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# LOCAL FRIENDSHIP TIES AND COMMUNITY ATTACHMENT IN MASS SOCIETY: A MULTILEVEL SYSTEMIC MODEL\*

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*This study presents a multilevel empirical test of a systemic theory of community attachment in mass society. The data bases are derived from a recent national sample of 10,905 residents of 238 localities in Great Britain that vary across an urban-rural continuum. The first stage of analysis examines the structural determinants of between-community variations in local friendship ties, collective attachment, and rates of local social participation. Community residential stability has positive effects on all three dimensions of community social integration, independent of urbanization, density, and numerous other controls. The second stage of analysis examines the extent to which community characteristics affect individual-level local social bonds. Residential stability has both individual-level and contextual effects on locality-based friendships and on participation in social and leisure activities. The results support the systemic model and demonstrate the importance of linking the micro- and macro-level dimensions of local community bonds.*

Studies of the local community have an important and long-standing research tradition in sociology. From the early writings of Toennies ([1887] 1957) and Wirth (1938) to more recent contributions (e.g., Kasarda and Janowitz 1974; Hunter 1974; Fischer 1982; Wilson 1985; Freudenburg 1986), community research has yielded a rich body of evidence on the determinants of local social bonds (e.g., friendships, community sentiment, social participation). The continuing significance of community research rests in large part on its macrosocial focus on properties of collectivities (Durkheim [1895] 1964). Particularly from a human ecological perspective (Hawley 1950), community research is grounded in a macro-level framework that focuses on ecological, social structural, and cultural symbolic dimensions (Hunter 1974, p. 190; Frisbie 1984, p. 127). A fundamental assumption of the ecological approach is that social systems exhibit structural properties that can be examined apart from the personal characteristics of their indi-

vidual members (Berry and Kasarda 1977, p. 13; Hawley 1950, p. 179).

It is therefore surprising that contemporary research on local community bonds has concentrated on individuals as the causal unit of focus. To be sure, the major independent variables from the Wirthian tradition have usually been ecological (e.g., urbanization, density). Still, the unit of analysis in this tradition has for the most part been the individual (e.g., individual sentiments and psychological functioning). Even competing explanations to the urbanization thesis have used individual demographic characteristics. A recurrent research issue deals with the relative effects of urbanization, life cycle, social status, and age on individual estrangement, alienation, and retreat from community social participation (for reviews see Hunter 1974; Fischer 1977, 1982; Tsai and Sigelman 1982; Baldassare 1979; Wilson 1985; Willmott 1987).

As a consequence, research has neglected two crucial issues: the macrosocial determinants of community social organization and the contextual effects of community structure on individual behavior. A major reason for this gap appears to be the typical design of the sample survey in modern sociological research. As Coleman (1986, p. 1315) has argued, "an important element in the replacement of community studies by survey research—almost unnoticed, it seems, by the discipline—was a shift in the unit of analysis

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(the unit about which empirical statements were made) from the community to the individual.” In effect, the emphasis on representative population surveys has channeled research to an individual level of analysis and to a focus on causally proximate (i.e., individual) factors. Moreover, Baldassare (1979, pp. 47–50) noted that, even if researchers consider a macro or contextual perspective, it is especially difficult to obtain a survey sample of residents that is sufficient to construct macro-level measures across a large number of communities that vary along the urban-rural dimension. Accordingly, when they examine macro-level factors, sociologists must typically rely on census data that rarely provide adequate measures of theoretical interest. And while ethnographies (e.g., Gans 1962) provide rich descriptive accounts of community processes, they are too few to provide quantitative data on macro-level variations.

This paper attempts to link the micro and macro levels of analysis through a two-stage, multilevel approach to the study of local community bonds. At the macro (between-community) level, the analysis first examines the structural determinants of community social organization. At the micro (i.e., individual) level, the study replicates Kasarda and Janowitz's (1974) systemic model in a contextual framework by examining the simultaneous effects of both individual *and* community factors on individual-level dimensions of community attachment. This research design is made possible by analysis of a unique national sample of approximately 11,000 residents of 238 localities in England and Wales that vary along the urban-rural continuum.

#### THEORETICAL FRAMEWORK: A MULTILEVEL SYSTEMIC MODEL

In an influential contribution to the literature, Kasarda and Janowitz (1974) examined two competing models of the local community. The first they termed the *linear-development* model, derived from the classic tradition of Toennies and Wirth. In this model, increased size and density are the primary exogenous factors that influence social behavior. The forces of urbanism are hypothesized to weaken community kinship and friendship bonds, social participation in local affairs, and affectional ties for the community (Wirth 1938; see also Fischer 1977, 1982).

In contrast to the linear-development model,

the *systemic model* focuses on length of residence as the key exogenous factor that influences attitudes and behavior toward the community. Kasarda and Janowitz (1974, p. 330) argued:

Since assimilation of newcomers into the social fabric of local communities is necessarily a temporal process, residential mobility operates as a barrier to the development of extensive friendship and kinship bonds and widespread local associational ties. Once established, though, such bonds strengthen community sentiments.

Using survey data from a national sample of England, Kasarda and Janowitz (1974) provided empirical support for the systemic model. Independent of urbanization, density, and other factors (e.g., SES, life cycle), length of residence was positively related to individual local friendships, community sentiment, and participation in local affairs. Neither large population size nor high density significantly weakened local social bonds (p. 334). Kasarda and Janowitz's rejection of the linear-development model thus rested on explaining individual-level variations in community attachment as a function of an *individual's* length of residence.

However, the systemic model clearly suggests that length of residence has additional implications at the macro (community) level. Indeed, community residential mobility is posited as a key barrier to community-level social organization (Kasarda and Janowitz 1974, p. 338; Shaw and McKay 1942; Kornhauser 1978). The latter is conceptualized as an essential aspect of mass society with ecological, social-structural, and normative dimensions, with the specific effects of residential mobility located in the community's "system of friendship and kinship networks and formal and informal associational ties rooted in family life and on-going socialization processes" (Kasarda and Janowitz 1974, p. 329). The logic of Kasarda and Janowitz's theory is inextricably tied to a basic focus of the human ecological paradigm: the locality-based social networks and collective identity that constitute the core social fabric of human communities (Hawley 1950, p. 220; Hunter 1974, p. 190). But for the reasons noted earlier, macro-level variations in systemic and cultural-symbolic dimensions of community (e.g., friendship networks, rates of social participation, collective attachment) have rarely been empirically

examined in previous research (see, e.g., Hunter 1974; Christenson 1983).

The systemic model also points to the role of community-level residential stability in promoting an individual's social integration into the community. An individual in a highly mobile area faces quite different constraints than residents of stable areas—regardless of his or her own length of residence. For one thing, an individual in all likelihood has fewer opportunities to form friendships and to participate in local affairs in areas of high residential turnover. And if residential mobility increases institutional instability (Kornhauser 1978, pp. 78–81), then individuals in unstable communities will find fewer opportunities for organizational contact. The motivation to form local friendships may also be reduced in areas of high population turnover since residents know such friendships will not last (Freudenberg 1986). Moreover, neighborhood instability and population change may reduce individual sentiments for the community, both for long-term residents and newcomers. Few research efforts, however, have been able to systematically examine the contextual effects of community residential stability and other systemic characteristics on individual-level local bonds (cf. Baldassare 1979; Fischer 1977, 1982).

### *Hypotheses and Analytic Strategy*

To address the limitations of prior research, I examine two sets of hypotheses. The first stage of analysis examines the macro-level component of systemic theory. The main hypothesis is that community residential stability has direct positive effects on macro-social variations in (a) the extent of community-based friendship ties; (b) the level of collective attachment; and (c) social activity patterns (e.g., rate of participation in local organizations and leisure-time activities). These effects are hypothesized to be independent of urbanization and other social factors (e.g., age composition, social class).

The second stage of analysis examines the extent to which community characteristics affect individual behavior: that is, I assess their contextual effects. The major prediction is that both length of residence *and* community residential stability will increase an individual's local friendships, attachment to community, and social participation in local

activities.<sup>1</sup> I assess the contextual effect of residential stability while controlling for an individual's location in the social structure (e.g., SES) and other socio demographic characteristics (e.g., age, life cycle, fear). If the multilevel version of Kasarda and Janowitz's systemic model is correct, then not only will individual and community effects emerge, but both will operate independently or urbanization and density.

In short, I advance a multilevel test of the systemic model for two related reasons. First, a macro-social focus on communities is theoretically important in its own right (Hawley 1950). Second, the systemic model provides strong theoretical rationale that individuals are influenced not just by their own characteristics (e.g., length of residence), but also by those of *others* in the community. Note that a macro-level analysis is important with respect to assessing contextual effects on individual behavior. By examining the hypothesized effects first in terms of their ability to explain between-community differences, the chance of interpreting (unexplained) residuals as contextual effects is reduced (Hauser 1970; Simcha-Fagan and Schwartz 1986, p. 679). In other words, the identification of substantive contextual effects of community residential stability and other systemic characteristics on individuals is not based on arbitrary or ad hoc procedures, but stems from an a priori theory based on differences in community structures.

### DATA SOURCES AND RESEARCH PROCEDURES

The data in this study come from the British Crime Survey (BCS), a nationwide survey of

<sup>1</sup> The underlying position of this study is that local social bonds have relevance at both the individual and community level. For example, there is a clear conceptual and empirical distinction between one's individual-level friendships and the density of acquaintances and friendship networks in a community (Freudenberg 1986; Wellman 1983; Fischer 1977). Similarly, while individuals may differ in terms of local sentiment, communities also vary in levels of local identity and collective attachment (Christenson 1983; Hunter 1974). And while social participation varies by individual, it also varies across space and time (Hawley 1950; Choldin 1984), leading to a concern with both individual participation and rates of social participation.

10,905 residents of England and Wales conducted in 1982 under the auspices of the Research and Planning Unit (Home Office 1982). Although the general goal of the survey was to examine victimization experiences, the design of the BCS was informed by a broad theoretical mandate to measure the social and demographic background, lifestyles, and community attitudes of residents of England and Wales. This nationally representative survey provides a large and comprehensive data base to replicate Kasarda and Janowitz's (1974) original study based on a 1967 national survey of 2,199 England residents. Kasarda and Janowitz (p. 330) noted that the high degree of cultural homogeneity and the unified system of central and local government in England yields clear advantages for community research. The current data set has an additional advantage over the 1967 survey because it includes the city of London.

Most importantly, the BCS research design facilitates macro-level community analysis. Specifically, in the first stage of enumeration, 238 of the 552 parliamentary constituencies in England and Wales were selected with probability proportional to the electorate (Hough and Mayhew 1983, p. 38). In half (119) of the selected constituencies, one electoral ward was selected with probability proportional to the electorate. In the other 119 constituencies, two polling districts were selected, also with probability proportional to the electorate. Then, within each ward and polling district, addresses were chosen with probability proportional to the number of electors listed there. In all, 60 addresses were drawn in each of the 238 areas (60 in each ward, 30 in each of the two polling districts), resulting in a final issued list of 13,702 nonempty addresses from which one respondent aged 16 or older was randomly selected and interviewed. A favorable 80 percent response rate generated 10,905 residents (mean age = 42) distributed across the 238 sampling units. The sample drawn from each geographical unit is representative of a relatively small, homogeneous locality that reasonably approximates the concept of "local community."<sup>2</sup>

<sup>2</sup> Similar to U.S. census tracts, the average size of electoral wards in England and Wales is just over 5,000 (see Office of Population Censuses and

Most national samples result in too few persons in any one geographic area to construct structural variables—especially across an urban-rural dimension. In contrast, the within-area BCS samples are large enough (average = 46) that, in conjunction with the comprehensiveness of the survey instrument, one can construct theoretically relevant community-context variables that are not dependent on census data. Therefore, using the geographical-area identifiers for each household, responses to selected survey questions were aggregated within each of the 238 localities and structural variables constructed (e.g., means, percentages). Two data files were created: (1) a community-level file of 238 cases representing the macro-social properties of each locality;<sup>3</sup> and (2) a contextual file of individuals with community information attached to each case.

#### *Measures of Community Context*

*Residential stability* is defined as the percentage of residents brought up in the area within a 15-minute walk of home. Note that the "15-minute walk" survey definition meshes well with the relatively compact size of each sampled area. *Local friendship ties* is defined as the percentage of community residents who reported half or more of their friends living within a 15-minute walk of home. *Collective attachment* refers to the level of sentiment and attachment to community, and is defined as the percentage of residents that reported they would be "very sorry" to leave the local area.

Five measures were created to reflect variations in rates of social participation. The first is a general indicator of the social-

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Surveys 1984, pp. xi, 2). For more information on parliamentary constituencies and wards, see Todd and Butcher (1982). I emphasize that while the theoretical focus is on the local community, the technical unit of analysis was administratively defined and, hence, is only a proxy. For further discussion of the use of administrative units to proxy "local communities" in sociological research, see Fischer (1982, pp. 271-72) and Choldin (1984).

<sup>3</sup> To assess possible contamination by the sampling design, I conducted preliminary analysis separately on both types of areas (i.e., on the 119 electoral wards and 119 areas comprised of two polling districts). The results were substantively identical and thus the full sample of 238 localities is used.

activity level of the community and is defined as the mean number of nights community residents went out of the home in the week prior to the interview for leisure, social, or other spare-time activities. But while useful as general indicator, this measure does not distinguish type of participation or locality. So I created four specific submeasures from a more detailed question in which each respondent was also asked to report social participation and leisure activities for each night of the week by type of activity: (1) *visiting friends and relatives*; (2) *leisure entertainment* (e.g., going to pubs, restaurants, movies, etc.); (3) attendance and/or participation in *sporting events*; and (4) *organizational participation* (e.g., committee meeting, clubs, etc.). To provide a conservative test of locality-based participation, I restricted the scoring to those events that the respondent reported walking to and, hence, can be reasonably assumed to have occurred within the local community. Again, this is theoretically consistent with the 15-minute walk survey definition of community, and it provides a strict measure of contact and involvement with the local geographic area. The resulting structural measures refer to the percentage of residents who participated in each type of activity in the previous week.

The sample covers an urban-rural continuum parallel to the urbanization dimensions analyzed by both Kasarda and Janowitz (1974) and Fischer (1982). Specifically, a 4-category indicator of rural communities, suburban areas and small towns outside major cities, metropolitan areas of cities, and central-city areas is used as the main indicator of urbanization.<sup>4</sup> There are 94, 35, 61, and 48 communities within rural, suburban, city, and central-city areas, respectively. To capture community variations in density *within* each level of urbanization, the percentage of housing units in multiple-dwelling-unit structures was constructed and entered as a predictor.<sup>5</sup>

<sup>4</sup> Central-city areas were sampled in higher proportion than their population would justify so that there would be a sufficient representation of inner-city residents. For further description of sampling procedures, the technical design of the BCS, and the classification of urban and rural areas, see Hough and Mayhew (1983), Webber (1978), and Wood (1983).

<sup>5</sup> A measure of population density per square

In addition to urbanization and density, I selected six macro-level control variables to provide a strict test of the independent effects of community stability. Four of these variables are traditional predictors based on past research: *family structure* (percent divorced/separated); *socioeconomic status* (combination of percent college-educated and percent high economic status); *age composition/life cycle* (mean number of children under 16); and *unemployment rate*. Two additional factors neglected in past research are also included: *fear* (percent of residents who feel unsafe walking their neighborhood streets at night); and the *victimization rate* for serious predatory crime (burglary, assaultive violence, robbery, and purse snatching). As Fisher (1982, p. 263) and others (e.g., Skogan 1986) have argued, crime and the neighborhood fear it engenders are potentially powerful forces in decreasing local community bonds. Surprisingly, however, few researchers have controlled for either levels of subjective fear or objective crime rates, both of which are correlated with urbanization, in assessing community attachment.<sup>6</sup>

#### *Individual-level Measures*

The key exogenous variable in the systemic model is *length of residence* in the community (ranging from less than one year to entire life). *Local friendships* is a five-category

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mile was not available. All analyses were repeated with another indicator of density (percent household crowding), but no differences in patterns resulted. These results, in addition to tests for other potentially confounding variables, are reported below.

<sup>6</sup> While there are good reasons to specify an area's victimization rate as a control variable in predicting attachment to the community and leisure activity patterns (e.g., walking to local events), it is probably more likely that local friendship ties reduce crime and deviance (e.g., through informal social control) rather than the reciprocal (Freudenberg 1986). However, the direction of the friendship-crime relationship does not interfere with examination of the central theoretical interest—the multilevel effects of residential stability. Furthermore, dropping victimization had no substantive impact on the results for either individual or community-level friendship ties. To simplify the presentation and provide a conservative test, the victimization rate is a control variable in all models.

response (ranging from none of them to all of them) to the question used to derive the aggregate indicator: "How many of your personal friends live in this area (within about 15-minute walk of here)?" *Individual attachment to community* is a five-category response (from very pleased to very sorry) to the question: "How would you feel about moving away from this area?" The BCS data are very complete on these and other items: the percent of missing data is only .003 percent for local friendships and .004 percent for attachment. This means the aggregate indicators are in effect based on complete data.<sup>7</sup>

The individual-level indicator of total social activity is the number of nights (0–7) spent outside the home for leisure activities. Note that the night-time distinction disentangles in large part social associations related to work (e.g., business lunches, etc.). Because of the limited time frame (one week), the distributions of the four specific types of social activity (visitation, entertainment, sporting events, and organizational participation) were highly skewed. Therefore, in the individual-level analysis, I used a simple dichotomy in which persons who reported participation in a particular category (e.g., visiting kin) were assigned a one and nonparticipants a zero.

To counteract misspecification of individual-level relations and, hence, arbitrary interpretation of residual differences as "contextual effects" (see Hauser 1970; Blalock 1984), I selected six individual-level control variables

to reflect the basic dimensions of life-cycle stage, demographic background, SES, employment, and fear of crime (see Fischer 1977, 1982; Kasarda and Janowitz 1974; Willmott 1987). The variables are labor-force participation (1 = employed or in labor force); marital status (1 = married); age; social class;<sup>8</sup> number of children in household; and fear of crime. These control variables parallel those analyzed at the macro level.<sup>9</sup>

## COMMUNITY-LEVEL RESULTS

Before turning to the multivariate findings, the descriptive data indicate that the communities vary substantially along theoretically relevant dimensions. Thus, although a third of residents were brought up in the community, the proportion of long-term residents varies from 0 percent to almost 75 percent. The variables tapping the three endogenous community factors also vary widely: local friendship ties range from zero to 87 percent. Similarly, the level of collective attachment ranges from 7 to 75 percent of residents reporting high levels of attachment. I now address the nature of these variations with respect to the theoretical model.<sup>10</sup>

Table 1 presents the weighted least-squares (WLS) regression model of the structural determinants of local friendship ties, collective attachment, and total rates of leisure activity across the 238 localities in England

<sup>7</sup> The friendship and leisure activity questions were asked only in a follow-up interview of all victims and a random selection (40 percent) of nonvictims. The major contextual analysis is necessarily based on this sample ( $N = 6,329$ ), and the structural variables referring to friendship ties and social/leisure activities are based on an average within-area sample size of 27. All other questions and aggregate measures were derived from the full sample of 10,905 persons. Weights are available to address the oversampling of victims of crime and also of central-city residents (see Hough and Mayhew 1983). However, as is typical in stratified designs (e.g., Fischer 1982, p. 301), analysis of the weighted data produced results substantively equivalent to the unweighted analysis at both the individual and macro levels (results available on request). Because the primary interest is the parameter estimates of the causal model (see Dumochel and Duncan 1983), the results below (except means) are based on the unweighted data.

<sup>8</sup> I measured social class by combining indicators of college education and high occupational status (professional or managerial positions). Individual-level indicators of household-head income are not used because of substantial missing data.

<sup>9</sup> Theoretical guidance is not available to justify specifying contextual effects of these and other controls on individual attachment above and beyond the individual-level indicator. Nevertheless, to be safe, I ran preliminary individual-level models with the contextual controls included (e.g., percent unemployed). Expectedly, the major findings did not change.

<sup>10</sup> Where possible, I also compared the means of structural variables with available census data for England and Wales. The results matched very closely. For example, the present estimate of percentage college educated is 13.3 percent, compared to 13.7 percent for the national census estimates; for home ownership, my estimate of 58 percent compares with 60 percent for the country. All descriptive statistics are available on request.

Table 1. WLS Structural Model of Variations in Local Friendship Ties, Collective Attachment, and Leisure Activity Patterns Across 238 British Localities

| Community Characteristics | Local Friendship Ties |         | Collective Attachment |         | Leisure Activity Patterns |         |
|---------------------------|-----------------------|---------|-----------------------|---------|---------------------------|---------|
|                           | beta                  | t-ratio | beta                  | t-ratio | beta                      | t-ratio |
| Residential stability     | .43**                 | 6.91    | .15**                 | 2.53    | .25**                     | 3.46    |
| Urbanization              | -.15*                 | -1.79   | -.26**                | -3.36   | .21**                     | 2.27    |
| Density                   | -.14*                 | -1.66   | -.04                  | -.50    | -.12                      | -1.24   |
| Divorce rate              | .04                   | .71     | .02                   | .28     | .07                       | 1.02    |
| SES                       | -.09                  | -1.45   | .03                   | .49     | .06                       | .81     |
| Mean # children < 16      | .09                   | 1.52    | -.16**                | -2.70   | .01                       | .09     |
| Unemployment rate         | .01                   | .17     | -.04                  | -.78    | -.03                      | -.39    |
| Victimization rate        | -.06                  | -.83    | -.12*                 | -1.78   | .06                       | .75     |
| Neighborhood fear         | -.08                  | -1.01   | -.28**                | -3.89   | -.25**                    | -2.88   |
|                           | $R^2 = .34, p < .01$  |         | $R^2 = .39, p < .01$  |         | $R^2 = .12, p < .01$      |         |

\*  $p < .10$ .\*\*  $p < .05$ .

and Wales.<sup>11</sup> The first two columns support the structural version of Kasarda and Janowitz's (1974) systemic model. Net of urbanization, density, and six other macro-level control variables, residential stability has a large direct effect (Beta = .43,  $p < .01$ ) on local friendship ties. Indeed, the standardized effect of stability is approximately three times greater than the effect of either urbanization (- .15) or density (- .14).

The data in columns 3 and 4 indicate that collective levels of attachment are lowest in communities characterized by residential mobility, urbanization, density of youth, a high victimization rate and, most important, high levels of fear and distrust about local safety. Unlike friendship ties, the predictive power of residential stability is not high relative to urbanization. This makes sense from the perspective of systemic theory because assimilation of residents into local friendship networks is more of a temporal process than is the formation of local sentiment (Kasarda and Janowitz 1974, p. 330). Hence, collective community attachment is less dependent on variations in population turnover.

<sup>11</sup> Because the number of individual cases used to create the community measures varied slightly by locality, the variances of the residuals in ordinary-least-squares regression are not constant. Therefore, weighted-least-squares regression is used to induce homoskedasticity of error variances; each case is weighted by the square root of the unweighted sample size in each of the 238 localities (see Hanushek and Jackson 1977, pp. 143, 152). This procedure gives more weight to observations with a greater number of respondents and, hence, smaller measurement error.

Rates of total leisure and social activity are explained by three community characteristics: residential stability, urbanization, and levels of fear. Interestingly, though, rates of leisure and social activity are *positively* related to urbanization—Britons in large cities seem to be more socially active than their rural and suburban counterparts. And similar to collective attachment, perceptions of danger strongly reduce rates of leisure activity. Fear of crime appears to have negative consequences for community collective attachment and social participation.

The interaction between urbanization and residential stability is examined in Table 2. Specifically, I repeated the WLS-regression models in two types of areas where urbanization differences are maximized: rural areas and inner-city areas. Because of the differing variances in community context in rural and urban areas, both raw and standardized coefficients are presented. This model further tests the major thesis. If the effects of community stability on friendship ties are strong in the densest areas as in rural settings, then the structural-systemic model is supported. Such a test is also important insofar as the physical distance between neighbors in rural areas, even very stable ones, may constrain opportunities for local friendships.

The data in panel A of Table 2 indicate that the effect of residential stability on friendship ties is just as strong in central-city areas as in rural areas. In fact, the unstandardized effect is slightly larger in central cities than in the country, but the difference is not significant at the .05 level. Again, other exogenous characteristics fail to account for any substantial



Table 2. WLS Structural Model of Variations in Local Friendship Ties Across British Localities, by Extent of Urbanization

| Community Characteristics | Local Friendship Ties |      |         |                      |      |         |
|---------------------------|-----------------------|------|---------|----------------------|------|---------|
|                           | Rural areas (N=94)    |      |         | Inner cities (N=48)  |      |         |
|                           | b                     | beta | t-ratio | b                    | beta | t-ratio |
| Residential stability     | .456**                | .48  | 4.63    | .504**               | .52  | 3.47    |
| Density                   | -.218                 | -.10 | -1.09   | -.041                | -.08 | .45     |
| Divorce rate              | .348                  | .08  | .92     | -.409                | -.12 | -.92    |
| SES                       | -.728                 | -.07 | -.65    | -.715                | -.12 | -.71    |
| Mean # children < 16      | 1.454                 | .02  | .21     | 4.432                | .10  | .54     |
| Unemployment rate         | .359                  | .08  | .87     | -.769*               | -.26 | -1.91   |
| Victimization rate        | -1.010                | -.08 | -.91    | -.106                | -.01 | -.11    |
| Neighborhood fear         | -.102                 | -.08 | -.82    | .184                 | .19  | 1.15    |
|                           | $R^2 = .34, p < .01$  |      |         | $R^2 = .52, p < .01$ |      |         |

  

| Community Characteristics | Local Friendship Ties |      |         |                      |      |         |
|---------------------------|-----------------------|------|---------|----------------------|------|---------|
|                           | Rural areas (N=94)    |      |         | Inner cities (N=48)  |      |         |
|                           | b                     | beta | t-ratio | b                    | beta | t-ratio |
| Residential stability     | .517**                | .54  | 5.98    | .639**               | .66  | 5.10    |
| Crowding                  | -.431                 | -.05 | -.57    | .001                 | .01  | .05     |
| % Home owners             | -.076                 | -.09 | -1.06   | .027                 | .04  | .32     |
| % Minority                | -.249                 | -.06 | -.72    | .177                 | .20  | 1.54    |
|                           | $R^2 = .32, p < .01$  |      |         | $R^2 = .43, p < .01$ |      |         |

\*  $p < .10$ .\*\*  $p < .05$ .

portion of the variance in friendship ties, as no variable is significant at the .05 level. Note especially that density has no effect in either urban or rural areas.

To further test the independent effects of stability, I introduced three potentially confounding variables: home ownership, percentage of minorities in the community, and percent crowding. The respecified results in panel B are consistent, as none of the alternative predictors effects local friendship ties. In contrast, residential stability continues to have very large positive effects on friendship ties both in rural and highly urbanized areas. Clearly, not only does residential stability have direct effects on friendship ties, but these effects are essentially *identical* at both ends of the urban-rural continuum. Urbanization, therefore, does not condition the effect of community systemic structure.<sup>12</sup>

Table 3 examines the four subdimensions of locality-based social participation and leisure activity. To account for community

differences in lifestyles and opportunities regarding transportation, auto usage is controlled (see Willmott 1987, p. 22). Residential stability has significant positive effects on rates of visits to friends and relatives in the community, participation in sporting events, and going to local entertainment (e.g., dances, pubs, restaurants). On the other hand, density has no effects on social activity, while urbanization only moderately decreases the level of local participation in sporting events. The data suggest that long-term community stability engenders collective use of local facilities—despite SES, urbanization, and auto use. The only noticeable theoretical anomaly is that the level of organizational and club participation is unrelated to community stability.

I conducted several sets of validity tests to verify the results at the macro level. All regression models were repeated, as in panel B of Table 2, by introducing percent minority, percent homeowners, and crowding as alternative exogenous predictors. The major results were unchanged. As to multicollinearity, intercorrelations among independent variables were quite moderate: 25 out of 28 were less than .40, and the largest was only .51. Accordingly, variance inflation factors

<sup>12</sup> I also examined interaction terms for urbanization and stability for the models predicting collective attachment and social/leisure activities, but they were not significant.

Table 3. WLS Structural Model of Variations in Locality-based Social and Leisure Activity Participation Rates Across 238 British Localities

| Community Characteristics | Rates of Social Activity      |         |   |         |                      |         |  |         |
|---------------------------|-------------------------------|---------|---|---------|----------------------|---------|--|---------|
|                           | Visiting<br>friends/relatives |         | Entertainment<br>(dances, pubs,<br>restaurants) |         | Sporting<br>events   |         | Organization/<br>committee<br>meetings |         |
|                           | beta                          | t-ratio | beta  | t-ratio | beta                 | t-ratio | beta                                   | t-ratio |
| Residential stability     | .15**                         | 1.96    | .33**   | 5.01    | .23**                | 3.10    | .02                                    | .20     |
| Urbanization              | -.05                          | -.51    | .03   | .36     | -.18*                | -1.78   | -.05                                   | -.46    |
| Density                   | -.02                          | -.21    | -.09  | -.99    | .06                  | .55     | -.02                                   | -.22    |
| Divorce rate              | .01                           | .20     | .09   | 1.38    | -.10                 | -1.30   | .11                                    | 1.44    |
| SES                       | -.06                          | -.82    | .01   | .14     | .07                  | .85     | -.03                                   | -.33    |
| Mean # children < 16      | -.06                          | -.82    | .06   | 1.05    | -.12*                | -1.69   | .04                                    | .49     |
| Unemployment rate         | .08                           | 1.18    | .06   | .89     | .03                  | .43     | .03                                    | .41     |
| Victimization rate        | .08                           | 1.02    | .01   | .15     | .05                  | .68     | -.15*                                  | -1.87   |
| Neighborhood fear         | -.09                          | -1.05   | -.13*   | -1.65   | .02                  | .24     | -.08                                   | -.83    |
| Motor vehicle usage       | -.16                          | -1.53   | -.38**  | -4.02   | -.19*                | -1.76   | -.05                                   | -.59    |
|                           | $R^2 = .11, p < .01$          |         | $R^2 = .33, p < .01$                            |         | $R^2 = .11, p < .01$ |         | $R^2 = .05, p > .05$                   |         |

\*  $p < .10$ .\*\*  $p < .05$ .

were much below traditional levels of concern.<sup>13</sup> I also used influential observation techniques (see Cook and Weisberg 1982), but no one locality was found to exert a disproportionate influence on the parameter estimates.

#### CONTEXTUAL SOURCES OF INDIVIDUAL-LEVEL LOCAL BONDS

Having established empirical support for the macro-level model, I turn in Table 4 to the contextual effects of community structure on individuals.<sup>14</sup> As hypothesized by the systemic model, the largest predictor of individual local friendships is length of community residence. However, residential stability has a significant ( $p < .01$ ) contextual effect as

well: independent of length of residence, six sociodemographic controls, and urbanization/density, community residential stability directly increases local friendships. Urbanization and life cycle (children in house) also have predicted effects, the former decreasing and the latter increasing local friendships. In any event, while the contextual effect of residential stability is clearly much less than the individual-level effect, the former is still the second-largest predictor of local friendships. Regardless of length of residence and other personal characteristics, community-level instability apparently reduces local friendship ties by constraining individual friendship choices. And as argued earlier, the motivation to seek out new friendships is also likely to be inhibited by rapid population turnover in a community.

The strongest predictor of attachment to community and total leisure activity is age, which increases attachment but has a strong negative effect on lifestyle. Fear of crime also depresses attachment and nonhousehold social activity. Nonetheless, individual length of residence directly increases both attachment and social activity, while community residential stability has a significant, though small, contextual effect on leisure activity. As before, urbanization has dual effects; urban residents are more active socially, but express less attachment to the community.

Data on the multilevel effects of residential stability on local friendships within rural areas and central cities again support the

<sup>13</sup> I also conducted analyses to empirically test the construct validity of the key macro-level indicators of urbanization, density, and SES, controlling for other community factors. All three variables had significant *independent* effects on an external criterion (delinquency rates) in the theoretically expected fashion ( $B = .21, .25, \text{ and } -.28$ , respectively). Therefore, the weak predictive power of urbanization, density, and SES with regard to friendship ties is not due to construct invalidity or lack of independent variation across areas (e.g., collinearity between urbanization and density).

<sup>14</sup> Because of the large sample size, alpha levels are reduced from .10 and .05 to .05 and .01. As a result of the stratified sampling design, these significance levels are only approximate.

Table 4. OLS Contextual Model of Individual-level Variations in Local Friendships, Attachment to Community, and Leisure Activity in Great Britain (N=6,001)

| Exogenous                 | Individual-level  |                      |                         |                      |                  |                      |  |
|---------------------------|-------------------|----------------------|-------------------------|----------------------|------------------|----------------------|--|
|                           | Local Friendships |                      | Attachment to Community |                      | Leisure Activity |                      |  |
|                           | beta              | t-ratio              | beta                    | t-ratio              | beta             | t-ratio              |  |
| <i>Individual</i>         |                   |                      |                         |                      |                  |                      |  |
| Length of residence       | .26**             | 20.11                | .09**                   | 6.77                 | .05**            | 3.86                 |  |
| Labor-force participation | -.03**            | -2.58                | -.02                    | -1.68                | .04**            | 3.29                 |  |
| Marital status            | -.01              | -.74                 | -.03*                   | -2.26                | -.16**           | -12.89               |  |
| Age                       | -.00              | -.32                 | .20**                   | 13.73                | -.32**           | -22.93               |  |
| Social class              | -.04**            | -3.47                | .01                     | 1.02                 | .03**            | 2.85                 |  |
| Children in household     | .06**             | 4.50                 | .01                     | .99                  | -.13**           | -10.11               |  |
| Fear of crime             | -.03              | -1.93                | -.13**                  | -10.02               | -.13**           | -10.12               |  |
| <i>Community</i>          |                   |                      |                         |                      |                  |                      |  |
| Residential stability     | .07**             | 4.92                 | .00                     | .37                  | .03*             | 2.06                 |  |
| Urbanization              | -.06**            | -3.52                | -.10**                  | -5.82                | .04*             | 2.35                 |  |
| Density                   | -.02              | -1.54                | -.03                    | -1.60                | -.04**           | -2.68                |  |
| Victimization rate        | -.02              | -1.25                | -.08**                  | -5.72                | .00              | .03                  |  |
|                           |                   | $R^2 = .10, p < .01$ |                         | $R^2 = .10, p < .01$ |                  | $R^2 = .19, p < .01$ |  |

\*  $p < .05$ .  
 \*\*  $p < .01$ .

systemic model (see Table 5). Local friendship bonds are strongly related to length of residence within both rural areas and central cities. Indeed, individual residential stability has the largest effect, and it is similar across the urban-rural continuum. Moreover, independence of the individual effect, community stability has statistically and substantively important contextual effects on local friendships. Significantly, individual and community residential stability have the largest effects on local friendships *within* central cities.<sup>15</sup>

The maximum-likelihood (ML) logistic-regression estimates of the detailed specification of local social participation and leisure activity are shown in Table 6.<sup>16</sup> The pattern of

effects is consistent. In every type of community involvement, individual-level length of residence significantly increases participation. Further, in three of the four types of social participation, community stability has direct positive effects. The largest contextual effect is on local entertainment and leisure activities (C/s.e. = 6.29). Only for involvement in committees and organizations does community stability fail to attain significance. On the other hand, neither urbanization nor density has the predicted "loss of community" effects. Indeed, there is no influence of these ecological factors on local visitation and organizational participation, and urbanization and density are positively related to engagement in local entertainment activities and sporting events, respectively.<sup>17</sup>

*Further Tests*

In Kasarda and Janowitz's original theory

<sup>15</sup> I also examined the following interactions for their effects on local friendships, attachment, and social activity: length of residence  $\times$  community stability; length of residence  $\times$  urbanism; urbanism  $\times$  community stability. In no case did the interaction terms significantly improve the fit of the model.

<sup>16</sup> Because of the skewed and dichotomous nature of these measures, the assumptions of OLS regression are violated. To address this issue, logistic regression is used, which, unlike log-linear analysis, preserves the interval nature of predictor variables (see Hanushek and Jackson 1977; Aldrich and Nelson 1984). The coefficients may be interpreted as changes in the log odds of social participation associated with a unit change in the exogenous variable. Because of the criticisms of

"pseudo" measures of explained variance in logistic models (e.g., Aldrich and Nelson 1984, pp. 56-59), I emphasize instead the ratios of coefficient to standard error (C/s.e.), which are analogous to OLS *t*-ratios.

<sup>17</sup> Age and motor vehicle use tend to sharply reduce local social activities. But these and other effects (e.g., marital status, labor-force participation), in addition to controls for urbanism, density, and crime, only reinforce the consistent multilevel effects of residential stability.

Table 5. OLS Contextual Model of Individual-level Local Friendships in Great Britain, by Extent of Urbanization

| Exogenous                 | Individual-level Local Friendships |      |                      |                             |      |         |
|---------------------------|------------------------------------|------|----------------------|-----------------------------|------|---------|
|                           | Rural areas<br>(N = 2,340)         |      |                      | Inner cities<br>(N = 1,178) |      |         |
|                           | b                                  | beta | t-ratio              | b                           | beta | t-ratio |
| <i>Individual</i>         |                                    |      |                      |                             |      |         |
| Length of residence       | .248**                             | .27  | 12.57                | .185**                      | .22  | 7.55    |
| Labor-force participation | -.027                              | -.02 | -.75                 | -.009                       | -.01 | -.20    |
| Marital status            | -.105*                             | -.04 | -2.09                | .052                        | .02  | .80     |
| Age                       | .003*                              | .06  | 2.34                 | -.001                       | -.01 | -.37    |
| Social class              | -.166**                            | -.08 | -3.76                | -.026                       | -.01 | -.43    |
| Children in household     | .080**                             | .08  | 3.61                 | .009                        | .01  | .31     |
| Fear of crime             | -.010                              | -.01 | -.42                 | .037                        | .04  | 1.18    |
| <i>Community</i>          |                                    |      |                      |                             |      |         |
| Residential stability     | .005**                             | .07  | 3.33                 | .008**                      | .10  | 3.27    |
| Density                   | -.001                              | -.01 | -.38                 | -.000                       | -.01 | -.25    |
| Victimization rate        | -.032*                             | -.04 | -2.02                | -.003                       | -.01 | -.20    |
| $R^2 = .11, p < .01$      |                                    |      | $R^2 = .08, p < .01$ |                             |      |         |

\*  $p < .05$ .\*\*  $p < .01$ .

(1974, p. 335), an individual's local friendships were hypothesized to influence individual attachment on the grounds that the more ties an individual has in the community, the more his/her attachment to that community will increase. The theoretical logic of the systemic model also suggests that the level of *collective* community attachment may influence an individual's assessments and evaluations of the community (cf. Hunter 1974; Christenson 1983). For example, residents of communities where collective sentiment is

high (and arguably, community solidarity), may be more apt to evaluate the community positively than those in areas where the climate of local opinion is mostly negative.

Furthermore, social-network theory (see, e.g., Wellman 1983; Freudenburg 1986; Fischer 1977) suggests that the density of friendship ties in a community comprises a structural constraint that does not characterize any one individual. For example, a sparse or nonexistent pattern of local friendship networks probably indicates fewer opportunities for individuals to

Table 6. Maximum-Likelihood Logistic-Regression Predicting Contextual Model of Individual-level Participation in Local Social and Leisure Activities in Great Britain (N = 6,001)

| Exogenous                 | Individual-level Social Activity |        |   |        |                    |        |  |        |
|---------------------------|----------------------------------|--------|---|--------|--------------------|--------|--|--------|
|                           | Visiting<br>friends/relatives    |        | Entertainment<br>(dances, pubs,<br>restaurants) |        | Sporting<br>events |        | Organization/<br>committee<br>meetings |        |
|                           | Coeffi-<br>cient                 | C/s.e. | Coeffi-<br>cient                                | C/s.e. | Coeffi-<br>cient   | C/s.e. | Coeffi-<br>cient                       | C/s.e. |
| <i>Individual</i>         |                                  |        |   |        |                    |        |  |        |
| Length of residence       | .160**                           | 3.29   | .084*   | 2.47   | .264**             | 2.62   | .234**                                 | 2.78   |
| Labor force participation | -.400**                          | -3.19  | -.220**   | 3.77   | -.116              | -.57   | -.267                                  | -1.36  |
| Marital status            | -.523**                          | -4.12  | -.242**   | -2.63  | -.367              | -1.35  | -.092                                  | -.47   |
| Age                       | -.028**                          | -7.92  | -.028**   | -9.94  | -.047**            | -5.25  | -.002                                  | -.48   |
| Social class              | -.234                            | -1.56  | -.098   | -1.10  | .088               | .34    | .106                                   | .58    |
| Children in household     | -.090                            | -1.51  | -.052   | -1.29  | -.006              | -.06   | -.050                                  | -.53   |
| Fear of crime             | .002                             | .04    | -.365**   | -8.05  | -.056              | -.46   | -.092                                  | -.98   |
| Motor vehicle             | -.734**                          | -5.79  | -.786**   | -8.58  | -.284              | -1.11  | -.408*                                 | -1.97  |
| <i>Community</i>          |                                  |        |   |        |                    |        |  |        |
| Residential stability     | .008*                            | 1.99   | .018**  | 6.29   | .022**             | 2.93   | -.002                                  | -.44   |
| Urbanization              | -.070                            | -1.04  | .094*   | 1.96   | -.216              | -1.58  | -.026                                  | -.25   |
| Density                   | .000                             | .24    | -.001   | -.61   | .016*              | 2.39   | -.000                                  | -.05   |
| Victimization rate        | .026                             | .91    | .021  | 1.07   | .024               | .43    | -.110*                                 | -2.03  |

\*  $p < .05$ .\*\*  $p < .01$ .

form new local ties, regardless of length of residence. Therefore, to further test the systemic model, I examine the effects of community-level friendship ties in lieu of community stability on individual-level local friendships, and the effects of both individual-level local friendships and level of collective attachment on individual attachment to community. This model represents an example of the contextual effects of the mean level of a dependent variable on individual behavior, a specification often ignored in contextual effects models (Blalock 1984, p. 363).<sup>18</sup>

The empirical results in Table 7 support the revised systemic model of Kasarda and Janowitz (1974). First, in panel A, both individual length of residence and mean community-level friendship ties have independent effects on an individual's local friendships ( $B = .27$  and  $.14$ , respectively). These effects are substantial and are at least three times greater than the effects of urbanization and density. Second, in panel B, both an individual's length of residence and his or her local friendships significantly increase attachment to the community. Moreover, the direct effect of local friendships is more than double that of length of residence. This pattern corroborates the causal sequence hypothesized by systemic theory, in which length of residence increases local friendships, which in turn increases community attachment (p. 330). The direct effect of length of residence on attachment is thus reduced once local friendships is controlled (cf. Table 4). In a similar vein, the effect of community residential stability is reduced to zero when added to the model in Panel A, whereas the direct effect of mean friendship ties remain large ( $B = .13$ ).

Finally, the data show that residents of areas where the mean level of attachment is high also report greater sentiment for the

Table 7. Respecified OLS Contextual Model of Individual-level Variations in Local Friendships and Attachment to Community in Great Britain ( $N = 6,035$ )

| A. Exogenous              | Individual-level Local Friendships       |      |                 |
|---------------------------|--|------|-----------------|
|                           | <i>b</i>                                 | beta | <i>t</i> -ratio |
| <i>Individual</i>         |  |      |                 |
| Length of residence       | .242**                                   | .27  | 21.31           |
| Labor-force participation | -.062**                                  | -.03 | -2.83           |
| Social class              | -.096**                                  | -.04 | -3.53           |
| Children in household     | .056**                                   | .06  | 4.67            |
| Fear of crime             | -.023*                                   | -.03 | -2.05           |
| <i>Community</i>          |  |      |                 |
| Mean friendship ties      | .445**                                   | .14  | 10.60           |
| Urbanization              | -.035*                                   | -.04 | -2.37           |
| Density                   | -.000                                    | -.01 | -.37            |
| $R^2 = .11, p < .01$      |  |      |                 |
| B. Exogenous              | Individual-level Attachment to Community |      |                 |
|                           | <i>b</i>                                 | beta | <i>t</i> -ratio |
| <i>Individual</i>         |  |      |                 |
| Length of residence       | .053**                                   | .05  | 3.98            |
| Local friendships         | .134**                                   | .12  | 9.34            |
| Marital status            | -.052                                    | -.02 | -1.62           |
| Labor-force participation | -.020                                    | -.01 | -.83            |
| Age                       | .013**                                   | .19  | 14.70           |
| Fear of crime             | -.141**                                  | -.11 | -8.71           |
| <i>Community</i>          |  |      |                 |
| Mean attachment           | .599**                                   | .20  | 12.79           |
| Urbanization              | -.026                                    | -.02 | -1.39           |
| Density                   | .000                                     | .00  | .11             |
| Victimization rate        | -.016*                                   | -.03 | -2.00           |
| $R^2 = .14, p < .01$      |  |      |                 |

\*  $p < .05$ .

\*\*  $p < .01$ .

community, all else equal. Indeed, the effect of collective attachment is strong ( $B = .20$ ), about equal to that of age. Importantly, the effect of urbanization is not statistically significant once collective attachment is controlled. Interaction terms did not significantly improve the model.<sup>19</sup>

<sup>18</sup> Because this analysis focuses on contextual effects of  $\bar{Y}$ , I recalculated the community measures by subtracting each individual's score from the community sum, and dividing by  $N - 1$  (i.e., each person was assigned the community mean after his or her response was removed). Therefore, individuals did not contribute to the macro-level indicator for their own community, eliminating any definitional or artifactual dependence between independent and dependent variables. Also, to achieve a parsimonious model, only those variables that had coefficients greater than 1.5 times their standard errors in Table 4 were retained in the estimation.

<sup>19</sup> To verify both the OLS and maximum-likelihood contextual analyses in Tables 4 to 7, I retained the significant determinants of local social bonds and then introduced three additional micro-level variables (gender, ethnicity, and home ownership) to guard against possible misspecification error at the individual level, and hence faulty interpretation of community effects. All estimates for the major theoretical variables were robust to these changes in model specification, increasing our confidence that the general results are not spurious.

## SUMMARY AND CONCLUSION

This study presented evidence from a large national survey of England and Wales that replicates and extends a systemic model of community attachment in mass society. At the macro level, the empirical analysis established that local friendship ties vary widely across communities and that these variations are positively related to community stability. In particular, macro-level stability strongly increased local friendship ties at either end of the urban-rural continuum. Residential stability also had independent but less powerful effects on collective attachment to community and participation in local social and leisure activities. These general effects were robust to a variety of specifications and persisted despite urbanization, density, and a wide variety of controls.

The second stage of analysis examined the contextual sources of individual-level variations in local social bonds. Consistent with the prediction of the systemic model of community (Kasarda and Janowitz 1974), length of residence had direct effects on individual-level local friendships, attachment to community, and participation in local social activities. Moreover, community residential stability had significant contextual effects on individual-level local friendships and participation in local social activities (visitation, entertainment, and sporting events). Importantly, the multi level effects of stability were additive and independent of a host of both micro- and macro-level controls, including urbanization and density.

The data also showed that the community's mean level of friendship ties had a significant and substantively important contextual effect on an individual's local friendships. Similarly, the contextual effect of collective attachment on an individual's attachment to the community was strong and positive. The structural constraints imposed by aggregate friendship patterns, as well as the normative climate reflected in levels of collective attachment, apparently exert independent influences on individual behavior and attitudes toward the community. Overall, the data suggest that the important social forces that undermine an individual's integration into the local community are not urbanization or the compositional factors (e.g., low social class) as suggested in traditional theory. Rather, they are multilevel systemic factors such as residential mobility and sparse friendship ties,

and other factors anticipated but just beginning to be understood—fear of crime (Fischer 1982, p. 263; Skogan 1986) and attenuated collective attachment (Hunter 1974; Christenson 1983).

Despite these theoretically suggestive results, methodological limitations of the data and findings temper definitive conclusions. Most important, since ecological boundaries were defined for governmental purposes, the units of analysis at the macro level did not represent true communities in the traditional sociological sense. Second, the social participation variables were not as precise as one would like; activities during the day were not measured and types of organizations were not specified. Third, the individual-level attachment and participation items were based on single items rather than scales, and, without question, more sophisticated measures are needed to properly examine a community's network of friendships (see Fischer 1982; Wellman 1983; Willmott 1987; Freudenberg 1986). Finally, the proportion of variance explained was modest, suggesting the presence of measurement error and possible omitted variables.

Nevertheless, these limitations should be balanced against the clear advantages afforded by the BCS design in terms of multilevel analysis. Rarely does a study contain enough persons in the same geographic area to permit construction of theoretically relevant macro-level measures across a large number of communities. The ability to measure dimensions of social organization at the community level, however imperfect, represents a contribution to the linking of micro- and macro-level models of the local community. While survey data may have led to an overemphasis on social-psychological theory testing in the past, the present results demonstrate that this need not be the case.

In this regard, future research should improve on the present effort by using survey data in innovative ways that permit more precise measurement of the processes by which community social integration is affected by *both* individual-level and broader, structural-level forces. Of particular interest would be further examination of the micro- and macro-level factors that influence individual friendships and leisure activities in the community, and how these in turn feed back to effect the community's macro-level system of social organization.

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