Socioeconomic Segregation of Activity Spaces in Urban Neighborhoods: Does Shared Residence Mean Shared Routines?*

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Abstract

Recent evidence indicates that residential segregation by income and education is increasing alongside trends of slowly but steadily declining Black-White segregation. Levels of segregation in urban neighborhood residents' non-home activity spaces, however, have not been explored. How integrated are the daily routines of people who live in the same neighborhood? Are people with different socioeconomic backgrounds that live near one another less likely to share routine activity locations than those of similar education or income? Do these patterns vary across the socioeconomic continuum? Moreover, research is silent about how patterns of spatial sorting in routine activities by socioeconomic status might vary according to the socioeconomic structure of the neighborhoods where people live. In this paper, we draw on residential and activity space segregation research to examine variability in socioeconomic (income and education) sorting in the routine activity locations of urban residents. The analyses draw on unique data from the Los Angeles Family and Neighborhood Survey (L.A.FANS) that identify the location where residents engage in routine activities such as work, shopping, and school. Using multilevel p_2 (network) models, we analyze pairs of households (represented by a randomly selected adult) located in the same neighborhood (i.e., census tract) and examine whether the dyad combinations across three levels of SES conduct routine activities in the same location (i.e., census block group). We also examine whether the role of neighbor socioeconomic similarity or dissimilarity in the co-location of routine activities is dependent on the level of neighborhood socioeconomic inequality and trust. Results indicate that, on average, increasing SES diminishes the likelihood of sharing routine activity locations with any SES group. This pattern is most pronounced in neighborhoods characterized by high levels of socioeconomic inequality. Neighborhood trust explains a nontrivial proportion of the inequality effect on the extent of routine activity location sorting by SES. Stark, visible neighborhood-level inequality by SES may lead to enhanced effects of distrust on the willingness to associate across class. In turn, more mobile middle and higher income groups may withdraw from local activity spaces.

Recent evidence indicates that residential segregation by income and education is increasing alongside trends of slowly but steadily declining Black-White segregation (Domina 2006; Reardon and Bischoff 2011). Research on segregation patterns, however, almost exclusively focuses on where groups with varying economic statuses live, neglecting potential differences in the range of places people go during the course of their day. As such, segregation research often implicitly assumes that residents of the same neighborhood do not further sort themselves by socioeconomic status in the spaces where they conduct daily activities. Drawing on this expectation, some theories of inter-group contact and policies promoting mixed-income housing claim that residential integration by income and education has a range of benefits because integration extends beyond the walls of people's homes to the things that people do and the places they go (Jargowsky and Swanstrom 2009; Talen 2006).

Yet, few studies investigate the extent of socioeconomic segregation in the activity spaces of neighborhood residents (for two recent exceptions see Jones and Pebley 2014; Krivo et al. 2013). Are people with different socioeconomic backgrounds that live near one another just as likely to share routine activity locations as those of similar education or income? Or instead, are the activity locations of socioeconomically distinct households that live in the same neighborhood segregated? Residential propinquity should increase the extent to which individuals of different social classes encounter one another. However, social distance may trump such residential effects and make it unlikely that people with different socioeconomic statuses go to the same locations to conduct activities. No evidence to date evaluates the extent to which socioeconomic differences in households within the same neighborhood influence shared non-residential routines.

Research is also silent about how household segregation in routine activities locations by socioeconomic status varies according to the character of the neighborhoods where people live. Specifically, drawing on competing perspectives regarding the influence of neighborhood heterogeneity on social interaction, we consider how neighborhood socioeconomic inequality affects the extent to which neighborhood residents from similar and dissimilar classes share activity locations. Extended to socioeconomic status (SES), the classic *contact hypothesis* would predict that high levels of diversity increase cross-group trust and social interaction which should increase the chances of neighbors of different statuses going to the same places (Allport 1954; Pettigrew 1998; Emerson, Kimbro, and Yancey 2002; Pettigrew and Tropp 2006). Alternative approaches, however, argue that neighborhood diversity fosters distrust, leading to either *generalized withdrawal* (reduced association with all groups) (Putnam 2007), or *conflict* (reduced trust and association with other SES groups but enhanced solidarity and association with one's own SES group).

In this paper, we draw on residential and activity space segregation research to develop and test hypotheses regarding the extent of, and variability in, socioeconomic (income, education) sorting in the routine activity locations of urban neighborhood residents. The analyses draw on unique data from the Los Angeles Family and Neighborhood Survey (L.A.FANS) that identify the locations where residents from a representative sample of neighborhoods in Los Angeles county live, work, shop, frequent religious institutions, visit the doctor, and spend other time. Extending p_2 models for network data (Zijlstra, van Duijn, and Snijders 2006) to the multilevel setting, we analyze pairs of households located in the same neighborhood (for a sample of 65 census tracts) and examine whether the dyads conduct routine activities in the same location (i.e., the same census block group). We then examine the extent to

which observed activity location sorting patterns by SES vary across neighborhoods as a function of tract-level socioeconomic inequality and perceived trust.

Theoretical Background

The focus on socioeconomic inequality in where neighborhood residents go stems from growing evidence that residential segregation by income and education is increasing (e.g. Fischer 2003; Massey and Fischer 2003; Domina 2006; Reardon and Bischoff 2011). Segregation within metropolitan areas of the college educated from people with low education rose dramatically from 1970 through 2000 (Domina 2006), and the concentration of poverty and affluence continue to climb (e.g. Reardon and Bischoff 2011; Jargowsky 2013). These patterns have occurred alongside an overall decline in patterns of black-white segregation (Fischer 2003; Massey and Fischer 2003). Here, we move beyond analyses of tract-level patterns of integration/segregation to consider expectations regarding the extent to which (1) routine activity patterns are shaped by social (SES) distance between residents of the same neighborhood; and (2) neighborhood level factors independently contribute to the tendency to share routines and modify the effects of social distance between households. We begin by discussing the potential for *household dyad* level SES effects on spatial sorting in routines and then move to *neighborhood level* effects on shared routines – both direct and through modifying dyad effects.

Household Dyad-Level SES Effects on Shared Routines

An implicit assumption in studies of residential segregation is that identifying residence in a neighborhood (typically a census tract) and describing that neighborhood's sociodemographic composition captures day-to-day experiences of segregation/integration. As such, these analyses

essentially assume a pattern of *random mixing* in non-residential activity spaces. In this approach, households that live in the same neighborhood, do not experience additional spatial sorting in the places they routinely go. Yet, the social structural factors that shape patterns of residential segregation may also operate to segregate routine activity locations such as places of employment, school, worship, child care, medical care, leisure, and other destinations (Palmer 2013). The extent to which activity spaces are segregated between households with different social characteristics is virtually unknown. Examining the degree to which spatial sorting by socioeconomic status – a dominant social structural influence of social interaction more generally (Hipp and Perrin 2009) – occurs in the daily routines of urban residents is a necessary step in understanding the mechanisms through which segregation affects access to resources and life outcomes.

The random mixing model may be seen as a relatively optimistic view – one that underlies mixed-income housing policies that assume residential socioeconomic integration will extend beyond simply living next to one another into the ways that residents spend their day and the places that they go (Jargowsky and Swanstrom 2009; Talen 2006). However, theory and research on mixed-income housing indicates that this may not be the case. Evidence suggests that people of different economic statuses carry out routine activities in different locations even if they reside in integrated neighborhoods (Lees 2008). First, *material constraints, tastes, and preferences* may diminish the likelihood of shared routines across class. Material constraints limit the places lower income residents go to shop, work, spend leisure time, and access social support services such as health care or child care due to affordability and accessibility (e.g., transportation options). In contrast, higher SES individuals have the resources to utilize more expensive services that may be in very different locations than those used by lower income

households. Further, their greater ability to afford an array of services and transportation costs may lead to a more extensive set of activity locations simply because they have resources to go wherever they want. As such, higher SES individuals may have a lower likelihood of contact during activities with co-residents not only of lower status but with neighbors of *any* SES as routine activity locations increasingly reflect the unencumbered idiosyncratic preferences of individuals.

Beyond material constraints, *social distance* between residents of the same neighborhood may independently limit willingness to share routine activities. Differences in SES between residents may be associated with varying attitudes and lifestyles that could contribute to less willingness to share routines (Tach 2009; Chaskin and Joseph 2013). To the extent that class similarity is associated with a sense of group identity, a preference for sharing routines with those of similar SES may contribute to a feeling of belonging that sharing routines across SES might inhibit (Hipp and Perrin 2009). Some higher status individuals may hold stereotypes regarding the behavior and norms of lower class individuals that lead them to avoid encounters with those of lower status even if they live near one another (Tach 2009; Chaskin and Joseph 2013). Lower status individuals may also be less inclined to share routine activities with higher SES individuals that live in their neighborhood because they think they might be poorly treated, discriminated against, or made to feel unwelcome. Accordingly, we expect that the likelihood of shared routine activity locations across SES will be lower than is the case for those of the same SES. In addition, we anticipate that the chances of sharing activity locations will decrease as socioeconomic status increases.

Neighborhood-Level Effects on Shared Routines

We also explore how neighborhood characteristics shape where neighbors routinely go. Specifically, we examine the extent to which neighborhood socioeconomic inequality influences features of the social climate relevant for sharing routines – particularly collective trust. The ongoing debate regarding the role of "social mixing" in residential housing provides an important anchor point for understanding hypotheses regarding the role of SES inequality in routine activity patterns. In the optimistic view, social mixing across class brings people together in shared activity either through random mixing or through enhancing willingness to encounter others of different SES background (see the discussion of the *contact hypothesis* below). In contrast, over the last decade a substantial literature calls into question social mixing as both an empirical outcome of neighborhood SES diversity and a policy prescription for solving challenges in concentrated poverty neighborhoods (Galster 2007; Lees 2008; Walks and Maaranen 2008).

Extant theory suggests two possible mechanisms by which SES inequality might lead to diminished likelihood of shared routines across class. First, Putnam (2007) argues – in an essay focused on race-ethnic composition – that diversity leads to a *generalized* decrease in trust. When brought into proximity, he contends, residents of different groups (jointly represented in sufficient numbers) experience increased distrust and social withdrawal. Putnam does not argue that diversity fosters conflict across groups but, rather, it encourages an anomic tendency toward social isolation. He offers an array of evidence regarding diversity's negative short-term effects on collective trust. As applied to the case of share routines, a key part of the hypothesized process of withdrawal or "hunkering down" is that elective activities (e.g., spending leisure time) in or near the home neighborhood decline overall. Necessity-based activities such as grocery

shopping might be diverted to increasingly distant locations as well (e.g., near a place of employment). This argument suggests that urban residents are *less likely* to share routine activity locations with *any* members of their own community as the level of neighborhood inequality by SES increases.

An alternative approach links neighborhood inequality with distrust and withdrawal only between households of different socioeconomic statuses. In this line of argument, consistent with conflict theory in studies of race and ethnicity (Blalock 1967; Quillian 1996; Taylor 1998; Bobo 1999), lower trust brought about by increasing SES inequality is manifest in more hostile relations across, but not within, SES groups (Zubrinsky and Bobo 1996). Hipp (2007), for instance, finds that neighborhood level socioeconomic inequality is positively associated with crime. He attributes this effect to the likely influence of inequality on cohesion across classes. Reduced cohesion, in turn, is hypothesized to limit collective capacity to achieve shared goals, such as crime reduction. Although Hipp's model emphasizes social network ties directly (see also Hipp & Perrin 2009), we suggest that neighborhood level socioeconomic inequality may enhance the salience of class differences and associated tensions, reducing trust overall, but amplifying the effects of distrust on the willingness of residents to share space with other SES groups in particular. In turn, the likelihood of actual network tie formation across class may be diminished as a result. Drawing on this logic, our analyses allow us to explore the possibility that SES inequality decreases the likelihood of shared routine locations for groups of different SES but does not affect (or even enhances) the chances of households of the same SES sharing locations for everyday activities.

Finally, the classic *contact hypothesis* (Allport 1954) offers the considerably more optimistic expectation that neighborhood-level socioeconomic diversity may extend to shared

routine activity locations. Initially superficial exposures to neighbors of different backgrounds foster a perception that residents have common goals and can be counted on, thereby enhancing trust. Casual observation of neighbors engaged in familiar, conventional day-to-day routines may lead to increasing trust and the progressive incorporation of more convenient and similar local shopping, worship, and leisure options into daily routines (Sampson and Bartusch 1998; Emerson, Kimbro, and Yancey 2002). More extensive socioeconomic diversity at the neighborhood level provides more opportunities for the types of trust-generating cross-SES observations that may amplify willingness to adopt socioeconomically diverse activity locations as part of daily routines (potentially further enhancing trust). This argument is consistent with research proposing "social mixing" by SES as a "positive public policy tool" (Cameron 2003; Lees, Slater, and Wyly 2008) promoting social cohesion across class. Accordingly, neighborhood-level socioeconomic diversity is expected to increase trust relevant for the willingness to share routines across SES group. As such, greater SES inequality would increase the tendency of neighbors of different SES backgrounds to conduct routine activities in the same locations.

We assess these competing hypotheses by examining data on activity locations of residents of 65 Los Angeles census tracts using the Los Angeles Family and Neighborhood Study (L.A.FANS). We fit multilevel p_2 network models to dyadic tie data (shared activity locations among sampled households) in order to examine within-neighborhood household dyad, neighborhood level, and neighborhood by household dyad (cross-level) interaction hypotheses. Specifically, at the household dyad level, we examine the extent to which (1) higher SES reduces the likelihood of sharing routines with neighbors of any class (consistent with the material constraints and preferences hypothesis), and (2) dissimilarity in the SES of household dyads

decreases the likelihood of sharing an activity location (consistent with the social distance hypothesis). At the neighborhood level, we consider the expectation that (3) neighborhood SES inequality decreases the overall likelihood of neighbors sharing an activity location (consistent with the generalized withdrawal hypothesis) and (4) that this effect is mediated by collective trust. With respect to cross-level interactions, we consider whether neighborhood socioeconomic inequality moderates any observed tendency for routine activity location sorting by SES: (5) decreasing shared activity location for households of different SES, consistent with conflict theory, or (6) enhancing shared routines across SES, consistent with the contact hypothesis. Finally, we explore whether neighborhood level trust (7) amplifies the likelihood of sharing routines across SES and (8) accounts for any observed differences in the likelihood of sharing activity location across SES group across levels of neighborhood SES inequality.

Data and Methods

Data

We use data from the first wave of the Los Angeles Family and Neighborhood Survey (L.A.FANS) conducted by the RAND Corporation. Collected between 2000 and 2001, the L.A.FANS (Sastry et al. 2006) is a stratified random sample of individuals residing in 65 census tracts in Los Angeles County, California. Although high poverty tracts were oversampled, the sample is representative of tracts across the income range of the Los Angeles County. Within each tract, households were randomly selected and a randomly selected adult (RSA) was interviewed within each household (N = 2,619). We exclude households who did not indicate having at least one activity outside of their home, and those with no network ties to other households in their tract through activity locations (described below, see *Dependent Variable*

below). Our sample includes remaining households with complete information on all independent variables (N = 2,462).

Measures

Dependent Variable. The outcome in our analysis is a dichotomous indicator of whether or not two households living in the same neighborhood (i.e., census tract) go to the same location (i.e., block group) to conduct a routine activity. Respondents provided the address or the nearest intersection where household members' commonly go for a range of routine activities–grocery shopping, school (if a child resides in the household), employment, attending religious institutions, relatives' homes, childcare, healthcare, a place other than home or work where the responding adult spends the most time, and places other than home where the child spends the night. These locations were geocoded and associated with the census block group where the activity occurs.[2]

We use these location data to construct our outcome using network methods. Specifically, we use the projected two-mode networks for the 65 sampled tracts in which the first mode consists of households that live in the same tract.[3] The second mode consists of census block groups where sampled households go to conduct a routine activity. Drawing on this information, our outcome captures whether or not two households living within the same tract (a dyad) are tied to one another by going to the same block group for a routine activity. We then predict this outcome based upon characteristics of the households in the dyad (e.g., having the same or different SES) and of the census tract where they live (e.g., SES inequality).[4]

[2] We only include activity locations in block groups in California. On average, households reported 5.04 non-home activities with valid block group locations.
[3] A mean of 37.8 households are included within each tract network.
[4] Combining each household dyad with each possible tie through a block group location within a tract results in a total of 3,824,943 dyad-location records for analysis.

Independent variables. We construct independent variables for *socioeconomic similarity* of the two households in a dyad based upon whether or not they are in the bottom, middle, or top third of the socioeconomic status distribution of L.A.FANS' respondents. Socioeconomic status is a scale that combines the household income and educational attainment of the sampled adults. Household income is measured in dollars.[5] Educational attainment is measured in nineteen categories.[6] The correlation between logged income and education at the individual level is 0.34. To measure household socioeconomic status, we standardize income and education across the households, average the z-scores to get a combined index, and then divide the scale into thirds. The low SES tertile has a median income of $15,000 and 7 years of education. The middle SES group has a median income of $24,000 and 12 years of education; the high SES group has a median income of $70,000 and a bachelor's degree. In the multilevel models, we include a set of dummy variables indicating that households in each dyad are in the same specific category of SES (low, middle, or high SES) or different specific categories of household socioeconomic status (e.g., one member of the dyad is low SES and the other is middle SES). The reference category is a pair of households that are both low SES.

We control for *race-ethnic similarity* within household dyads based on whether both household respondents are white, Black, Latino, or Asian/other race/ethnicity (two households with different racial/ethnic identities is the reference category). We also include a series of additional variables describing the degree of respondent similarity with respect to marital status, residential tenure (whether the respondent lived in the neighborhood for at least 2 years), and parental status. These additional controls include categories for similarity on having the focal

[5] The income data include RAND-imputed values to deal with non-response using education, marital status, family composition, immigrant status, health status, and neighborhood poverty as predictors (Bitler and Peterson 2004).
[6] Educational attainment is measured by 19 categories including last year of school completed for those with less than high school education and highest degree obtained.

characteristic (e.g. both households lived in the neighborhood for at least two years) or not having the focal characteristic (e.g., both households lived in the neighborhood for less than two years), vs dissimilar dyads. The final dyad control variables measure the difference in age and the distance in geographic space between the residences of the two adults in the dyad. The latter is an important control variable given that physical proximity of households is likely to have a significant influence on shared locations of routine activities. Estimating social distance effects on shared routines due to SES dissimilarity requires, at a minimum, a control for physical proximity of household dyads (Hipp and Perrin 2009).

We include four measures of structural characteristics of the census tract where the households in the dyad reside (based on 2000 census data) that are commonly used in neighborhood research. *Racial diversity* is the sum of the squared proportions of white, Latino, Black, Asian, and other race/ethnicity populations in the tract subtracted from 1. Higher values indicate more race-ethnically diverse neighborhoods. *Residential instability* is measured with the standardized percent of residents aged five and older who have moved since 1995. We measure *immigrant concentration* with the mean of the standardized percentages of the tract population that are (1) foreign born, and that (2) do not speak English well or at all (among those aged five and older). We also include the median *number of activity locations* reported per household in the tract.

To measure neighborhood *socioeconomic inequality*, we separately compute a Gini index of income inequality and a Gini index of educational inequality for each census tract.[7] The

[7] Income is measured by 11 categories ranging from less than $10,000 to $200,000 or more. The income Gini was constructed using the median income for each category, and applying a Pareto distribution to the open-ended category at the top of the distribution to estimate the median (Parker and Fenwick 1983). For the tracts with no households in the top two categories, thus making it impossible to calculate the median income for those categories, we use the average median value for all tracts in L.A. County in the equation to calculate that Gini index for that particular tract. The mean of the unstandardized income Gini is 0.40 (s= .05). Following the calculation for education the Gini coefficient used in Thomas et al. (2001), we use 16 categories (estimated midpoints in

income and education Gini coefficients are standardized separately, and then averaged to create a measure of combined socioeconomic inequality at the neighborhood level. Gini values are equal to one when one person has all the income/education in a neighborhood, and equals zero if everyone has the same income/education, thus higher values of the SES inequality are indicative of more unequal income and education distributions in the tract.

To test the hypotheses regarding the role of collective trust, we include a measure of *neighborhood trust*. Respondent's expressed their level of agreement (on a 5-point scale) with the following statement: "People in this neighborhood can be trusted." The neighborhood-level measure is the mean value of respondent reports within the neighborhood where they live.

Analytic Strategy

In our statistical analyses, the outcome of interest is an indicator of a tie between pairs of individual households (dyads) who reside in the same neighborhood. To account for the nesting of dyads within neighborhoods, we fit multilevel regression models with neighborhood random effects. In addition to random effects at the neighborhood level, we include random effects at the individual household level to account for the fact that individuals by definition are part of multiple dyads and, therefore, outcomes corresponding to the pairs of dyads including the same individual will be dependent. Random effects models of this form, where the individual-level random effects are at a lower level than the outcome, are nonstandard, but have been developed in the networks literature. Specifically, the p_2 network model accounts for dependence across dyadic outcomes using cross-nested random effects (van Duijn, Snijders, and Zijlstra 2004;

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parentheses): 0 years, 1-4 years, 5-6 years (5.5), 7-8 years (7.5), 9 years, 10 years, 11 years, 12 years – no high school diploma, 12 years – with diploma or equivalent, less than 1 year of college (12.5 years), 1 or more years of college – no diploma (13.5), associate's degree (14), bachelor's degree (16), master's degree (18), professional degree (19), and doctoral degree (20 years). The mean of the unstandardized education Gini coefficient is 0.23 (s=.09).

Zijlstra, van Duijn, and Snijders 2006). Here, we extend the p_2 model to the multilevel setting to account for the nesting of dyads within neighborhoods, as described below.

The outcome of interest, Y_{ijk}, is an indicator that dyad i from neighborhood (tract) j is connected through activity location k. We model the log odds of dyad *i* in tract *j* being tied through activity location *k* as

$$\log\left(\frac{\mu_{ijk}}{1-\mu_{ijk}}\right) = \gamma_j + \alpha_{g_1(i,j)} + \alpha_{g_2(i,j)} + \sum_{p=1}^{P} \beta_p^H H_{ijp} + \sum_{q=1}^{Q} \beta_q^Z Z_{ijq}$$

$$+ \sum_{p=1}^{P} (\beta_p^{GH} G_j H_{ijp} + \beta_p^{TH} T_j H_{ijp}),$$

where γ_j is the tract-specific random intercept, $\alpha_{g_1(i,j)}$ and $\alpha_{g_2(i,j)}$ are random effects associated with individual one and individual two who comprise dyad *i* in tract *j* (e.g., $g_1(i,j)$ is a function that maps the *i*th dyad in the *j*th tract to the index of the first individual in the dyad; $g_2(i,j)$ is defined similarly), H_{ijp} is an indicator of SES category p similarity in dyad *i* from tract *j*, β_p^H are corresponding fixed effects, the Z_{ijq}s are dyad-level control variables, and the β_q^Zs are corresponding fixed effects. The remaining terms in the equation capture cross-level interactions between the dyad-level SES similarity variables and tract-level measures of inequality (G_j) and trust (T_j).

We assume that $\gamma_j = \gamma^0 + \beta^G G_j + \beta^T T_j + \sum_{r=1}^{R} \beta_r^X X_{jr} + \epsilon_j$, where $\epsilon_j \sim iid\ N(0, \tau^2)$, γ^0 is the overall mean, β^G and β^T are fixed effects corresponding to neighborhood levels of inequality and trust respectively, the X_{jr}s are tract-level control variables (including residential instability, immigrant concentration, diversity, and number of activities), and the β_r^Xs are the associated fixed effects. In addition, we assume that $\alpha_l = \alpha^0 + \nu_l$ where $\nu_l \sim iid\ N(0, \sigma^2)$.

To fit this model, we utilized the glmer function in the lme4 package (version .999999-0) in R (version 3.0.1). To accommodate the individual effects, it was necessary to edit the design matrix for the random effects. Neighborhood level variables are mean-centered in our analyses for ease of interpretation.

Results

Table 1 presents the descriptive statistics for the households, neighborhoods, and household dyads in the analytic sample. The sample is majority Latino (56%) with a median income of $$27,000 and a modal education level of high school degree. Almost 60 percent of household dyads match on racial/ethnic identity; 38 percent are dyads in which both households are Latino. Two thirds of dyads are comprised of two households with children. Approximately half of the neighbor pairs (i.e., dyads) have the same socioeconomic status (low, middle or high SES similarity), with 15 percent where both households are low SES, 15 percent where both are middle SES, and 20 percent where both are high SES. The remaining dyads have different socioeconomic status with many more low-middle SES and middle-high SES than highly divergent low-high SES pairs of neighbors.

Household Dyad-Level Effects

Table 2 reports results from multilevel p_2 models of whether two households living in the same neighborhood go to the same activity location. Model 1, panel A includes only dyad-level SES and control variables. The tables present coefficients as log odds; in the discussion below we refer to the odds ratios for interpretation. The results shows that two neighbors of low socioeconomic status are the most likely to routinely go to the same places. The odds of a routine

activity tie for dyads with two middle SES or two high SES households are 13 percent ($p < .05$) and 15 percent ($p < .10$) lower, respectively, than for two low SES neighbors. Pairs of households with different SES status also have lower likelihoods of going to the same location than low SES dyads; the odds of going to the same activity location for dyads with low and middle SES households are 14% lower ($p < .001$) than low SES dyads. Comparable figures for mid-high and low-high SES combinations are 16% lower ($p < .05$) and 21% lower ($p < .001$), respectively. Consistent with the expectation that higher income offers more flexibility in activity locations, dyads involving higher SES households (whether similar or dissimilar) are somewhat less likely to encounter other households from the same neighborhood of *any* SES than low SES households are to encounter one another. Further and consistent with a social distance expectation, household pairs that are the most different in their SES (low - high) have the lowest likelihood of encountering one another. Clearly, the model offers strong support for the hypothesis of spatial sorting in routine activities by SES, in contrast to the expectations of the random mixing model.

With respect to dyad level control variables, the odds of going to the activity location for a dyad with two Latinos or two whites are 22 percent and 15 percent higher than the average dyad where the two households are of different race-ethnicities. Similarity on residential tenure and parental status also contribute to the likelihood of routinely going to the same place; the odds of a location tie between two households with children is 45 percent higher than for a pair with a parent and a non-parent neighbor. The odds of going to the same location for a dyad with two non-parent households is 24 percent lower than neighbor pairs consisting of a parent and a non-parent.

An obvious potential explanation for the sorting patterns in Model 1 is within-tract spatial segregation. In other words, the pattern may be due to the fact that the two households within

each dyad live closer or farther from one another (Hipp and Perrin 2009). Accordingly, Model 1 also includes the distance between the households in the dyad. The farther that households live from each other within their neighborhood the less likely they are to go to the same routine activity location. However, analyses not presented indicate that inclusion of this measure does not alter the associations of other dyad characteristics with sharing activity locations.

Neighborhood-Level Average Effects

Model 2 adds neighborhood socioeconomic inequality as well as tract level indicators of immigrant concentration, residential instability, racial diversity, and the median number of activity locations per household. Two characteristics are important. Greater racial diversity is associated with lower chances of going to the same place for routine activities ($p < .10$). The median number of activities is also negatively associated with location ties ($p < .001$), which indicates that the larger the number of distinct places households go to (on average), the lower the likelihood that household pairs will share routines.[8] Neighborhood socioeconomic inequality is also negatively associated with sharing routine activity locations, although the coefficient does not reach statistical significance. Although the average negative effect of racial diversity on the likelihood of a shared activity is consistent with Putnam's generalized withdrawal hypothesis, our results show that association does not extend to socioeconomic inequality within neighborhoods. The effects of dyad characteristics, including SES similarity/difference, do not change substantially with the addition of tract level factors.

Model 3 includes the average effect of neighborhood trust on the likelihood of a location tie. The results demonstrate that trust increases the generalized tendency to share routines. A

[8] Inclusion of the average household number of unique locations as a control is a somewhat conservative approach to assessing inequality effects as increased number of locations traveled to is a possible mechanisms linking inequality with the extent of shared locations. Although the magnitude of the main inequality effect is reduced somewhat with the inclusion of median number of activities, the effect is not significant with or without median number of activities included in the model. Moreover, the cross-level interactions between inequality and the dyad SES similarity covariates are only nominally affected by inclusion of median number of activities.

one standard deviation increase in neighborhood trust (.44) is associated with a 17% increase in the odds of sharing a routine activity ($p < .10$). Of note, the coefficient for racial diversity is reduced by almost 30% (to non-significance) by the inclusion of neighborhood trust. Although the coefficients for diversity (in model 2) and trust (in model 3) are marginally significant, the models offer suggestive evidence in favor of the generalized withdrawal hypothesis with respect to racial diversity.

Neighborhood by Household Dyad Cross-Level Interactions

In order to assess whether the effects of SES household dyad similarity/dissimilarity differ by characteristics of neighborhoods, we test cross-level interactions between neighborhood socioeconomic inequality and household dyad SES similarity/dissimilarity. We then consider cross-level interactions between neighborhood trust and household dyad SES covariates. Table 3 presents the results of these models.

In model 1, the main effect of inequality, for two low SES households, is not significant. For dyads with two middle or high SES households, the interactions with inequality are negative and significant ($p < .05$ and $p < .01$, respectively); as inequality increases, the likelihood of two neighbors of similar middle and higher SES going to the same location decreases. Both the average effects and the interaction terms are significant for dyads with one low or middle SES household and one high SES household (at least $p < .05$). The likelihood of a location tie is lower for these dyads compared to those with two low SES households when inequality is average; as inequality increases, the odds of going to the same routine activity location decrease significantly. Only the pairs with one low and one middle SES household exhibit no such pattern by neighborhood socioeconomic inequality. The results show that increasing inequality reduces the likelihood of routinely going to the same place for all SES neighbor pairs except those with two low SES or a low and middle SES household.

This pattern of results can be seen clearly in Figure 1 which presents the predicted probability of the two households in a randomly selected dyad (from any neighborhood) visiting at least one of the same activity locations across levels of neighborhood inequality.[9] Panel A shows the chances of contact for similar SES dyads and panel B presents them for dissimilar SES dyads. Among dyads with two low SES households (panel A. I.), the predicted probability of sharing activity spaces is about 0.35, and does not vary significantly by neighborhood level socioeconomic inequality. For dyads with two similar middle or high SES households (see panel A. I. and II.), the probability of a shared routine location is approximately 0.45 when they live in a neighborhood with very low socioeconomic inequality (1.5 standard deviations below the mean). The probability of going to the same place is dramatically lower, only about 0.20, when they reside in a neighborhood with very high inequality (1.5 standard deviations above the mean). Similar patterns are observed for the dyads with one high SES household (panels B. II and III.); the probability of a shared location at low levels of inequality is around 0.40, and is only about half that (at about 0.20) in high inequality neighborhoods.

The predicted probabilities reveal an overall pattern of more limited sharing of routine activity spaces as neighborhood socioeconomic inequality increases, for dyads involving higher SES households (whether similar or dissimilar). At high levels of inequality, higher SES residents have a comparatively low likelihood of encountering a low, middle, or high another high income household; this is also the case for two middle income households. This suggests a

[9] The model estimates the probability of dyad *i* in neighborhood *j* having visited the *same specific activity location k*, $\hat{\mu}_{ijk}$, which we use to compute the probability of each dyad having visited *at least one of the same activity locations.* We use the empirical median of the number of unique activity locations across the tracts, N^A, in estimating this probability. We calculate predicted probabilities for each dyad-level covariate pattern (e.g. similarity on race, marital status, etc.) and average these probabilities using weights that correspond to the frequency of each covariate pattern in the sample. As there are no activity-specific terms in our model, $\hat{\mu}_{ijk}$ does not depend on *k*.

$$P\left(\sum_{k=1}^{N^A} Y_{ijk} \geq 1\right) = 1 - P\left(\sum_{k=1}^{N^A} Y_{ijk} = 0\right) = 1 - \left[P(Y_{ij1} = 0)\right]^{N^A} = 1 - \left[1 - P(Y_{ij1} = 1)\right]^{N^A} = 1 - \left[1 - \hat{\mu}_{ij1}\right]^{N^A}$$

tendency toward withdrawal among higher income groups that is amplified at higher levels of socioeconomic inequality.

Model 2 of table 3 includes cross-level interactions of neighborhood trust and dyad SES , to test whether the effect of socioeconomic inequality on the magnitude of sorting for dyads with higher SES households is due to the enhanced effect of neighborhood trust. The findings show that the effect of trust for two households of low SES (main effect) is not significant. However, the interactions for dyads with two middle SES households and household dyads of any dissimilar SES combination of SES are positive and significant. Therefore as trust increases, the likelihood of middle SES and SES dissimilar dyads sharing routine locations increases. We note that the average effects of the SES dyad combinations (when inequality and trust are at their means) by comparison to low SES dyads are no longer significant in model 2 of table 3 with the exception of low-high SES dyads. The results indicate that the social distance sorting effect for low-high SES dyads, on average, is nontrivial – these dyads are approximately 18% less likely to share routines than low SES dyads.

Figure 2 presents the probability of the two households in a randomly selected dyad (from any neighborhood) visiting at least one of the same activity locations for similar SES dyads (panel A) and dissimilar SES dyads (panel B). The positive relationship between trust and location sharing is particularly evident for dyads with two middle SES households (panel A. II.). In neighborhoods with low perceived trust of neighbors, the probability of sharing a location is 0.26; in neighborhoods with high trust, the probability increases to 0.46. The probability of dyads with one low and one middle SES household (panel B. I.) sharing a location is approximately 0.25 in low trust contexts, and 0.40 in high trust neighborhoods. For dyads involving low and high SES, comparable probabilities are approximately .24 and .35. At high levels of neighborhood trust, we find no statistically significant differences in the probability of shared

routines by SES dyad characteristics, with the exception of middle SES similar dyads for which a significantly higher probability of contact is observed compared with low SES similar dyads.

The results of table 3, model 2 indicate that increases in neighborhood trust reduce the observed tendency toward sorting by SES group. Moreover, introduction of trust in cross-level interactions with household dyad combinations accounts for a nontrivial proportion of the inequality effects on SES sorting. Trust renders the inequality interactions insignificant in three out of four cases and consistently diminishes the magnitude of the coefficients.

In summary, the models offer evidence that SES inequality reduces the likelihood of shared routines but only for middle and high income similar dyads and dissimilar dyads involving a high income household. The pattern exhibited is consistent with the notion of a SES group-specific withdrawal effect: inequality leads higher income residents to withdraw from shared neighborhood spaces overall (including from each other). This effect is explained, in part, by the enhanced effect of diminished neighborhood trust for these dyad combinations (with the exception of high SES similar dyads).

Sensitivity Analyses

In order to establish whether the effect of neighborhood inequality is due to neighborhood economic status, we also ran models using a variety of alternative SES measures. These included a combined index of neighborhood economic status, a measure of the percent living in poverty, and a measure of the percent with high household income, each entered separately in models with socioeconomic inequality included. None of these models offered evidence of significant interactions between these alternative measures and SES dyad covariates. Consequently, the effect of SES inequality is not due to its correlation with measures of absolute SES.

We also considered a number of other potential neighborhood level social process mediators of SES inequality. These included social interaction and reciprocated exchange (frequency of favor exchange, advice giving across neighbors) and organizational density (examining the hypothesis that the absence of available activity routine options might explain the tendency of higher SES residents to seek options elsewhere). Neither social interaction and reciprocated exchange nor organizational density significantly influenced the overall tendency to share routines or sorting in this outcome by SES. In addition, we also examined a combined measure of social cohesion (capturing the sense that neighbors are close-knit, helpful, get along, and share the same values, in addition to being trustworthy). The social cohesion measure exhibited statistically significant interactive effects with a subset of SES dyad covariates, but these effects were weaker than those observed for the indicator of neighborhood trust. This finding indicates that the sense of trust, specifically, is a uniquely important predictor of shared routines.

Conclusion

The voluminous literature on segregation has focused primarily on residential segregation within units of analysis such as census tracts, cities, and metropolitan regions. We extend this work to investigate patterns of integration and segregation by socioeconomic status in the activity locations neighborhood residents frequent in the course their daily routines. We first considered the extent to which, conditional on residence in the same census tract, neighbors of the same or different SES frequent the same routine activity locations. We hypothesized that variation in material constraints and preferences by SES will result in lower likelihood of sharing routines for SES dyads involving higher income households. Higher SES residents will have more extensive

options for routine activities (due to greater affordability and accessibility), leading to a more extended radius of routine activity. In turn, these residents will be less likely to share routine activity locations with neighbors of any SES. We also expected that social distance between residents of different SES backgrounds will result in lower likelihood of sharing activity locations. Both hypotheses were supported in multilevel p_2 models of activity location sharing presented in model 1 of table 2. Unsurprisingly, dyads combining low and high SES households exhibited the largest reduction in the likelihood of contact by comparison with dyads combining two low SES households. Also, the likelihood of sharing routine activity locations with members of their own SES group was lower for middle and high income residents compared with low income residents.

These findings offer robust evidence of spatial sorting in routine activity locations by SES, conditional on residence in the same neighborhood. Approaches to segregation that go no further than residential location will neglect systematic patterns of spatial sorting that limit the likelihood of cross-SES exposure, even among residents of the same neighborhood and even after controlling for additional within-neighborhood residential segregation (as captured by variation in distance between homes). The results are consistent with the claims of "social mixing" critics who argue that spatial propinquity based on residence is not a sufficient condition to ensure cross-SES exposures in the course of daily routines (Lees 2008). They also compliment Hipp and Perrin's (2009) finding that social distance effects emerge with respect to within-neighborhood network ties, even after controlling physical proximity among neighbors.

Second, we investigated whether neighborhood-level conditions independently influence the likelihood of shared routines. Specifically, we considered a range of tract-level characteristics, focusing on the potential role of SES inequality in generating overall differences

in the likelihood of shared routines. Although the sign of the SES inequality main effect is consistent with Putnam's (2007) hypothesis that diversity results in a generalized tendency toward withdrawal, only the negative effect of *racial* diversity achieved significance in the model. The main effect of neighborhood trust was a marginally significant predictor of the shared routines and mediated a nontrivial proportion of the racial diversity effect.

Third, we examined whether the tendency of higher- and cross-SES dyads to exhibit lower likelihoods of shared routines when compared with low SES dyads was modified by SES inequality at the neighborhood level. Here we found consistent evidence that increases in neighborhood SES inequality are associated with more pronounced spatial sorting in routine activity locations for higher- and cross-SES dyad combinations. The pattern we observed in model 1 of table 1 emerged only at higher levels of inequality. Under conditions of lower SES inequality, we found little evidence of sorting across SES dyad combination. The assumption that residential integration is replicated in activity spaces – effectively a random mixing model conditional on shared neighborhood – may hold in the context of low inequality neighborhoods. In contrast, as SES inequality increases, middle and higher income residents exhibit progressively lower likelihoods of encountering any neighborhood residents by comparison with low income SES dyads.

The finding of an SES gradient in the tendency to share routines as inequality increases has potentially important implications for understanding the conditions under which social mixing across SES – as manifest in spatial intersection – will occur. Too pronounced differences in the SES levels of neighborhood residents appear to interfere with the potential for cross-class mixing. Consistent with this finding, some extant evidence suggests that cross-SES interactions are more likely when income heterogeneity is only moderate (Brophy and Smith 1997;

Rosenbaum, Stroh, and Flynn 1998). Of interest was the lack of evidence supporting an out-group avoidance explanation for the patterns of observed sorting by SES. We found no evidence that increases in SES inequality led to the diminished tendency to share activities with those of other classes versus those of the same class. The reduced likelihood of sharing locations appeared to effect most dyad combinations involving higher income households – whether similar or dissimilar.

The findings are somewhat consistent with Putnam's expectation of an overall pattern of withdrawal as diversity in SES increases, but with a class-specific manifestation of this tendency. Lower SES residents were not significantly less likely to share routines as inequality increased. The material constraints hypothesis may play a role in understanding this class-specific pattern. Lower SES residents may not have as much flexibility in activity location choice. If necessity is a more significant driver of activity locations for those of lower SES, they may not be as sensitive to variations in neighborhood level socioeconomic distributions and their consequences for social capital, including trust.

This interpretation is consistent with findings observed for the effects of trust in interaction with SES dyad covariates. We found relatively consistent evidence of neighborhood trust effects on the magnitude of SES dyad coefficients – as neighborhood level trust increased, routine activity sharing among higher- and cross-SES groups also increased (with the exception of low-mid SES dyad combinations). Indeed, at high levels of trust we found no significant evidence of spatial sorting by SES. Moreover, a nontrivial proportion of the SES inequality effect on the dyad level SES sorting tendency was explained by trust. Trust appears to play an important role in the willingness of residents of different SES backgrounds to share daily routines. The findings also point to trust as a key pathway through which neighborhood

socioeconomic inequality results in more limited sharing of routines. In combination, these results illuminate the conditions under which, for instance, mixed income housing and gentrifying neighborhoods will yield shared public space. To the extent that such public space sharing reinforces and enhances neighborhood social climates (Browning et al. 2015), these findings may shed light on extant research linking inequality with other negative outcomes such as crime (Hipp 2007) and poor health (Wilkinson & Pickett 2009)

Our analyses have a number of limitations, some of which we hope to address through additional analyses. First, our data are limited to the Los Angeles context, reducing generalizability. Second, information on the routine activity locations of L.A.FANS respondents was limited to a subset of common destinations. Currently, the L.A.FANS is the only available neighborhood-focused social survey data to also collect activity space information of any kind, although emerging projects are attempting to address limitations in the availability of rich information on routine activity locations (Browning & Soller 2014). Third, our sample of neighborhoods was somewhat small for the purposes of investigating variability in neighborhood level SES inequality. Nevertheless, the data are sufficiently rich to allow for future efforts to explore the effects of specific types of SES distribution on SES sorting tendencies. Finally, our data are cross-sectional, limiting our ability to infer causal effects of our predictors. For instance, although trust is likely to foster shared routines, the reciprocal is likely also true – shared routines may lead to enhanced trust. Longitudinal data will provide an opportunity to more rigorously explore the mediating effects of trust in the link between inequality and shared routines.

The analyses reported here are among only a few studies to investigate activity space segregation and, to our knowledge, the only existing study to consider multilevel influences on

routine activity sorting by SES. Although infrequently considered in the extant literature, patterns of shared exposure through activity routines is likely to be an increasingly common focus of investigation as richer data on urban activity spaces become more readily available. These data hold substantial promise to yield important insights into the nature of everyday patterns of social integration and isolation.

References

Allport, Gordon W. 1954. *The Nature of Human Prejudice*. Addison-Wesley.

Bitler, Marianne, and Christine Peterson. 2004. *LAFANS Income and Asset Imputations: Description of Imputed Income/Assets Data for LAFANS Wave 1*. Santa Monica, CA: RAND Corporation.

Blalock, H. M. Jr. 1967. *Toward a Theory of Minority-Group Relations*. New York, NY: John Wiley & Sons.

Bobo, Lawrence D. 1999. "Prejudice as Group Position: Microfoundations of a Sociological Approach to Racism and Race Relations." *Journal of Social Issues* 55 (3): 445–72. doi:10.1111/0022-4537.00127.

Brophy, Paul C., and Rhonda N. Smith. 1997. "Mixed-Income Housing: Factors for Success." *Cityscape* 3 (2): 3–31.

Cameron, Stuart. 2003. "Gentrification, Housing Redifferentiation and Urban Regeneration: 'Going for Growth' in Newcastle upon Tyne." *Urban Studies* 40 (12): 2367–82. doi:10.1080/0042098032000136110.

Chaskin, Robert J., and Mark L. Joseph. 2013. "'Positive' Gentrification, Social Control and the 'Right to the City' in Mixed-Income Communities: Uses and Expectations of Space and Place." *International Journal of Urban and Regional Research* 37 (2): 480–502. doi:10.1111/j.1468-2427.2012.01158.x.

Domina, Thurston. 2006. "Brain Drain and Brain Gain: Rising Educational Segregation in the United States, 1940–2000." *City & Community* 5 (4): 387–407. doi:10.1111/j.1540-6040.2006.00190.x.

Emerson, Michael O., Rachel Tolbert Kimbro, and George Yancey. 2002. "Contact Theory Extended: The Effects of Prior Racial Contact on Current Social Ties." *Social Science Quarterly* 83 (3): 745–61. doi:10.1111/1540-6237.00112.

Fischer, Mary J. 2003. "The Relative Importance of Income and Race in Determining Residential Outcomes in U.S. Urban Areas, 1970-2000." *Urban Affairs Review* 38 (5): 669–96. doi:10.1177/1078087403038005003.

Galster, George. 2007. "Neighbourhood Social Mix as a Goal of Housing Policy: A Theoretical Analysis." *International Journal of Housing Policy* 7 (1): 19–43. doi:10.1080/14616710601132526.

Hipp, John R. 2007. "Income Inequality, Race, and Place: Does the Distribution of Race and Class Within Neighborhoods Affect Crime Rates?" *Criminology* 45 (3): 665–97. doi:10.1111/j.1745-9125.2007.00088.x.

Hipp, John R., and Andrew J. Perrin. 2009. "The Simultaneous Effect of Social Distance and Physical Distance on the Formation of Neighborhood Ties." *City & Community* 8 (1): 5–25. doi:10.1111/j.1540-6040.2009.01267.x.

Jargowsky, Paul A. 2013. *Concentration of Poverty in the New Millennium: Changes in Prevalence, Composition, and Location of High-Poverty Neighborhoods*. New York, NY: Century Foundation; Camden, NJ: Center for Urban Research and Education, Rutgers University. http://tcf.org/bookstore/detail/concentration-of-poverty-in-the-new-millennium.

Jargowsky, Paul A., and Todd Swanstrom. 2009. *Economic Integration: Why It Matters and How Cities Can Get More of It*. City Vitals Series. Chicago, IL: CEOs for Cities. http://www.ceosforcities.org/pagefiles/EconomicIntegration.pdf.

Jones, Malia, and Anne R. Pebley. 2014. “Redefining Neighborhoods Using Common Destinations: Social Characteristics of Activity Spaces and Home Census Tracts Compared.” *Demography* 51 (3): 727–52. doi:10.1007/s13524-014-0283-z.

Krivo, Lauren J., Heather M. Washington, Ruth D. Peterson, Christopher R. Browning, Catherine A. Calder, and Mei-Po Kwan. 2013. “Social Isolation of Disadvantage and Advantage: The Reproduction of Inequality in Urban Space.” *Social Forces* 92 (1): 141–64. doi:10.1093/sf/sot043.

Lees, Loretta. 2008. “Gentrification and Social Mixing: Towards an Inclusive Urban Renaissance?” *Urban Studies* 45 (12): 2449–70. doi:10.1177/0042098008097099.

Lees, Loretta, Tom Slater, and Elvin Wyly. 2008. *Gentrification*. New York, NY: Routledge.

Massey, Douglas S., and Mary J. Fischer. 2003. “The Geography of Inequality in the United States, 1950-2000.” *Brookings-Wharton Papers on Urban Affairs*, January, 1–40. doi:10.2307/25067394.

Palmer, John R. B. 2013. *Activity-Space Segregation: Understanding Social Divisions in Space and Time*. Ph.D. dissertation: Princeton University. http://dataspace.princeton.edu/jspui/handle/88435/dsp01k643b130h.

Parker, Robert Nash, and Rudy Fenwick. 1983. “The Pareto Curve and Its Utility for Open-Ended Income Distributions in Survey Research.” *Social Forces* 61 (3): 872–85. doi:10.1093/sf/61.3.872.

Pettigrew, Thomas F. 1998. “Intergroup Contact Theory.” *Annual Review of Psychology* 49 (1): 65–85. doi:10.1146/annurev.psych.49.1.65.

Pettigrew, Thomas F., and Linda R. Tropp. 2006. “A Meta-Analytic Test of Intergroup Contact Theory.” *Journal of Personality and Social Psychology* 90 (5): 751–83. doi:10.1037/0022-3514.90.5.751.

Putnam, Robert D. 2007. “E Pluribus Unum: Diversity and Community in the Twenty-First Century.” *Scandinavian Political Studies* 30 (2): 137–74. doi:10.1111/j.1467-9477.2007.00176.x.

Quillian, Lincoln. 1996. “Group Threat and Regional Change in Attitudes Toward African-Americans.” *American Journal of Sociology* 102 (3): 816–60.

Reardon, Sean F., and Kendra Bischoff. 2011. “Income Inequality and Income Segregation.” *American Journal of Sociology* 116 (4): 1092–1153. doi:10.1086/657114.

Rosenbaum, James E., Linda K. Stroh, and Cathy A. Flynn. 1998. “Lake Parc Place: A Study of Mixed-income Housing.” *Housing Policy Debate* 9 (4): 703–40. doi:10.1080/10511482.1998.9521314.

Sampson, Robert J., and Dawn Jeglum Bartusch. 1998. “Legal Cynicism and (Subcultural?) Tolerance of Deviance: The Neighborhood Context of Racial Differences.” *Law & Society Review* 32 (4): 777–804. doi:10.2307/827739.

Sastry, Narayan, Bonnie Ghosh-Dastidar, John Adams, and Anne R. Pebley. 2006. “The Design of a Multilevel Survey of Children, Families, and Communities: The Los Angeles Family and Neighborhood Survey.” *Social Science Research* 35 (4): 1000–1024.

Tach, Laura M. 2009. “More than Bricks and Mortar: Neighborhood Frames, Social Processes, and the Mixed-Income Redevelopment of a Public Housing Project.” *City & Community* 8 (3): 269–99. doi:10.1111/j.1540-6040.2009.01289.x.

Talen, Emily. 2006. “Design That Enables Diversity: The Complications of a Planning Ideal.” *Journal of Planning Literature* 20 (3): 233–49. doi:10.1177/0885412205283104.

Taylor, Marylee C. 1998. “How White Attitudes Vary with the Racial Composition of Local Populations: Numbers Count.” *American Sociological Review* 63 (4): 512–35.

Van Duijn, Marijtje A. J., Tom A. B. Snijders, and Bonne J. H. Zijlstra. 2004. “p2: A Random Effects Model with Covariates for Directed Graphs.” *Statistica Neerlandica* 58 (2): 234–54. doi:10.1046/j.0039-0402.2003.00258.x.

Walks, R. Alan, and Richard Maaranen. 2008. “Gentrification, Social Mix, and Social Polarization: Testing the Linkages in Large Canadian Cities.” *Urban Geography* 29 (4): 293–326. doi:10.2747/0272-3638.29.4.293.

Zijlstra, Bonne J. H., Marijtje A. J. van Duijn, and Tom A. B. Snijders. 2006. “The Multilevel p2 Model.” *Methodology: European Journal of Research Methods for the Behavioral and Social Sciences* 2 (1): 42–47. doi:10.1027/1614-2241.2.1.42.

Zubrinsky, Camille L., and Lawrence Bobo. 1996. “Prismatic Metropolis: Race and Residential Segregation in the City of the Angels.” *Social Science Research* 25 (4): 335–74. doi:10.1006/ssre.1996.0016.

Table 1. Household and Neighborhood Descriptive Statistics		
Household characteristics[a] (N=2,462)	Mean	SD
Less than High School Degree	0.35	
High School Degree	0.45	
College Degree or more	0.19	
Median Household Income	$27,000	
Latino	0.56	
White	0.26	
Black	0.10	
Asian/Other	0.08	
Married	0.50	
Residential Tenure (2+ years)	0.70	
Parents	0.76	
Age	-0.08	14.39
Neighborhood characteristics[b] (N=65)		
Immigrant concentration	0.00	1.10
Residential instability	0.00	0.88
Racial Diversity	0.00	0.19
Activity Locations[a]	3.91	0.54
Socioeconomic Inequality	0.00	0.85
Neighborhood Trust[a]	3.41	.44
Dyad characteristics[a] (N=3,824,943)		
Low SES similarity	0.15	
Middle SES similarity	0.13	
High SES similarity	0.21	
Low-Middle SES dissimilarity	0.24	
Low-High SES dissimilarity	0.09	
Middle-High SES dissimilarity	0.19	
Latino similarity	0.39	
White similarity	0.14	
Black similarity	0.03	
Asian/Other similarity	0.02	
Married similarity	0.28	
Not married similarity	0.26	
Residential Tenure (2+ yrs) similarity	0.50	
Residential Tenure (<2 yrs) similarity	0.10	
Parents similarity	0.59	
Not parents similarity	0.05	
Age difference	15.07	12.73
Distance	0.01	0.03

Source: a. Los Angeles Neighborhood and Family Survey
b. Neighborhood characteristics from the U.S. Census Bureau, except where noted.

Table 2. Coefficients from Multilevel p_2 Models of Eco-Network Tie Formation: Dyad and Neighborhood Level Predictors

	Model 1		Model 2		Model 3	
Panel A. *Dyad Level Predictors*[a]						
Low SES similarity (reference)						
Middle SES similarity	-0.140	**	-0.144	**	-0.145	**
	(0.07)		(0.08)		(0.07)	
High SES similarity	-0.158	*	-0.168	**	-0.188	**
	(0.08)		(0.09)		(0.09)	
Low-Middle SES dissimilarity	-0.149	***	-0.151	***	-0.151	***
	(0.04)		(0.04)		(0.04)	
Low-High SES dissimilarity	-0.242	***	-0.248	***	-0.257	***
	(0.05)		(0.05)		(0.05)	
Middle-High SES dissimilarity	-0.171	**	-0.178	**	-0.188	***
	(0.07)		(0.07)		(0.07)	
Latino Similarity	0.196	***	0.192	***	0.194	***
	(0.04)		(0.04)		(0.04)	
White Similarity	0.140	***	0.139	***	0.133	***
	(0.04)		(0.04)		(0.04)	
Black Similarity	-0.052		-0.046		-0.044	
	(0.07)		(0.07)		(0.07)	
Asian/Other Similarity	-0.029		-0.027		-0.027	
	(0.07)		(0.07)		(0.07)	
Married similarity	-0.082	***	-0.085	***	-0.086	***
	(0.03)		(0.03)		(0.03)	
Not married similarity	0.085	***	0.089	***	0.090	***
	(0.03)		(0.03)		(0.02)	
Tenure similarity (2+ yrs)	0.155	***	0.152	***	0.150	***
	(0.03)		(0.03)		(0.03)	
Tenure similarity (<2 yrs)	-0.081	**	-0.078	**	0.076	**
	(0.04)		(0.04)		(0.04)	
Parents similarity	0.370	***	0.372	***	0.373	***
	(0.03)		(0.03)		(0.03)	
Not parents similarity	-0.280	***	-0.283	***	-0.283	***
	(0.05)		(0.05)		(0.05)	
Age difference	-0.001		-0.001		-0.001	
	(0.00)		(0.00)		(0.00)	
Distance	-2.076	***	-2.067	***	-2.060	***
	0.386		(0.39)		(0.39)	

*** p<.01; **p<.05; *p<.10;

Source: a. Los Angeles Neighborhood and Family Survey

b. Neighborhood characteristics from the U.S. Census Bureau, except where noted.

Table 2. Coefficients from Multilevel p_2 Models of Eco-Network Tie Formation: Dyad and Neighborhood Level Predictors

	Model 1		Model 2		Model 3	
Panel B. *Neighborhood Predictors*[b]						
Immigrant concentration			0.050		0.087	
			(0.09)		(0.09)	
Residential instability			-0.035		-0.048	
			(0.10)		(0.10)	
Racial Diversity			-0.713	*	-0.503	
			(0.42)		(0.42)	
Activity Locations[a]			-0.350	***	-0.394	***
			(0.12)		(0.11)	
Socioeconomic Inequality			-0.224		-0.101	
			(0.14)		(0.15)	
Neighborhood Trust[a]					0.374	*
					(0.20)	
Intercept	-5.562	***	-5.554	***	-5.547	***
	(0.09)		(0.08)		(0.08)	
Variance Components						
Individual	0.343		0.343		0.343	
Tract	0.240		0.181		0.170	

*** p<.01; **p<.05; *p<.10;

Source: a. Los Angeles Neighborhood and Family Survey
b. Neighborhood characteristics from the U.S. Census Bureau, except where noted.

Table 3. Coefficients from Multilevel p_2 Models of Eco-Network Tie Formation: Dyad and Neighborhood Level Predictors with Cross-Level Interactions

	Model 1		Model 2	
Panel A. *Dyad Level Predictors*				
Low SES similarity (reference)				
Middle SES similarity	-0.070		0.000	
	(0.08)		(0.08)	
High SES similarity	-0.182	*	-0.112	
	(0.10)		(0.10)	
Low-Middle SES dissimilarity	-0.128	***	-0.081	
	(0.05)		(0.05)	
Low-High SES dissimilarity	-0.251	***	-0.203	***
	(0.06)		(0.06)	
Middle-High SES dissimilarity	-0.158	**	-0.096	
	(0.08)		(0.08)	
Latino Similarity	0.193	***	0.190	***
	(0.04)		(0.04)	
White Similarity	0.132	***	0.134	***
	(0.04)		(0.04)	
Black Similarity	-0.041		-0.039	
	(0.07)		(0.07)	
Asian/Other Similarity	-0.031		-0.032	
	(0.07)		(0.07)	
Married similarity	-0.089	***	-0.086	***
	(0.03)		(0.03)	
Not married similarity	0.092	***	0.089	***
	(0.03)		(0.03)	
Tenure similarity (2+ yrs)	0.149	***	0.147	***
	(0.06)		(0.03)	
Tenure similarity (<2 yrs)	-0.074	**	-0.072	*
	(0.04)		(0.04)	
Parents similarity	0.369	***	0.369	***
	(0.03)		(0.03)	
Not parents similarity	-0.279	***	-0.279	***
	(0.05)		(0.05)	
Age difference	-0.001		-0.001	
	(0.00)		(0.00)	
Distance	-2.061	***	-2.059	***
	(0.39)		(0.39)	

*** p<.01; **p<.05; *p<.10;

Source: a. Los Angeles Neighborhood and Family Survey b. Neighborhood characteristics from the U.S. Census Bureau, except where noted.

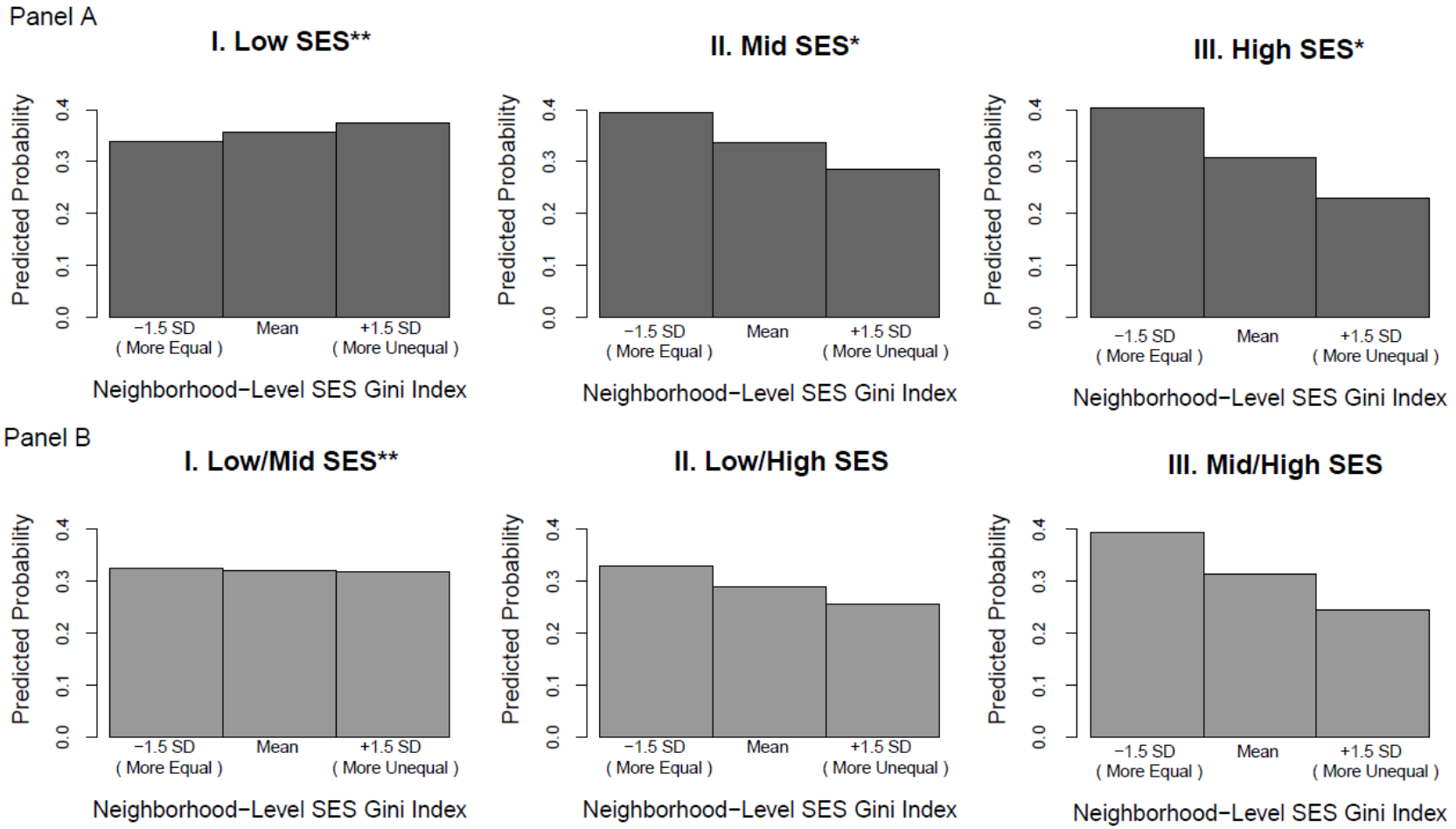
Table 3. Coefficients from Multilevel p_2 Models of Eco-Network Tie Formation: Dyad and Neighborhood Level Predictors with Cross-Level Interactions

	Model 1		Model 2	
Panel B. *Neighborhood Predictors*[b]				
Immigrant concentration	0.084		0.087	
	(0.09)		(0.09)	
Residential instability	-0.024		-0.027	
	(0.10)		(0.10)	
Racial Diversity	-0.541		-0.560	
	(0.41)		(0.42)	
Activity Locations[a]	-0.385	***	-0.386	***
	(0.11)		(0.11)	
Socioeconomic Inequality	0.049		-0.019	
	(0.16)		(0.17)	
Neighborhood Trust[a]	0.363	*	0.058	
	(0.20)		(0.26)	
Middle SES * Inequality	-0.205	**	-0.068	
	(0.09)		(0.11)	
High SES * Inequality	-0.316	***	-0.268	**
	(0.11)		(0.14)	
Low-Middle SES * Inequality	-0.059		0.019	
	(0.06)		(0.06)	
Low-High SES * Inequality	-0.165	**	-0.104	
	(0.07)		(0.08)	
Middle-High SES * Inequality	-0.275	***	-0.181	
	(0.09)		(0.11)	
Middle SES * Trust[a]			0.534	**
			(0.24)	
High SES * Trust			0.230	
			(0.27)	
Low-Middle SES * Trust			0.329	**
			(0.14)	
Low-High SES * Trust			0.294	*
			(0.18)	
Middle-High SES * Trust			0.396	*
			(0.23)	
Intercept	-5.624	***	-0.567	***
	(0.09)		(0.09)	
Variance Components				
Individual	0.342		0.341	
Tract	0.159		0.162	

*** p<.01; **p<.05; *p<.10;

Source: a. Los Angeles Neighborhood and Family Survey b. Neighborhood characteristics from the U.S. Census Bureau, except where noted.

Figure 1: Predicted Probability of a Tie through at least one Activity Location Conditional on Fixed Levels of Neighborhood−Level SES Gini Index

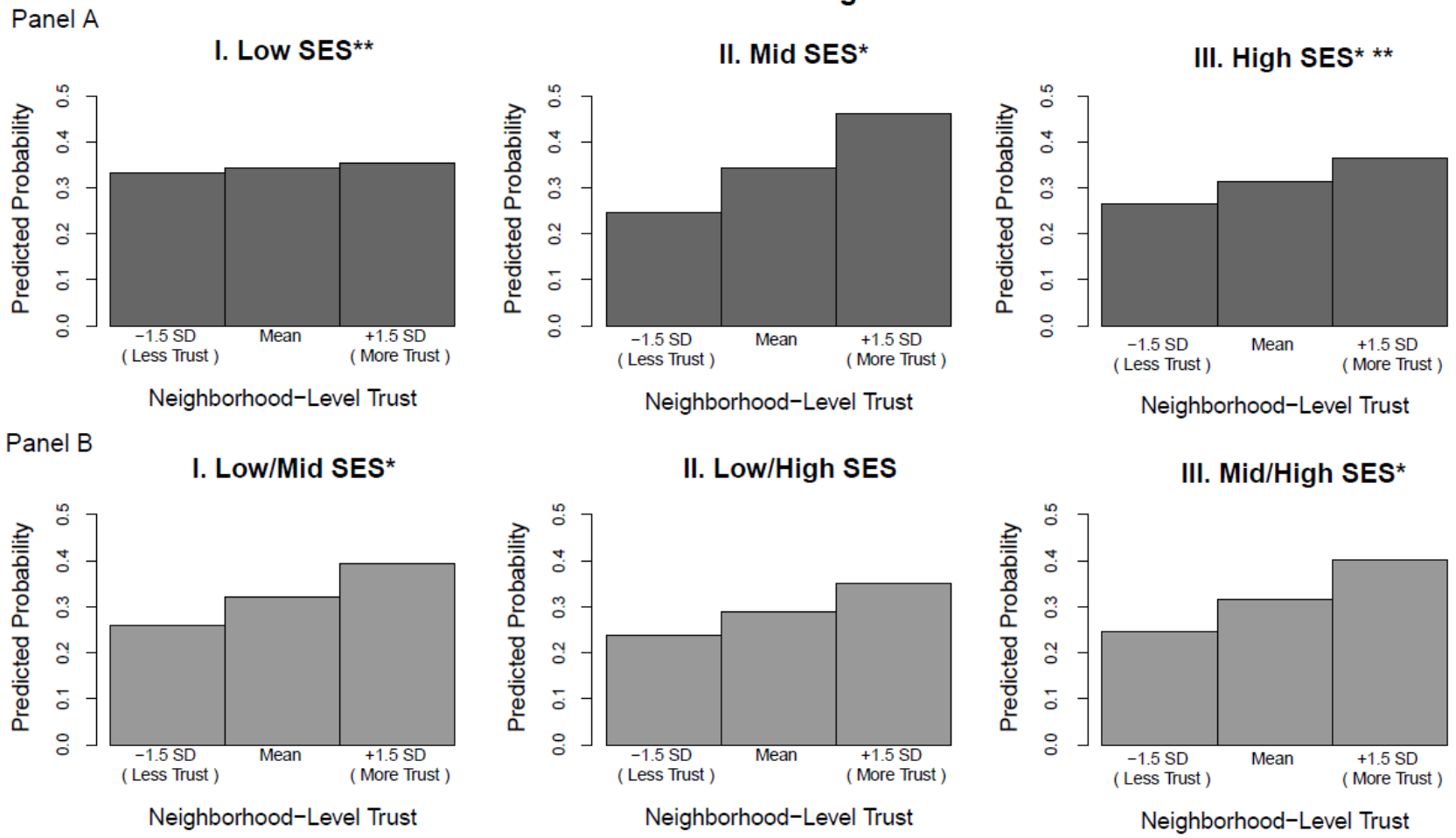


Source: Los Angeles Family and Neighborhood Survey and U.S. Census Bureau

Similarity
Dissimilarity

* based on a main effect that is not significant
** based on an interaction effect that is not significant

Figure 2: Predicted Probability of a Tie through at least one Activity Location Conditional on Fixed Levels of Neighborhood−Level Trust



Source: Los Angeles Family and Neighborhood Survey and U.S. Census Bureau

Similarity
Dissimilarity

* based on a main effect that is not significant
** based on an interaction effect that is not significant