675	0.979	1.014	2
Tucson, AZ	0.915	0.713	1.015	1.078	3
Tulsa, OK	0.919	0.450	0.960	1.023	2
Washington, DC	0.997	1.031	0.984	0.976	4
West Palm Beach-Boca Raton, FL	0.981	0.947	0.975	1.004	3
Mean	0.941	0.722	0.996	1.029	3

Note: All eight dimensions are reflected in first and last columns.

Table 3: Suburban Place Diversity in Metropolitan Areas with Most and Least Diverse Suburban Rings

Most Diverse Rings			Least Diverse Rings		
Diversity Dimension/ Metro Area	Mean Place Diversity	Place Diversity Standard Deviation	Diversity Dimension/ Metro Area	Mean Place Diversity	Place Diversity Standard Deviation
Race			*Race*		
Oakland, CA	.644	.229	Buffalo-Niagra Falls, NY	.086	.075
Honolulu, HI	.619	.130	Indianapolis, IN	.091	.104
Los Angeles-Long Beach, CA	.585	.215	Omaha, NE	.111	.131
Orange County, CA	.568	.172	Columbus, OH	.118	.118
Riverside-San Bernardino, CA	.559	.193	Pittsburgh, PA	.129	.121
Nativity			*Nativity*		
Miami, FL	.836	.176	Tulsa, OK	.061	.056
Los Angeles-Long Beach, CA	.716	.181	Indianapolis, IN	.077	.066
Fort Lauderdale, FL	.602	.223	Memphis, TN	.084	.073
Fresno, CA	.588	.240	Omaha, NE	.089	.074
Orange County, CA	.584	.156	Birmingham, AL	.096	.100
Age			*Age*		
Buffalo-Niagra Falls, NY	.976	.015	West Palm Beach-Boca Raton, FL	.857	.176
Pittsburgh, PA	.973	.029	Phoenix-Mesa, AZ	.874	.150
Bergen-Passaic, NJ	.960	.029	Tacoma, WA	.878	.180
Greensboro-Winston-Salem-High Point, NC	.960	.024	Denver, CO	.895	.068
Cleveland-Lorain-Elyria, OH	.959	.028	Honolulu, HI	.898	.111
Household			*Household*		
Sacramento, CA	.893	.060	Salt Lake City-Ogden, UT	.787	.090
Grand Rapids-Muskegon-Holland, MI	.881	.047	San Antonio, TX	.792	.090
Atlanta, GA	.881	.069	Las Vegas, NV	.798	.191
San Francisco, CA	.873	.056	Honolulu, HI	.800	.178
New Orleans, LA	.871	.048	West Palm Beach-Boca Raton, FL	.801	.144
Education			*Education*		
New York, NY	.932	.063	Fresno, CA	.735	.164
Hartford, CT	.922	.037	Bakersfield, CA	.764	.137
Boston, MA	.915	.047	Tulsa, OK	.769	.185
Newark, NJ	.913	.046	Columbus, OH	.811	.086
Baltimore, MD	.909	.055	Kansas City, MO	.820	.094
Income			*Income*		
Hartford, CT	.955	.053	Tulsa, OK	.824	.176
Portland-Vancouver, OR-WA	.954	.036	Oklahoma City, OK	.857	.118
Gary, IN	.953	.046	San Francisco, CA	.861	.120
Buffalo-Niagra Falls, NY	.952	.033	Denver, CO	.865	.119
Philadelphia, PA	.948	.057	Bakersfield, CA	.867	.107
Tenure			*Tenure*		
Los Angeles-Long Beach, CA	.634	.190	Albuquerque, NM	.297	.170
Miami, FL	.628	.217	Tucson, AZ	.354	.153
West Palm Beach-Boca Raton, FL	.618	.237	San Antonio, TX	.354	.178
Orange County, CA	.599	.202	Minneapolis-St. Paul, MN-WI	.385	.185
Honolulu, HI	.595	.236	Birmingham, AL	.386	.162
Duration			*Duration*		
Buffalo-Niagra Falls, NY	.970	.024	Las Vegas, NV	.813	.161
Hartford, CT	.960	.031	Denver, CO	.833	.169
Cleveland-Lorain-Elyria, OH	.959	.027	Tacoma, WA	.837	.196
New York, NY	.958	.031	Honolulu, HI	.849	.185
Akron, OH	.954	.032	Tampa-St. Petersburg-Clearwater, FL	.852	.117

Table 4: OLS Regressions of Suburban Ring Diversity on Metropolitan Structural Characteristics

Characteristic	Mean Diversity	Race/Nativity Diversity: Race	Race/Nativity Diversity: Nativity	Life Cycle Diversity: Age	Life Cycle Diversity: Household	Socioeconomic Diversity: Education	Socioeconomic Diversity: Income	Residential Diversity: Tenure	Residential Diversity: Duration
Metro Population (thousands)	.002 ***	.006 ***	.007 ***	.000 **	.000	.001 **	.000	.002 **	.000
	(.000)	(.001)	(.001)	(.000)	(.000)	(.000)	(.000)	(.001)	(.000)
Suburban Ring to Central City Population Ratio	.014 ***	.033 **	.052 ***	.002	.005 **	.002	.000	.025 ***	.001
	(.003)	(.011)	(.011)	(.001)	(.002)	(.002)	(.001)	(.007)	(.002)
Number of Suburbs	-.018 *	-.027	-.076 *	-.002	-.003	-.005	-.002	-.051 **	-.006
	(.009)	(.034)	(.032)	(.004)	(.005)	(.006)	(.003)	(.020)	(.007)
Age of Central City	-.005	-.069	-.102 +	-.007	.009 +	.019 +	.000	.040	.053 ***
	(.015)	(.060)	(.057)	(.007)	(.009)	(.010)	(.006)	(.036)	(.013)
Midwest	-3.926 *	-7.931	-12.633 *	-1.564 *	.627	-.750	.682	-10.649 **	-.471
	(1.588)	(6.146)	(5.995)	(.767)	(.922)	(1.039)	(.590)	(3.690)	(1.365)
South	.575	13.016 *	-1.581	-2.692 ***	1.134	1.010	.265	-3.125	-2.369 +
	(1.641)	(6.350)	(6.046)	(.793)	(.953)	(1.074)	(.610)	(3.813)	(1.411)
West	1.834	16.451 *	6.521	-3.204 ***	2.165 *	-1.506	-.278	-2.510	-2.391
	(1.809)	(7.001)	(6.715)	(.874)	(1.051)	(1.184)	(.672)	(4.204)	(1.555)
Constant	73.997 ***	35.434 ***	34.163 ***	98.817 ***	86.683 ***	91.497 ***	98.260 ***	60.102 ***	90.919 ***
	(2.638)	(10.208)	(9.765)	(1.274)	(1.532)	(1.726)	(.980)	(6.129)	(2.268)
R^2	.644	.616	.667	.279	.220	.406	.082	.425	.469

Notes: N=65 metro areas; p<.10(+); p<.05(*); p<.01(**); p<.001(***)

Table 5: Random Intercept Regressions of Suburban Place Diversity on Metropolitan and Place Structural Characteristics

Characteristic	Mean Diversity	Race/Nativity Diversity		Life Cycle Diversity		Socioeconomic Diversity		Residential Diversity	
		Race	Nativity	Age	Household	Education	Income	Tenure	Duration
Place Population (thousands)	.112 ***	.249 ***	.192 ***	.027 ***	.077 ***	.077 ***	.083 ***	.183 ***	.009
	(.005)	(.012)	(.010)	(.005)	(.007)	(.006)	(.007)	(.013)	(.006)
Place Population Density (hundreds per sq. km)	.030 ***	.043 ***	.069 ***	.002	.020 ***	-.007 ***	.017 ***	.087 ***	.008 ***
	(.002)	(.004)	(.003)	(.001)	(.002)	(.002)	(.002)	(.004)	(.002)
Place Distance to Central City (km)	-.031 ***	-.120 ***	-.128 ***	.005	.012 +	-.071 ***	-.008	.070 ***	-.014 *
	(.005)	(.012)	(.009)	(.004)	(.006)	(.005)	(.006)	(.013)	(.006)
Metro Population (in thousands)	.001 ***	.003 **	.005 ***	.000 +	.000 **	.000	.000 +	.000	.000
	(.000)	(.001)	(.001)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Suburban Ring to Central City Population Ratio	.004 +	.006	.030 ***	-.002	.000	.004 +	-.003	.001	-.002
	(.002)	(.009)	(.009)	(.001)	(.002)	(.002)	(.002)	(.005)	(.002)
Number of Suburbs	-.015 *	-.023	-.060 *	.002	.000	-.011	-.002	-.018	-.010
	(.007)	(.027)	(.026)	(.001)	(.006)	(.007)	(.007)	(.014)	(.006)
Age of Central City	-.015	-.118 *	-.127 **	.012	.017	.031 *	.018	-.014	.043 ***
	(.013)	(.047)	(.045)	(.008)	(.011)	(.012)	(.013)	(.026)	(.012)
Midwest	-2.491 +	-.850	-7.018	-1.399 +	1.261	-3.368 **	.103	-6.000 *	-.577
	(1.299)	(4.803)	(4.558)	(.766)	(1.091)	(1.242)	(1.300)	(2.603)	(1.174)
South	-1.705	4.114	-5.628	-2.453 **	-.180	-1.740	-1.139	-6.187 *	-3.357 **
	(1.325)	(4.863)	(4.600)	(.792)	(1.127)	(1.275)	(1.337)	(2.677)	(1.209)
West	-1.258	8.258	1.868	-3.963 ***	-.533	-3.392 *	-1.709	-7.063 *	-4.702 ***
	(1.514)	(5.609)	(5.330)	(.899)	(1.279)	(1.450)	(1.518)	(3.041)	(1.373)
Constant	69.057 ***	33.934 ***	32.527 ***	94.317 ***	80.607 ***	85.857 ***	90.173 ***	47.854 ***	90.086 ***
	(2.214)	(8.145)	(7.721)	(.607)	(1.895)	(2.130)	(2.239)	(4.482)	(2.027)
-2 log likelihood	37382	48170	45378	36963	40894	39388	41248	48993	40670

Notes: N=5,645 suburbs; p<.10(+); p<.05(*); p<.01(**); p<.001(***)

Appendix Table A: Proportional Representation of Demographic Groups in Pooled Suburban and Central City Populations

	Suburb			
Diversity Dimension	Total	Incorporated Place	Census Designated Place	City
Race				
Hispanic	.15	.16	.14	.23
Non-Hispanic White	.70	.70	.68	.46
Non-Hispanic Black	.09	.09	.12	.25
Non-Hispanic Asian	.06	.06	.06	.07
Nativity				
Native	.84	.84	.84	.78
Naturalized Immigrant	.08	.07	.08	.03
Non-naturalized Immigrant	.09	.09	.08	.19
Age (years)				
<18	.27	.28	.27	.27
18-39	.30	.30	.29	.35
40-64	.30	.30	.31	.27
65+	.12	.12	.12	.11
Household Type				
Married Couple with Children	.29	.29	.28	.21
Married Couple without Children	.30	.30	.32	.23
Single-Parent Family	.09	.09	.09	.13
Single Person (Living Alone)	.26	.27	.25	.35
Nontraditional Union	.06	.06	.06	.09
Education				
< High School	.16	.16	.16	.24
High School Diploma	.26	.25	.26	.24
Some College	.29	.30	.29	.25
College Grad	.19	.19	.19	.17
Graduate +	.11	.10	.12	.10
Income				
<$15,000	.11	.11	.10	.20
$15,000-$29,999	.16	.16	.16	.20
$30,000-$44,999	.17	.17	.17	.18
$45,000-$59,999	.14	.14	.14	.13
$60,000-$74,999	.12	.12	.12	.09
$75,000-$99,999	.13	.13	.13	.09
$100,000+	.18	.17	.18	.11
Tenure				
Owned Single-Unit Dwelling	.68	.67	.70	.44
Owned Multi-Unit Dwelling	.03	.03	.09	.06
Rented Single-Unit Dwelling	.11	.11	.11	.13
Rented Multi-Unit Dwelling	.18	.19	.16	.37
Duration of Residence (years)				
<1	.20	.20	.19	.23
1-4	.30	.30	.29	.31
5-9	.16	.16	.17	.15
10-19	.16	.15	.16	.13
20-29	.09	.09	.10	.09
30+	.09	.08	.09	.09
Total Population	71,623,727	51,091,818	20,531,909	53,928,290
Total N of Places	5,645	3,829	1,816	156