Social infrastructure and community economic development strategies: the case of self-development and industrial recruitment in rural Iowa

Jeff S. Sharp\textsuperscript{a,}\textsuperscript{*}, Kerry Agnitsch\textsuperscript{b}, Vern Ryan\textsuperscript{b}, Jan Flora\textsuperscript{b}

\textsuperscript{a}Department of Human and Community Resource Development, Rural Sociology Program, Ohio State University, 2120 Fyffe Rd, 311 Agricultural Administration Building, Columbus, OH 43210-1067, USA
\textsuperscript{b}Department of Sociology, Iowa State University, Ames, IA 50011, USA

Abstract

This research examines the relationship between features of community social organization and the existence of two contrasting types of economic development, self-development and industrial recruitment in rural places. Self-development is an endogenous form of development relying primarily on entrepreneurism and local resources. Industrial recruitment is an exogenous form of development that seeks outside investors and firms to locate in the community. Using data collected in a statewide sample of 99 Iowa communities, we hypothesize that social infrastructure, the group-level interactive aspects of community organizations and institutions, is more strongly related to the existence of self-development than industrial recruitment. A key finding is that social infrastructure, measured by the existence of active community organizations, businesses that support local community projects, community-wide fund-raising capacity, and extra-local linkages to peer communities and state government, is positively associated with the existence of self-development. The relationship between social infrastructure and industrial recruitment is also significant but more modest. Findings indicate that a community’s social organization can be a resource for development, but may be more appropriate for endogenous development efforts than exogenous ones.

Structural changes in traditional rural employment sectors, such as agriculture (Hobbs and Weagley, 1995; Carlin and Saupe, 1993; Lobao, 1990) and manufacturing (Barkley, 1996; Bernat, 1997) coupled with increased global competition (Salant and Marx, 1995) challenge the future of many rural communities as places to live and work. While rural communities with attractive lifestyle amenities, a highly educated workforce, or near a larger urban place may have experienced employment and income growth in recent years (Drabenstott and Smith, 1995), communities with smaller populations and relatively low fiscal capacity have not maintained historic levels of population or employment (Duncan, 1999; Bonnett, 1993; Lyson and Falk, 1993). In response, many rural communities have initiated economic development activities in hopes of attracting, creating, retaining and enhancing local economic activity. In the following research, we examine the response of Iowa rural communities to these conditions during the last decade by focusing on the extent to which elements of community social organization (Putnam, 1993a, b; Flora and Flora, 1993; Swan- son, 1996; Bridger and Luloff, 1999) contribute to the pursuit of two contrasting development strategies—industrial recruitment and self-development. The purpose of the analysis is to identify opportunities to increase local capacity for community economic development, despite the possible disadvantages of ruralness.

1. Economic development strategies

As rural communities have increasingly engaged in community economic development, academicians and practitioners have given serious attention to the question of what constitutes development and what contributes to development success. One distinction that is sometimes identified is the difference between development “of” the community, or conscious efforts to improve social capacity for community action, and development “in” the community, such as physical improvements of local infrastructure or the location of a new industry.
into the community (Christenson and Robinson, 1989). These two development approaches are not necessarily independent of one another; for example, a development effort to physically improve a downtown area might strengthen the social cohesion among local business owners just as efforts to increase participation in local social and civic organizations can lead to more community improvement projects. The recent popularity of the concept social capital (Putnam, 1993a; Flora, 1998; Woolcock, 1998), explicitly acknowledging the value of social relationships, provides further support for the interwining of a community’s social capacity with physical and economic development. In this and the following section, we discuss the elements of social organization that may contribute to community economic development, defined as purposeful action to create or maintain local business activity and employment (Blakely, 1994; Shaffer and Summers, 1989).

We begin by distinguishing between two economic development strategies, industrial recruitment and self-development. These two strategies have been juxtaposed as contrasting approaches to community development. Industrial recruitment involves efforts to attract a firm from outside the community to locate to the area. This development strategy has received substantial critical attention over the years (Eisinger, 1999, 1988; Summers, 1977; Loveridge, 1996). Using incentives such as tax abatements, low-interest loans, and infrastructure improvements, communities successful with this strategy can generate substantial and easily enumerated impacts on local employment and economic activity. The potential impact of industrial recruitment may be part of its attractiveness to local officials (Eisinger, 1999; Loveridge, 1996); and even when unsuccessful, local politicians may receive constituent support for merely attempting to recruit an industry. Industrial recruitment, though, has been criticized for a variety of reasons, such as its focus on firms in declining sectors of the economy or the recruitment of firms that are seeking to lower costs (Eisinger, 1999; Loveridge, 1996). As a result, these “footloose” targets of recruitment may not create the quality of jobs a community desires; and once the benefits of the local incentives are realized, the firm may choose to relocate again, perhaps to another country where labor costs are even lower. Other drawbacks of industrial recruitment include the long odds of success, the cost of recruiting a firm (Loveridge, 1996), and concerns about the distribution of benefits from successful recruitment (Summers, 1977). In the latter case, the attraction of a large industrial firm that generates substantial population growth may negatively impact fixed income residents due to a shortage of housing leading to increased rents (see Logan and Molotch, 1987 for discussion of other possible growth-related concerns).

Self-development (Flora et al., 1991a, b, 1992; Green et al., 1993) is an alternative development strategy that nurtures local entrepreneurial creativity (Eisinger, 1988) and often relies on local resources (Flora et al., 1991a, b; Ray, 1998) to create new jobs and economic activity. Examples of self-development projects include business incubators, downtown revitalization programs, and business retention and expansion programs that focus on locally owned businesses. Several factors contribute to the growing interest in self-development strategies in rural areas. The on-going restructuring of US manufacturing has resulted in many rural and nonmetropolitan areas being adversely impacted by the closure or movement of industrial firms that are the primary employers in the community (Blakely, 1994). As a result, some communities may lack the resources required to effectively undertake an industrial recruitment effort or desire a development strategy that encourages a diversity of smaller, often homegrown, firms to avoid dependence on a single, “footloose” employer. Also, the mixed findings concerning the extent to which a community actually benefits from industrial recruitment (Loveridge, 1996; Humphrey et al., 1988) also contribute to the attractiveness of alternative development strategies such as self-development. The remoteness of some rural places and a limited pool of local workers may also make self-development the only practical strategy to maintain or create employment and economic activity. Self-development, though, has its limitations, such as a bias toward service or specialty firms that may not be viable if the local trade area is too sparsely populated.

While attempting industrial recruitment need not preclude engagement in self-development, or vice versa, some obvious differences between the two strategies are apparent. The location of firm ownership is different for the two strategies. Also, research has shown that self-development projects generally create fewer jobs per project than do successful industrial recruitment projects (Sharp and Flora, 1999; Flora et al., 1993; Green et al., 1993, 1990). Jobs created through self-development, though, can often be higher skilled than those associated with recruited, absentee-owned firms (Flora et al., 1993). Patterns of support, both financial and organizational, also have been shown to differ by strategy. Sharp and Flora (1999) find self-development projects generally include a greater diversity of local leadership, such as local professionals and business persons, while industrial recruitment relies more on civil servants and economic developers. Self-development projects also more frequently engage local civic organizations and tap a diversity of local funding sources,

Social infrastructure has many similarities to the idea of endogenous development described in European rural development literature (Shucksmith, 2000; Ray, 1998, 1999; Van der Ploeg and Long, 1994).
while industrial recruitment relies more heavily on local and extra-local government resources.

These differences between self-development and industrial recruitment in terms of leadership diversity and project funding suggest that local social organization may influence the choice of development strategy and its likelihood for success. In the next section, we examine some of the social capital literature to anticipate the attributes of community social organization that may improve capacity for various types of community economic development.

2. Community social organization and development

The emergence of the social capital concept during the past decade has led to increased interest in the impact of social structure on individual and collective well-being (Coleman, 1988; Putnam, 2000; 1993a; Woolcock, 1998; Smith et al., 1995; Wall et al., 1998; Flora, 1998; Shucksmith, 2000). Various definitions of social capital have been proposed (Woolcock, 1998; Portes and Sensenbrenner, 1993; Putnam, 1993a; Coleman, 1988) but all generally tout networks, norms and trust as having resource potential for individuals or groups. Social capital has been linked to individual outcomes such as educational attainment (Smith et al., 1995; Coleman, 1988), job seeking behavior (Green et al., 1995; Granovetter, 1974), and ethnic entrepreneurism (Portes and Sensenbrenner, 1993). Social capital has also been shown to be positively associated with community and regional development activities (Ostrom, 2000; Putnam, 2000, 1993a; Woolcock, 1998; Flora and Flora, 1993). Putnam (1993a, b) provides a strong endorsement of social capital as a community and regional resource in his comparison of northern and southern regions of Italy. He concludes that “voluntary cooperation is easier in a community that has inherited a substantial stock of social capital, in the form of norms of reciprocity and networks of civic engagement” (1993a, p. 167).

The basic ideas underlying social capital are not new to the community development profession. Rural community development programming has long focused on improving group-level social capacity as a means of improving or sustaining the socio-economic vitality of a locality (Kauffman, 1959; Garkovich, 1989; Luloff, 1990). Several veins of rural development research support this type of development practice. The interactional perspective of community (Wilkinson, 1991; Bridger and Luloff, 1999) and social infrastructure research (Flora and Flora, 1993; Swanson, 1996) are two related bodies of work that provide insight about the elements of community structure that have resource potential for community development. The interactional perspective stresses the importance of local social interaction for identifying and acting on community goals. The concept of the “community field” is central to this perspective and refers to a generalized interaction structure among actors, associations, and organizations oriented toward the overarching community interests. Where a community field exists, it is posited there will be a greater capacity for community action to occur. Attributes of the community field that improve capacity for achieving community-oriented goals include improved capacity to coordinate action among diverse institutions and organizations, increased capacity to mobilize resources, and an ability to plan and act strategically to balance diverse community goals (Sharp, 2001; Wilkinson, 1970).

A limitation of interactional research has been its indirect assessment of the community field (Sharp, 2001), such as the use of past activeness as a proxy for the existence of a community field (Zekeri et al., 1994). The use of a proxy is justified on the assumption that “a pattern of accomplishments in previous community efforts implies a network of associations among community leaders and others that can be activated to pursue particular local goals” (Martin and Wilkinson, 1984, p. 377). A body of research that more directly measures and evaluates the specific features of the community field involves social infrastructure (Flora and Flora, 1993; Flora, 1998; Swanson, 1996).

Flora and Flora (1993) define social infrastructure as the “group-level, interactive aspect of organizations or institutions” (p. 49). Three dimensions of social infrastructure are identified: diversity of symbols, resource mobilization, and quality of linkages. The degree of inclusiveness of community processes approximates the diversity dimension. Communities that are accepting or tolerant of differing citizen perspectives are expected to have access to a broader range of choices and be more capable of reaching consensus than do communities rife with conflict and intolerance (Coleman, 1957). The resource mobilization dimension includes citizens’ willingness to invest in the locality and the capacity of organizations to mobilize resources from both public and private sources. Finally, the quality of internal and extra-local linkages is a third dimension of social infrastructure expected to enhance the flow of information, money, and support within and into the community.

---

2 It must be noted that the social capital literature has its limitations. One concern is the possibility that social capital may be associated with social control and a capacity to stifle group members’ abilities to act (Portes and Sensenbrenner, 1993; Portes, 1998). Another concern is the possible theoretical and conceptual imprecision of the term that leads to ambiguity (Woolcock, 1998).

3 Swanson (1996) defines social infrastructure in terms of a community’s capacity, including decision-making, leadership, organizational and social service capacity.
A relationship between social infrastructure and community outcomes has been found in several studies. For instance, a national study of rural communities (Flora et al., 1997) found a positive association between the execution of economic development projects and several indicators of social infrastructure, including (1) presence of a newspaper that reports community affairs openly and with attention to differing citizens’ views (diversity of symbols), (2) willingness of local banks to contribute to local projects (resource mobilization), and (3) existence of horizontal and vertical linkages to other communities and regional and state governments (quality of linkages). In another study, Salamon (1996) compared two Illinois communities, one high in social infrastructure and the other low. She found a positive association between social infrastructure and the effectiveness of community action. The following elements of social infrastructure were identified as contributing to local capacity to act: treatment of newcomers, community support of local businesses, and successful management of local conflict.

While there is growing interest in concepts such as social capital (Putnam, 1993a; Wall et al., 1998; Woolcock, 1998) and social infrastructure (Sharp and Flora, 1999; Flora et al., 1997; Salamon, 1996), there is still much that is unknown about the relationship between these concepts and community action or outcomes. In the following analysis we consider the question of whether features of community social organization with resource potential are more closely linked to some types of development activities than others. Specifically, we test the hypothesis that social infrastructure is more strongly related to self-development than to industrial recruitment. We base this hypothesis on the idea that self-development, which has been found to rely heavily on diverse local leadership and resources, requires greater levels of community social infrastructure. Industrial recruitment is expected to be less dependent on social infrastructure since it has been found to rely more on government policy and funding, and its leadership has been shown to be less diverse, perhaps reducing its need for broad community resource mobilization capacity or diverse community leadership. By testing this hypothesis and adopting an analytical approach that identifies specific features of social infrastructure, we believe the results of this analysis will help development professionals identify ways they might improve capacity for self-development or industrial recruitment.

3. A context for rural development: the case of Iowa

To test this hypothesis, analysis from an on-going study of Iowa rural communities is conducted. Community economic development is an especially salient matter in the state of Iowa as a result of economic restructuring and population change of the last 20 years. Iowa is one of the most rural states of the North Central Region of the US (a 12 state region stretching from Ohio to Kansas and the Dakotas) and is also one of the United States’ leading agricultural states. Because of agriculture’s importance in the state, Iowa was severely impacted by the farm-debt crisis of the 1980s (Bultena et al., 1986). From 1982 to 1987, the number of farms in the state declined 8.9 percent or 10,233 farms (US Department of Agriculture, 1999). Agricultural restructuring has continued into the 1990s, with a loss of over 14,000 farms between 1987 and 1997, or 13.7 percent. All but three of the state’s 99 counties experienced a loss of farms over this 10-year period and 47 counties, located primarily in the very rural northern and western areas of the state (Fig. 1), experienced farm losses in excess of 15 percent of the farms from 1987 to 1997.

The 1980s farm crisis and continued agricultural restructuring have contributed to the state’s generally sluggish population growth relative to other states in the North Central Region of the US (Hobbs and Weagley, 1995). From 1980 to 1990, Iowa experienced a 4.7 percent population loss (Table 1) (US Department of Commerce, 1980–2000). Population loss was relatively uniform across the state during the 1980s with a few metropolitan counties and nonmetropolitan counties adjacent to a metropolitan area experiencing modest growth and most counties in the northern, western and southern parts of the state experiencing declines greater than 10 percent. No state surrounding Iowa experienced a net loss of population during the 1980s, although Illinois, Nebraska, and South Dakota had less than 1 percent population gains. The pattern of population change in Iowa relative to surrounding states did not change in the 1990s, with the state experiencing population growth of 5.4 percent while surrounding states all grew from 8.4 to 12.4 percent. Similar to the 1980s, the counties experiencing population declines in the 1990s are generally located in the more rural northern, western and southern regions, away from the state’s metropolitan areas (Fig. 2). For the entire 20-year period from 1980 to 2000, Iowa has barely maintained its 1980 population levels while surrounding states have experienced growth from 9 to 21 percent. A result of negative or low population growth in Iowa during the last 20 years, especially the large relative declines in the nonmetropolitan areas of the state, has led to the emergence of rural community economic development as an attempt to maintain local employment and retain local population.

4. Methods

Data for this analysis are from one community (population between 500 and 10,000) randomly selected
from each of Iowa’s 99 counties. Data for each of the 99 communities come from key informant surveys of local institutional and organizational leaders, a survey of local residents, and Census of Population. The key informant survey was completed by three to five local knowledgeable whose names were solicited from city clerks. Informants surveyed included a representative from local government, businesses, churches, civic or service organizations, and the local newspaper. A mail survey was conducted using a modified Dillman (1978) method. Seventy five percent of the informants returned completed questionnaires. A community attribute was determined by aggregating responses by community. To handle response differences, two techniques were

4 The selection of one community from each county was a practical decision related to the overall state-level policy intentions of the research.

5 Newspaper informants were not interviewed in the 31 communities without a local newspaper. Also, two communities had no local businesses and one community did not have any local civic organizations.

6 In 82 of 99 communities, at least three informants responded. In one community only one informant responded.
utilized. For questions seeking factual information (e.g., Is there a community-wide festival?), the modal response of informants was defined as the community-level attribute.\(^7\) For more impressionistic information (e.g., rate the activism of local service organizations), the mean of the community’s key informants’ responses was used. Additional data came from a mail survey of 150 households randomly selected from community telephone directories (which included surrounding rural farm and nonfarm households). Response rates from each community ranged from 62 to 83 percent (see Ryan et al., 1995, for further detail of the research design). The mean of the community residents’ responses are used to represent a community attribute.

4.1. Measurement of community economic development activity

Two measures of community economic development activity were created: One represents the community’s recent (past 3 years) self-development activities and the other its recent industrial recruitment activities. Affirmative responses by informants to four questions concerning self-development were summed into a self-development scale (Table 2). The items include efforts: to promote a local historic/cultural site or conduct an event to promote tourism (67 percent of communities reported this activity); to revitalize the downtown or retail sector of the community (66 percent); to retain or expand a locally-owned business or industry (61 percent); and to locate prospective buyers for a local business (53 percent). The response pattern to the four items was not conducive to Guttman scaling so a simple count scale is used to represent the range and amount of recent self-development activity in a community. On average, 2.5 activities were reported per community. Fifteen communities reported no such activities during the past 3 years; 33 reported all four activities.

The industrial recruitment scale was created from responses to two items (Table 2): organization/rejuvenation of a committee to recruit new business or industry (59 percent) and development of an industrial park (31 percent). Since these two activities appear to be related sequentially—i.e., committee formation typically occurs before the development of an industrial park—this scale was used to represent the amount of recent industrial recruitment activity. On average, 1.7 industrial activities were reported per community. Fifty-six communities reported no such activities during the past 3 years; 14 reported all four activities.

---

\(^7\) Where no mode exists, the aggregated value of “yes” was assigned when at least two informants responded affirmatively. Thus, in situations where one respondent indicated yes and one says no, the aggregated value is no. This is consistent with the community research approach of Zekeri et al. (1994). See also Krannich and Humphrey (1986) for more discussion of the key informant methodology.
park—a Guttman scale (McIver and Carmines, 1981) was constructed for this index. Evaluation of the Guttman scale indicated acceptable scaling with a coefficient of reproducibility (CR) = 0.94; minimal marginal reproducibility (MMR) = 0.64; and coefficient of scalability (CS) = 0.82. A mean of 0.9 industrial recruitment activities existed per community with 41 percent reporting no recruitment activity and 31 percent reporting the presence of both a committee and an industrial park (Table 2).

4.2. Measurement of social infrastructure

Indicators of the three dimensions of social infrastructure (Flora and Flora, 1993) are included as independent variables. The degree to which local processes are inclusive and accessible to the whole community (diversity of symbols) is measured in three ways (see Table 3 for descriptive statistics for all social infrastructure measures). First, key informants were asked whether a local organization or group existed that brought together diverse groups of people to address community-wide concerns; such a group was reported in 19 percent of the communities. The presence of an organization linking together the whole community is likely to facilitate communication across diverse sectors of the community and create awareness of the larger community interest. Second, a series of strongly correlated items from the resident survey were summed to create a community inclusiveness scale (alpha reliability = 0.79). The scale is based on whether residents felt the community was receptive to new residents taking leadership positions and whether they felt everyone was allowed to contribute to local governmental affairs if they wanted to. Also included in the scale were responses to a seven point semantic differential question concerning whether residents felt the community was “rejecting of new ideas” or “open to new ideas”. A more inclusive community structure is likely to enable community projects to access a greater diversity of local ideas and talents as well as create a greater appreciation of citizen concerns. Third, a citizen input scale was created from a series of questions asking key informants about the degree of residents’ influence on planning and zoning decisions, economic development/industrial recruitment decisions, tax and budget issues, and changes in public services.9 Since responses to these questions were highly correlated, an additive scale was constructed (alpha reliability = 0.73). The existence of citizen input may contribute to greater appreciation of the community-wide interest as well as access to diverse knowledge of local residents.

Two measures of quality of linkages were developed. In both cases, Guttman scales were created as linkage patterns reflected a cumulative pattern of increasingly stronger extra-local linkages. Based on key informant responses, a Guttman scale labeled Linkage Scale I was created to measure the degree to which a community participated in state and regional associations or development organizations. Such memberships can be important for acquiring external resources and information. Membership included the state league of municipalities (94 percent), a regional planning agency or council of governments (80 percent), and a multi-community development corporation (43 percent).10 A second Guttman scale called Linkage Scale II was created to measure efforts to develop skills, acquire knowledge, or gain assistance from extra-local entities. Informants reported whether the community had sought outside financial or technical assistance (66 percent), visited another community to learn about its community development efforts (54 percent), and joined with other communities for joint leadership/skills training (29 percent).11 This scale represents purposeful efforts by the community to tap external knowledge or resources to build community capacity.

Three measures of resource mobilization were included in the analysis; each represents a different type of resource mobilization capacity. First, informant reports about whether they felt business owners/managers were willing to expend resources in the community and to take leadership positions in local development activities were combined to form a Business Supportiveness Scale

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Self-development and industrial recruitment scale descriptives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scale descriptives</td>
<td>Mean</td>
</tr>
<tr>
<td>Self-development</td>
<td></td>
</tr>
<tr>
<td>Historic/cultural site for tourism</td>
<td>2.5</td>
</tr>
<tr>
<td>Downtown revitalization</td>
<td>N = 66</td>
</tr>
<tr>
<td>Retain/expand local business</td>
<td>N = 60</td>
</tr>
<tr>
<td>Find buyer for local business</td>
<td>N = 52</td>
</tr>
<tr>
<td>Industrial recruitment (Guttman scale)</td>
<td>0.9</td>
</tr>
<tr>
<td>CD = 0.97; CR = 0.99; MMR = 0.64</td>
<td></td>
</tr>
<tr>
<td>Organic recruitment committee</td>
<td>N = 58</td>
</tr>
<tr>
<td>Develop industrial park</td>
<td>N = 31</td>
</tr>
<tr>
<td>CR = 0.97; MMR = 0.64</td>
<td></td>
</tr>
</tbody>
</table>

---

8 Residents were asked whether they strongly agree, agree, neither agree or disagree, disagree or strongly disagree with the following statements: “Residents in (community name) are receptive to new residents taking leadership positions” and “Most everyone is (community name) is allowed to contribute to local governmental affairs if they want to.”

9 Response categories for each item included: no influence; some influence; great influence.

10 Evaluation of the Guttman scale indicated acceptable scaling: CR = 0.96, MMR = 0.76, CS = 0.81.

11 Evaluation of the Guttman scale indicated acceptable scaling: CR = 0.93, MMR = 0.63, CS = 0.82.
Table 3
Descriptive statistics for social infrastructure indicators

<table>
<thead>
<tr>
<th>Diversity of symbols</th>
<th>Mean</th>
<th>S.D.</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Community Group</td>
<td>19%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Inclusiveness (Alpha = 0.79)</td>
<td>11.6</td>
<td>0.48</td>
<td>10.2</td>
<td>12.8</td>
</tr>
<tr>
<td>Residents of [community name] are receptive to new residents taking leadership positions</td>
<td>3.3</td>
<td>0.2</td>
<td>2.9</td>
<td>3.7</td>
</tr>
<tr>
<td>Most everyone in [community name] is allowed to contribute to local governmental affairs if they want to</td>
<td>3.8</td>
<td>0.2</td>
<td>3.3</td>
<td>4.3</td>
</tr>
<tr>
<td>Rejecting of new ideas/open to new ideas</td>
<td>4.4</td>
<td>0.2</td>
<td>3.8</td>
<td>4.9</td>
</tr>
<tr>
<td>Citizen Input Scale (Alpha = 0.73)</td>
<td>8.0</td>
<td>1.1</td>
<td>5</td>
<td>11.5</td>
</tr>
<tr>
<td>Planning and zoning decisions</td>
<td>2.1</td>
<td>0.3</td>
<td>1.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Economic development/industrial recruitment</td>
<td>2.0</td>
<td>0.4</td>
<td>1.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Taxes and budgets</td>
<td>2.0</td>
<td>0.3</td>
<td>1.0</td>
<td>2.7</td>
</tr>
<tr>
<td>Changes in public services</td>
<td>2.0</td>
<td>0.4</td>
<td>1.0</td>
<td>3.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Quality of linkages</th>
<th>Linkage Scale I</th>
<th>2.2</th>
<th>0.9</th>
<th>0</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>State League of Municipalities</td>
<td>N = 93</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regional Planning Agency or Council of Governments</td>
<td>N = 79</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi-Community Development Corporation</td>
<td>N = 43</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CS = 0.91, CR = 0.98, MMR = 0.77</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linkage Scale II</td>
<td>1.5</td>
<td>1.1</td>
<td>0</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Sought outside financial and technical assistance</td>
<td>N = 65</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visit other community about development</td>
<td>N = 53</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joint leadership/training skills with other community</td>
<td>N = 29</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CS = 0.819, CR = 0.93, MMR = 0.63</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource mobilization</th>
<th>Business Supportiveness Scale (Alpha = 0.85)</th>
<th>7.54</th>
<th>1.2</th>
<th>4.0</th>
<th>9.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business owners/managers in [community name] are willing to expend resources to help the community</td>
<td>3.8</td>
<td>0.6</td>
<td>2.0</td>
<td>4.8</td>
<td></td>
</tr>
<tr>
<td>Business owners/managers in [community name] are willing to take leadership positions in local development activities</td>
<td>3.7</td>
<td>0.7</td>
<td>1.5</td>
<td>5.0</td>
<td></td>
</tr>
<tr>
<td>Organizational activism (mean)</td>
<td>1.9</td>
<td>0.3</td>
<td>0.8</td>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>Service and fraternal organizations</td>
<td>2.1</td>
<td>0.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women’s clubs</td>
<td>1.9</td>
<td>0.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civic groups</td>
<td>1.6</td>
<td>0.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City government</td>
<td>2.3</td>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Church groups</td>
<td>2.1</td>
<td>0.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fund-raising capacity</td>
<td>0.8</td>
<td>0.7</td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Community-wide fund-raiser</td>
<td>N = 56</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community foundation</td>
<td>N = 19</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CS = 0.97, CR = 0.99, MMR = 0.69</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Second, an Organizational Activism Scale was created from informants’ assessments of five organizations’ level of involvement in community improvement activities.13 The five organizations include service and fraternal organizations, women’s clubs, civic groups, city government, and church groups. This scale was created by computing the mean level of activism for the five organizational types and is used to approximate the level of organizational activism that might be directed toward current and future community activities. Finally, a Guttman scale measuring community-wide fund-raising capacity was constructed from informants’ reporting the existence of a recent (last 3 years) community-wide fund-raiser (57 percent) and the existence of a community foundation or trust (19 percent).14

---

12 Informants were asked to strongly disagree, agree, neither agree or disagree, agree or strongly agree with the following two statements: “Business owners/managers in [community name] are willing to expend resources to help the community,” and “Business owners/managers in [community name] are willing to take leadership positions in local development activities.”

13 Question wording: “How involved are the following community organizations in community improvement or economic development activities?” Response categories included: very active, moderately active, not very active, no such group.

14 Evaluation of the Guttman scale indicated acceptable scaling: CR = 0.96; MMR = 0.76; CS = 0.97.
4.3. Control items

Population size and an indicator of metropolitan character of the community’s local area are added as control variables to better assess the influence of social infrastructure on development activities (Table 4). Population in 2000 (US Department of Commerce, 1980–2000) is included to account for the possibility that larger rural communities are more active in economic development due to the existence of greater financial resources, human resources, and government capacity than smaller rural places. An indicator of a community’s proximity to larger urbanized areas is included through the use of a dummy variable representing the metropolitan character of the county within which each community exists. Communities located in metropolitan counties were assigned a value of 0 while communities located in nonmetropolitan counties were assigned a value of 1. The influence of metropolitan character may be mixed; remoteness from a large urbanized area may increase the need for local economic development to create job opportunities for local residents but it also may limit a community’s capacity for development due to a lower regional population base from which to tap financial resources, leadership and labor. Finally, two indicators of community stress are included in the models: percent of families living in poverty in 1989 and rate of population change from 1990 to 2000. Both of these conditions can be expected to prompt local economic development activity in hopes of slowing or reversing population loss or lifting local residents out of poverty. Correlations among the four control items and all independent and dependent measures are reported in Table 6.

5. Analysis

Regression analyses are used to discern the relationship between social infrastructure and the existence of self-development and industrial recruitment activities. Hierarchical regression analysis is conducted with sets of independent measures introduced hierarchically into the model to assess the net increase in variance explained by each set of measures. The analysis also identifies the strength of relationships between the dependent and independent items. Population and ecological measures are introduced first, followed by measures of community stress, and finally the set of social infrastructure items are added. A partial F-test is conducted after the introduction of each set of variables to determine whether there is a statistically significant increase in the amount of variance explained due to the introduction of the additional set of items. This hierarchical approach provides a basis for comparing the effect of social infrastructure on self-development versus industrial recruitment.

Results in Table 5 reveal that the two ecological control variables (population and metropolitan character) account for a sizable proportion of the variation in self-development (28 percent). As expected, larger population is related to higher levels of self-development activity, while communities located in nonmetropolitan counties are associated with higher levels of self-development activity. The introduction of the block of community stress indicators does not result in a statistically significant increase in the model’s r-square. One community stress indicator—percent population change between 1990 and 2000—has a significant negative relationship with level of self-development activity, meaning that lower (or negative) community population growth during the 1990s is associated with a greater number of self-development activities. With the addition of the block of social infrastructure items, the r-square (variance explained) increases dramatically from 0.35 to 0.66 (F-test significant at 0.05 level). Both linkage scales and all three resource mobilization indicators are positively related to the level of self-development activity. One diversity of symbols measure—citizen input—is significantly related to self-development but the relationship is negative.

Ecological factors are also strongly related to the level of industrial recruitment activity with 22 percent of the variance of the industrial recruitment scale explained by population size and metropolitan character. As in the case of self-development, larger populations are associated with higher levels of industrial recruitment. There is no increase in the variance explained when the two community stress measures are added, and neither item individually has a significant relationship with industrial recruitment. Inclusion of the set of social infrastructure measures increases the variance explained significantly (partial F-test is significant at 0.05 level), with two items (citizen input and membership in state associations and development organizations) having a statistically significant relationship (positive) with industrial recruitment.

6. Discussion

This analysis reveals a relationship between a community’s social infrastructure and both self-development and industrial recruitment activities. The relationship is generally positive meaning higher levels of social infrastructure are associated with more development

15 A county is defined as metropolitan if it contains a central city of 50,000 or more resident or is a county closely tied to a core metropolitan county containing a central city of 50,000 or more residents. Metropolitan status was adapted from Butler and Beale (1994) for this analysis.
activity of both types. A wider variety of social infrastructure measures are related to self-development activities than industrial recruitment (six versus two, respectively). Also, the net increase in variance explained as a result of including social infrastructure is largest in the self-development model. These findings support our hypothesis that the existence of social infrastructure is more closely related to increased self-development activity than to industrial recruitment.

While population size accounts for a substantial proportion of the variation in self-development activity (28 percent), the inclusion of social infrastructure measures more than doubles the explained variance (net increase of 29 percent). Local organizational, business, and fund-raising capacity are all positively related to the level of self-development. The supportiveness of local businesses has the strongest relationship (standardized coefficient of 0.39), a finding consistent with previous research by Sharp and Flora (1999) who found local merchants and businesspersons were more frequently involved as leaders of self-development than of industrial recruitment activities. Both linkage scales have a significant relationship with self-development, suggesting the quality of such links may provide access to information, financial resources, or technical support from other levels of governments or communities. The negative effect of openness of government processes to citizen input was not expected and warrants further study.

The ecological and social infrastructure items also explain a substantial portion of the variance (42 percent) in industrial recruitment activity, although it is smaller than the explained variance in self-development. Beyond the positive relationship of community size, the existence of extra-local linkages to state associations or development organizations and citizen input are significant. Extra-local linkages are likely important for acquiring the knowledge, contacts, and other resources required for successful recruitment, while higher levels of citizen input may be necessary for molding the political will necessary to finance and execute industrial recruitment activities. The importance of population size may reflect the need for sufficient local labor to justify industrial recruitment or the capacity of local government to fiscally support a recruitment effort with infrastructure improvements or other incentives required by a prospective employer.

While the analysis supports our hypothesis, there are a couple of findings and issues requiring additional attention in future research. One relationship not examined by this analysis but worth noting is the relationship between the two forms of development—self-development and industrial recruitment. We had no basis for expecting either self-development or industrial recruitment to serve as an antecedent to the other, but exploratory analysis of their relationship reveals an interesting pattern. As reported in the appendix (Table 6), the two scales are positively associated ($r = 0.54$). On closer examination, however, four sets of communities are discernable when comparing the pattern of development strategies: One set of communities had experienced neither self-development nor industrial recruitment. A second set reported one or two examples of self-development projects but no industrial recruitment. A third set reported three of four self-development projects and the formation of a recruitment committee. Finally, there was a set of communities with at least three self-development projects, formation of a recruitment committee, and
development of an industrial park. In fact, only one of the 30 communities with an industrial park reported less than two self-development projects, suggesting that experience with self-development projects may serve as a precursor to industrial recruitment. Further exploration of this relationship is necessary to better understand how a community’s experience with one type of development contributes to either the capacity for or pursuit of another form of development. Future research might also consider the four sets of communities identified above and the factors that lead to a community falling into a particular type, i.e. self-development projects versus communities experiencing both types of activities.

While this research focused on the relationship between social infrastructure and the existence of two types of development activity, the relationship between social infrastructure and the success of these development activities was not examined. This question also exists in urban places. But in such settings, it may be more important to consider forms of social infrastructure that are related to community development, we have identified several social capital-like features of communities’ social organizational capacity on local action, whereas Duncan (1999) identifies culture as a key factor in explaining differences between two neighboring Maryland communities’ social organizational capacity on local action, whereas Duncan (1999) identifies culture as a key factor in explaining social organizational differences between a New England, Appalachian and Southern community. Regarding the applicability of these findings to more urban places, the basic forms of social infrastructure identified by this analysis may also exist in urban places. But in such settings, it may be more important to consider forms of social infrastructure at the neighborhood level.

7. Conclusions

These findings have several implications for the broader study of rural community development and the specific nuances of development practice and policy. Related to the recent academic interest in social capital as a resource for community development, we have identified several social capital-like features of communities’ social organization that are related to community economic development activity. Consistent with the work of Putnam (1993a, b, 2000), extra-local community linkages, active community organizations, and business

---

16 The data collected did not permit such analysis.
committed to supporting local activities all were found to influence self development activities. This analysis therefore provides additional support for the thesis that social capital is relevant to communities and development.

A significant finding relevant to development policy and practice is the discovery that efforts to improve community capacity may contribute more to self-development efforts than industrial recruitment. Industrial recruitment requires strategic contacts with outside development organizations; self-development involves that and more, including community organizations, supportive businesses, and fund-raising capacity. Community development theory generally has not made the distinction between type of capacity building and development objectives (Christenson and Robinson, 1989); but our findings suggest that improving social capacity will benefit self-development undertakings more so than industrial recruitment efforts. Similarly, in the policy arena, these findings suggest that improving social infrastructure in a policy environment biased toward industrial recruitment may not optimally use local social infrastructure or achieve maximum development results. The challenge for communities is that building social infrastructure as well as achieving success at self-development may be a long-term process and not necessarily an easy one, particularly for communities with limited resources. For elected officials and policymakers, this fact may not be consistent with a desire for immediate results. But for some rural places, improving capacity for self-development may be the only realistic option for maintaining or creating new economic activity.

Acknowledgements

This research is based on work supported by the Cooperative State Research, Education and Extension service, United State Department of Agriculture, under agreement no. 96-35401-3392. The assistance of Lori Merritt in collecting the data and Greta Wyrick and Jason Reece in preparing the text and figures is gratefully acknowledged.

Appendix

Correlations among the four control items and all independent and dependent measures are reported in Table 6.

References


