Draft prepared for journal submission - 2009

The Availability of Social Capital in Urban and Rural Communities in British Columbia*

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Abstract

This paper investigates the availability of social capital in rural and urban communities. Available social capital is conceptualized as a stock residing in formal and informal institutions or networks and measured with respect to four normative systems that predominate in those institutions or networks. The distribution and interrelations of available social capital were examine using data from 64 communities across BC, Canada – with a particular focus on differences between rural and urban communities. The results demonstrate the considerable variation in availability of social capital among communities and among normative systems. We also found that census variables are particularly insensitive to associative-based social capital in general and differentially associated with the availability of market and bureaucratic-based social capital in rural as compared to urban communities. The research suggests that the conceptualization and measurement of social capital requires considerable elaboration, especially where rural and urban comparisons are involved. It also implies that policy approaches to social capital enhancement in rural areas should be different than urban areas.

Keywords
Social capital; Rural; Communities; British Columbia

*We would like to acknowledge the financial support of the Canadian Institutes for Health Research (through its New Emerging Team Grants program) for this work. As well, Dr. Ostry would like to thank the Canada Research Chair Program and the Michael Smith Foundation for Health Research in British Columbia for his salary support.

The Availability of Social Capital in Urban and Rural Communities in British Columbia

Introduction

Social capital research promises to be a useful framework for understanding the impacts of community-level factors on a variety of individual and group outcomes. However, recent socio-epidemiological research on the association between social capital and health often relies on an incomplete conceptualization of social capital (Kawachi and Kennedy 1999; Kawachi et al. 1997; Kawachi and Berkman 2000). Two limiting preoccupations stand out. First is the emphasis on informal rather than formal social relations (e.g., trust, relationships within voluntary associations, and family connections with community) and second, is the tendency to measure social capital only with respect to its use.

In contrast, a full theoretical framing of social capital should consider a much wider suite of both formal and informal relationships existing within and among family, state, public, and private sectors (Organization for Economic Co-operation and Development (OECD) 2001; Grootaert and van Bastelaer 2001; Franke 2005). Without it we are in danger of overlooking the complementarities and tradeoffs which occur among the various types of social relations on which social capital is based (Reimer et al. 2008). Similarly, the measurement of social capital should be sensitive to its availability as well as its use, for they are not often the same (Reimer 2006). Developing distinct indicators for the two will not only better represent the processes of social capital formation, but they will also enable more detailed investigations regarding the relationships between them. While the distinction between availability and use of social capital has been extensively investigated with respect to voluntary associations, it has not yet appeared on

the conceptual horizon among socio-epidemiologists concerned with health. In terms of studies of rural services, availability might be a more salient issue than for urban communities given that severe resource constraints characterize many remote and rural communities (Halseth and Ryser 2006). Measuring the availability and distribution of social capital across the rural-urban continuum is therefore an important methodological step to determining the use of social capital, and subsequent health-related outcomes at a community level.

This research contributes to both of these issues by providing a framework for social capital that includes a variety of social relations, indicators that distinguish its available and used forms, then explores some of the implications for selected outcomes in a sample of communities in British Columbia (BC), Canada.

Background

Research arising from the New Rural Economy Project[1] (NRE) provides a convenient framework for overcoming the limitations identified above (Reimer et al. 2008). Grounded in economic, anthropological, and sociological work (Polanyi 1944; Fiske, 1991) Reimer et al. classify social capital with respect to four normative systems that guide the social relations on which they are based. The first is based on market relations as found in the trade of goods, services, and information and the second is based on bureaucratic relations as found in government organizations, legislation, health, and educational institutions. The third normative system is based on associative relations – where people work together because they share a particular interest such as in community groups, volunteer activities, recreation, arts and culture. The fourth is based on communal

[1] Based at Concordia University, The New Rural Economy Project (NRE) is a collaborative research initiative focusing on the revitalization of rural Canadian communities. Launched in 1998, the project has 32 rural field sites where, in the face of globalizing economies, researchers aim to build community capacity as economic trends shift away from resource extraction (http://nre.concordia.ca).

relations as manifested in social interactions with family, friends, spiritual groups, and community care networks.

The methodologies outlined for quantifying these four types of social capital are based on the proposition that "available social capital can be measured by the institutions and organizations within which the social relations are organized" (Reimer 2006:164). This was operationalized within 20 of the rural field sites in the NRE Project.[2] For each community, researchers created indices of social capital by counting the number of services associated with each of the four types of social relations located within 30 minutes travel time of each community, then standardizing the sum by community population. Once the density of services was calculated, statistical analyses were carried out to examine the association between the indexes of social capital (separately and together) and community characteristics, as reported by the 1996 census.

The results show that there are a wide range of values in available social capital across the communities. In addition, associations exist between census variables and social capital. For example, high levels of social capital are found in northwestern Canada and in communities where people tend to have lower incomes. Reimer notes that contextual characteristics for each community (i.e., integration into the global economy, stability of the local economy, metropolitan adjacency, and institutional capacity) place important conditions on the capacity a community has for accessing available social capital (Reimer 2006).

The objectives of this project were to adapt and extend Reimer's work with social capital in three ways. First, in order to generate data from a larger sample of

[2] The 32 field sites of the NRE Project were selected in a systematic fashion, using five dimensions of comparison: the degree of exposure to the global economy, the relative stability of the economy, the distance to metropolitan centers, the availability of public services, and whether the economy is leading or lagging (Reimer 2002a).

communities, we apply this framework to more than the 20 communities used in his study. Second, we compare available social capital in urban communities with that available in rural communities, and third, we conduct correlation analyses among the four types of social capital with socio-economic indicators for both rural and urban communities.

Methods

The Sample of Communities

Our sample consists of 64 communities from across BC, ranging in population size from 1,600 to 96,000, with an average population of approximately 12,000. The communities were selected in a non-random, non-systemic way, largely because we drew information from two separate community-health related studies already in existence.[3] In terms of the urban-rural continuum, however defined (as further discussed in section 3.4), the sample represents a full range of community types and sizes.

Figure 1.1 highlights the 64 selected CSDs. Geographically, the municipalities are distributed fairly evenly across the southern and north central regions of the province but include only one community from the far north (Fort Nelson) and two communities from the central Interior (Williams Lake and Quesnel).

< INSERT FIGURE 1.1 >

Measuring the Availability of Social Capital

[3] Communities were operationalized using the Census Subdivision (CSD) as the geographical unit of analysis. CSDs represent municipal boundaries where they exist, with unincorporated regions and rural areas forming their own CSDs in such a manner that all the territory is included. The 64 CSDs in our sample are all municipalities.

Following Woolcock (2001) and others we define social capital as the social networks and their associated norms[4] that may facilitate the achievement of individual or collective outcomes.[5] This approach treats social capital as a property of the inter-relationships among people or groups rather than an individual characteristic: inter-relationships that may provide information, support, or other resources for the accomplishment of tasks (Tiepoh and Reimer 2004). The inter-relationships are not always used, however, but may exist only as potential resources for action—available for use only if the need, conditions, or individual characteristics make it possible. Churches, schools, businesses, and family networks may all be available sources of social capital, for example, but if they are inaccessible due to belief, age, income, or disease, they cannot be used. Much of the work in health services and community development is directed to identifying available sources of such capital and finding ways to reduce barriers to its use. For this reason it is critical to develop measures that are sensitive to the difference between availability and use.

Reimer et al. (2008) and Tiepoh and Reimer (2004) argue that available social capital can be seen as a stock residing in formal and informal institutions or networks. These organizations, institutions, or networks are the empirical manifestations of social capital—containing relationships coordinated in systems of norms that can provide the information, contacts, support, and resources associated with such capital. They suggest that although an organization contains many types of normative systems, it is possible to identify one or two that predominate. In hospitals, for example, bureaucratic norms predominate, whereas in sporting clubs or other volunteer groups, associative norms

[4] Norms are a key element of social capital since they coordinate social behavior through incentives and sanctions.

[5] According to Franke (2005) this is a 'meso' or 'structural' (Grootaert and van Bastelaer 2001) approach to the understanding of social capital (Burt 1984; Lin 2000; Portes 1998; Reimer 2002b).

guide most of the behaviour. Using these institutional manifestations, therefore, we are able to measure the extent to which social capital is available in the community.

The numbers of market, bureaucratic, associative, and communal-based services in each community were counted in the fall of 2005 and spring of 2006 using methods similar to those outlined by Reimer (2002b). Each community was visited by the same research assistant in order to conduct the counts. See Table 1.1 for a description of the services counted within each of the four types of social capital. The two main differences from the NRE approach were that the services within a CSD boundary (as designated by Statistics Canada) were counted, as opposed to those within 30 minutes travel time of a field site. This means that our index values will be smaller in comparison to those found in the NRE Project. In addition, we counted a slightly different suite of services within all four types of social capital than in the NRE project.

< INSERT TABLE 1.1 >

Calculation of the Density of Available Social Capital in Each Community

Once service counts for all communities were obtained, these raw counts were summed and standardized by the CSD population (per 1,000 individuals) reported in the 2001 census, producing indices of social capital for each community. We then added the four indices together to find the total social capital score for every community. Table 1.2 is an example of how indices were calculated for the Municipality of Armstrong, BC.

< INSERT TABLE 1.2 >

Because each type of social capital is based on a different number of services, it is not valid to compare scores between the four types of social capital as they will partly be based on the number of services counted within each social capital type. Making comparisons among the quantities for the different types of social capital available in a given community will first require both a level of theoretical and methodological sophistication that is beyond our analysis at this stage. It will also require a standardized methodology which either counts the same number of services within each type of social capital or standardizes the measures. However, even with this limitation, we are able to make valid comparisons with respect to the variation within each of the four types of social capital across urban and rural CSDs since the list of services considered is the same.

Defining Rural and Urban Communities

There is no consensus in rural research on how to define rurality (du Plessis, Beshirir, and Bollman 2001; Pitblado 2005; Pong and Pitblado 2001). However there are several empirical methods in use, developed for different purposes by various groups of researchers. These definitions have been developed by organizations such as Statistics Canada, the OECD (Organization for Economic Co-operation and Development), and Canada Post.

We chose to use the Standard Area Classification (SAC) Codes (developed by Statistics Canada), because: 1) SAC codes are provided at the same level of geography as our analyses – the CSD level, 2) they are commonly used in rural health research, and 3) the definition considers multiple levels of information, such as metropolitan adjacency, population size, and the influence that metropolitan zones have on a community as

reflected in the commuting characteristics of the labour force. It is, therefore, more nuanced than most other definitions which rely solely on population counts or density.

The SAC Codes incorporate the extent to which a CSD contains a substantial number of people who commute on a regular basis into a neighbouring urban center. Using SAC's Metropolitan Influenced Zone (MIZ) methods, Statistics Canada categorizes all CSDs in Canada as one of seven SAC types, ranging from large metropolitan areas to small rural communities (where less than 40 residents commute outside of their home municipality to work). Table 1.3 lists the seven SAC categories, their definitions, and shows the number of communities in or sample of 64 that fall in each category.

< INSERT TABLE 1.3 >

We divided our sample into two groups, urban or rural, based on the SAC codes. Any CSD that Statistics Canada has classified in 2001 as a Census Metropolitan Area (CMA), or a Census Agglomeration (CA) area, we consider urban communities (n=25); whereas all other CSDs we deemed rural (n=39). As shown in Figure 1.2, the spatial distribution of rural and urban communities is fairly even, and the SAC-generated categories are intuitively consistent with a provincial-level perspective.[6]

< INSERT FIGURE 1.2 >

[6] Local citizen's perceptions of rural and urban frequently vary considerably from the province-wide perspective we have adopted since they often include considerations of isolation, access to services, and political influence in their judgments.

Determining Correlations between the Four Types of Social Capital and Selected Census Variables

We selected 25 census variables from the 2001 census for our 64 communities. These are variables that are typically used to summarize the socio-economic well being of communities and provide potential census proxies reflecting the availability of social capital (Table 1.4) (Rupasingha, Goetz, and Freshwater 2006). We used the year 2001 since this was the closest census data available at the time, to the years in which the social capital data was collected (2005-2006).

< INSERT TABLE 1.4 >

Once these census variables were identified, we added the available social capital scores to the dataset and calculated the Pearson correlation coefficient to measure the associations between each census variable and the four types of social capital and total social capital. This correlation analyses was conducted separately for our urban and rural communities.

Results

The basic descriptive statistics for market, bureaucratic, associative, communal, and total social capital (adjusted per 1,000 population) are shown for all 64 study communities in Table 1.5.

< INSERT TABLE 1.5 >

Market-based social capital shows the highest score, and communal-based the lowest score. As noted in the methods section, these scores are partly a function of the number of services utilized in each index. This means that scores should not be used to compare the relative amounts across the four types of social capital. However, comparisons within each type of social capital across communities are valid. Accordingly, the greatest variability in social capital across our study communities occurs in the associative-based relations category, as indicated by the standard deviation scores. Figure 1.3 is a histogram depicting the scores by the four types of social capital in all 64 communities.

< INSERT FIGURE 1.3 >

The blue bars representing the amount of associative-based social capital vary the most among the communities, along with the green bars which represent market-based social capital. In contrast, the yellow and orange bars, depicting bureaucratic and communal-based social capital respectively, are fairly constant across the sample. There is great variability in total social capital among the sample communities, ranging from scores of 3.49 (Coldstream) to 124.9 (Duncan).

We applied the independent samples t-test to compare rural and urban communities on the social capital values. Table 1.6 shows that the availability of all four types of social capital was higher in rural areas than it was in urban communities and, except in the case of bureaucratic-based social capital, these differences were statistically

significant. Among the four types of social capital, the greatest difference between urban and rural communities was noted for associative-based social capital.

< INSERT TABLE 1.6 >

Detailed results for the correlation analyses are shown in table 1.7 and summary results are shown in table 1.8. The correlations vary significantly both among the types of social capital and across the urban-rural continuum. For example, market and bureaucratic-based social capital share the greatest number of correlations with census variables. The census variables Unattached Individuals, Divorce Rates, Low Income Households, Male Youth Unemployment, and the proportion of Lone Parent Families all demonstrate relatively high positive correlations with these two types of social capital. The proportion of Census Families in the CSD shows a negative correlation with bureaucratic and market-based social capital. The pattern of correlations between these census variables and bureaucratic and market-based social capital is similar within the urban communities with the addition of the proportion of the population in Government Professions (positive) and the Female Labour Force Participation Rate (negative).

< INSERT TABLE 1.7 >

< INSERT TABLE 1.8 >

In rural communities, the census variables that correlate with the various types of social capital are frequently dissimilar from urban ones. Where they are similarrelative to the correlations with urban communities (e.g., Unattached Individuals, Low Income Households), these correlations are weaker. In rural communities, the Female Youth Labour Force Participation, the proportion in Managerial Positions, and 5-Year Migration variables emerge as the most highly correlated census variables.

In addition, the pattern of common correlations found within urban centers is not replicated within rural CSDs. In rural areas, only two of the census variables are shared between market and bureaucratic-based social capital (cf. a), for example, while two others are shared between bureaucratic and communal-based social capital (cf. b) and two different ones are shared between market and communal-based social capital (cf. asterisks) (Table 7.8). The availability of associative-based social capital shows no correlations with the census variables we have chosen. In contrast, all six census variables correlated with market-based social capital are found to be correlated with bureaucratic-based social capital in urban areas (cf. a).

Limitations. These results limit the analysis in a number of ways. First, the 64 communities are not necessarily representative of urban and rural communities in the province. Second, the indices of social capital utilize different numbers of services so the scores for the different types of social capital are not directly comparable. Third, in relation to the correlation analysis, census variables were measured in 2001 yet availability of social capital was measured for 2005/06. This may be a problem for small communities undergoing rapid change and could skew our results accordingly.

Conclusions

We conclude, first, that there is considerable variation in the density of all types of available social capital across the 64 BC study communities. Although we are unable to compare directly across the various types of social capital, we see that communities vary immensely with respect to the availability within each type of social capital. The census variable analysis suggests that the factors contributing to this variation are likely to be different within rural and urban communities.

Second, we see that the greatest variation occurs in the availability of associative-based social capital. At the same time, it is this type of social capital that seems particularly unrelated to the census variables considered. Only in urban areas is associative-based social capital correlated to local industry employment. The higher the proportion of people employed in local industries, the more likely there is to be a high density of associative-based social capital. This suggests that traditional census variables are unlikely to provide reliable proxies for the availability of this type of social capital.

Third, the availability of all four types of social capital is higher in rural as compared to urban communities. This is likely to be a result of our standardization on the basis of community population. Whereas the absolute number of services and opportunities available in large communities is higher, once we standardize the values for the community population, the availability of those services per capita is smaller.

Fourth, the types of census variable indicators associated with the availability of market and bureaucratic-based social capital differ depending on whether a community is rural or urban. For market and bureaucratic-based capital, family, income, and employment variables show the strongest correlations in urban areas, whereas in rural areas, it is migration, gender, and age-structured labour force participation that show the stronger correlations.

Fifth, we find correlations between many socio-economic indicators and communal-based social capital in rural areas, but fewer (and quite different) ones in urban ones. In rural areas, communal-based social capital appears to be highest in communities experiencing economic stress with low education, income, and employment; whereas in urban areas only unemployment and divorce appear correlated.

Finally, we find that the census indicators correlated with market and bureaucratic-based social capital in urban areas are very similar, whereas in rural areas the indicators vary across market, bureaucratic, and communal-based social capital. These results suggest that quite different processes may underlie the availability of social capital in rural areas as compared to urban ones.

This analysis supports and advances a multidimensional interpretation of social capital. Rather than treating social capital as an homogeneous characteristic, we have distinguished its availability from its use and identified four types of capital based on the nature of the social relations and norms involved. The data analysis confirms that these differences matter for community socio-economic characteristics, family structures, age, and gender relations. It also shows that the various types of available social capital show different relations within urban and rural settings, thereby suggesting important qualifications for policies and programs addressing these settings.

In urban regions, available social capital shows the strongest relations to socio-economic and family conditions. Both market and bureaucratic-based social capital show a similar pattern: they are most dense within those communities with a high proportion of single and divorced people, low incomes, single-parent families, and youth unemployment – all symptoms of economic and social stress. The direction of influence between these factors is impossible to determine from our data, but it suggests some valuable directions for exploration in the future. Are stressed people and families more

likely to seek out places with high levels of market and bureaucratic-based social capital, or do they contribute to the conditions where these resources are more likely to emerge? Does this mean that associative and communal-based social capital are largely unavailable to these stressed groups in urban regions? Would policies or programs supporting these latter two types of social capital be wasted or would they generate new opportunities for social support among stressed populations?

According to our results, the policy approach to social-capital enhancement in rural areas should be different than in urban areas. In rural communities, the availability of social capital is much more diverse, gendered, and age-related. Market-based social capital is more available where young women and men participate in the labour force, people are more mobile, managerial positions predominate, and female incomes are higher. This is considerably different than the pattern found in urban regions: where indicators of social stress show the highest correlations with market-based social capital. In rural areas, only the labour force participation of young women and migration characteristics are found within communities with high levels of available bureaucratic social capital. Instead of high female incomes and managers, we find low household incomes and male unemployment. This suggests that several distinct factors may be at work in rural areas—one related to regions with enhanced economies and another to those that are depressed.

The patterns of interrelations among the census variables suggest that further multivariate analysis will be beneficial in the search for census proxies for social capital. Market and bureaucratic-based social capital appear to be inter-correlated with census variables, as is communal-based capital—at least in rural areas. The complexity of the shared correlations suggests, however, that zero-order values may be misleading without the controls available through more advanced methods. In using more advanced methods,

we would be better able to control for the multiple relationships found, and select out the key variables related to the various types of social capital. The existence of somewhat distinct correlations for the various types also suggests that a multivariate approach would identify distinguishing variables for each of them—except for the availability of associative-based social capital.

Such a conclusion is reinforced by the relatively important role of communal relations in lagging rural communities. Communities with high levels of available communal relations are also those with low education, unemployment, and low income households: all signs of severe stress. It appears that in stressed rural areas, when faced with such challenges, people may seek places with more communal-based social capital. In stressed urban areas on the other hand, it is market and bureaucratic-based social capital that seem to be more available. Once again we are faced with important questions to answer, questions that have significant implications for policy and program options. Are available communal social relations merely a correlate of stressed rural communities or is this relationship the result of choices and policies? Can increasing the support for available market-based social capital act as a significant community development action? Does available associative-based social capital have no impacts on rural areas, or are the census indicators selected merely insensitive to the effects? What is the interdependence among the underlying factors reflected in these correlations?

These results also suggest that a re-evaluation of the traditional focus on associative-based social capital is particularly important. Measuring the availability of associative-based social capital has yielded few significant correlations with the census variables selected. Several interpretations are possible. It may be that availability of this type of social capital is much less important than its use. Such a conclusion would be suggested by the relatively low inter-correlations between availability and use (Reimer

2006). It may also be that the particular census variables chosen are insensitive to the importance of associative-based availability. Cultural, organizational, and social factors may be more critical than the socio-economic and demographic ones predominant in the census. If so, then the individual-based nature of census data may be inappropriate for measuring these community-level characteristics (Raudenbush and Sampson 1999). It may be that our measures of available associative-based social capital are relatively insensitive to the ways in which it is manifested. Formal voluntary groups and organizations, for example, may be less important than the informal networks that support these types of social relations. All of this points to the need for more detailed and longitudinal analysis.

Finally, our research points to the need for further work on all aspects related to social capital. Perhaps the most pressing would be the need to examine the relationship between the availability of social capital and its use. Most policy and program actions focus on the former since governments have little control over the latter. If there is a big gap between the two, then the relative influence and importance of these policies are likely to be severely compromised. Investigating the extent and nature of this relationship is, therefore, critical. We also need more focus on the processes that lie behind the correlations we found. If community stresses lead to the generation of various types of social capital, our interpretation of the latter will be very different from a situation where the availability of these various types contributes to the stresses. In the former, social capital may be seen as an asset to deal with those stresses, while in the latter, it becomes a liability.

In all cases we need to be sensitive to the urban and rural distinction. This is particularly important with respect to the role of market, bureaucratic, and communal-based social capital. In urban regions, the first two seem to operate in concert, whereas in

rural areas, they may function in a complementary fashion. In rural areas, communal relations take on a more important role—particularly within stressed communities. Policies and programs that do not recognize these differences are bound to fail, exacerbate the challenges they are designed to overcome, or miss opportunities inherent in local assets.

Social capital remains an important enigma for understanding community functioning, development, and sustainability. Our work has approached this challenge by clarifying several elements of its meaning and measurement. In the process we have identified several specific empirical results that can help to distinguish the social processes underlying its operation and direct future research into its effects. These results should also provide important cautions for policy-makers and those implementing programs within local communities, once again reinforcing the importance of local conditions for the impacts of general policies.

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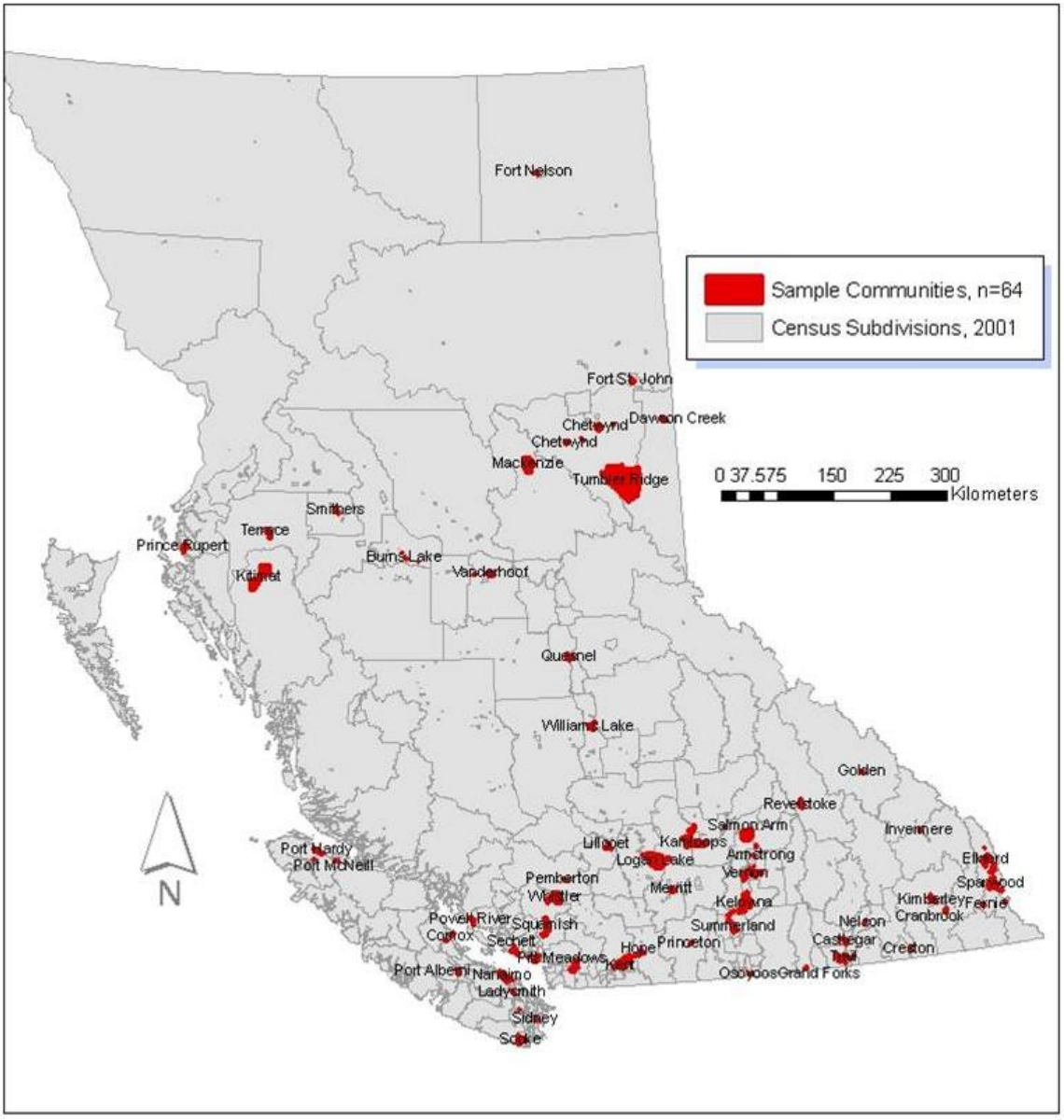


Figure 1.1 Map of 64 Sample Communities in BC

Table 1.1 List of Services by Four Types of Social Capital

Market Relations	Bureaucratic Relations	Associative Relations	Communal Relations
Market Services	**Institutional**	**Community Services**	Community care
Grocery stores	Fire halls	Food Bank	Children's daycares
Auto sales	Neighborhood Watch,	Harvest box, good food	Churches
Auto repair and service	Citizens on Patrol	box, Second hand	Organized Religious
Car wash	Rural Watch	stores	institutions
Gas stations	Police, RCMP stations	Youth drop-in	Fairgrounds
Real estate offices	Libraries	Seniors drop-in	
Liquor outlet	Post office outlets	Halfway house	
Clothing stores	Accountants	Women's resource	
Furniture	Lawyers	centre	
Restaurants		Women's safe house,	
Fast food outlets	**Education**	shelter	
Pharmacy	Elementary, middle,		
Security service (guards and	high, independent	**First Nations**	
patrols)	schools	**Institutions**	
Hotel	Community colleges,	Societies, clubs	
Laundry, self service	universities	Youth, family	
Wal Mart	Child daycare		
Canadian Tire, Home	Public adult education	**Sports, Recreation,**	
Hardware	services	**Culture**	
Banks and credit unions		Service organizations	
Insurance agents and brokers	**Health Care**	Sports organizations,	
# of internet service	Long term,	clubs	
providers	intermediates,	Curling rink	
	community care	Indoor swimming pool	
Producer Services	Physicians	Outdoor swimming	
Farm equipment (sales and	Physiotherapists	pool	
service)	Dentists	Indoor skating rink	
Forestry equipment	Home care, home	Outdoor skating rink	
Mining equipment	support	Community gym	
Contractors, equipment and	Home making	Community centre, hall	
supplies	Hospitals	Theatre	
General contractors	Does hospital have ER?	Cinema	
Business services	Optometrists	Museum	
Transport, trucking services	Ambulance services	Municipal parks	
Logging companies and	911 service (yes or no)	Provincial parks	
contractors	Chiropractors	National parks	
	Councilors,	Skiing trails	
	psychologists	Walking, hiking trails	
		Golf courses	
		Campgrounds	

Table 1.1 (Continued) List of Services by Four Types of Social Capital

Market Relations	Bureaucratic Relations	Associative Relations	Communal Relations
	First Nations Institutions Band, Government Offices Financial Services, employment Health **Government Agencies** Service BC Access Centre Town, city hall Federal Provincial **Transport Services** Car rental Taxi companies Bus services Public transit Passenger train		

Table 1.2 Market, bureaucratic, associative, and communal social capital in Armstrong, 2005/6*

Type of social capital	Total number of services	Number of services per 1,000 people
Market	71	16.7
Bureaucratic	39	9.2
Associative	91	21.4
Communal	15	3.6
Total	216	50.8

*The population of Armstrong in 2001 was 4,256.

Source: Statistics Canada, 2001

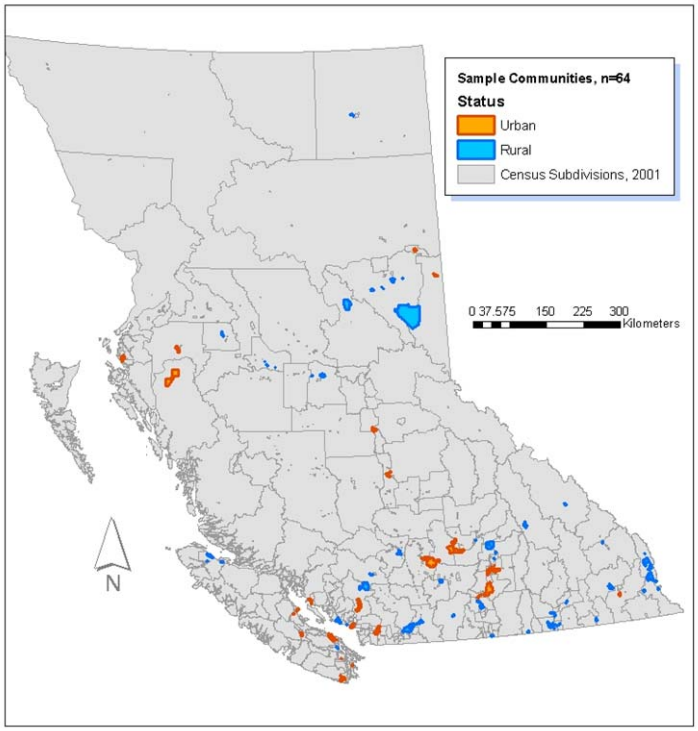
Table 1.3 Standard Area Classification (SAC) code descriptions

Urban CSDs n=25

Standard Area Classification Code Descriptions - Statistics Canada

SAC code	Census Geography	Description	Count in Sample
1	Census Metropolitan Area (CMA)	pop > 100,000	4
2	Tracted Census Agglomeration Area (CA)	pop >10,000	5
3	Non-Tracted Census Agglomeration Area (CA)	pop >10,000	16
4	Strongly-influenced MIZ	>30% residents commute	1
5	Moderately-influenced MIZ	5-30% residents commute	11
6	Weakly-influenced MIZ	0-5% residents commute	26
7	Not Influenced	fewer than 40 residents commute	1
			n=64

Rural CSDs n=39



URBAN	
SAC code	CSD name
1	Bowen Island
1	Pitt Meadows
1	Sidney
1	Sooke
2	Kamloops
2	Kelowna
2	Logan Lake
2	Nanaimo
2	Peachland
3	Coldstream
3	Comox
3	Cranbrook
3	Cumberland
3	Dawson Creek
3	Duncan
3	Fort St. John
3	Kitimat
3	Port Alberni
3	Powell River
3	Prince Rupert
3	Quesnel
3	Squamish
3	Terrace
3	Vernon
3	Williams Lake

SAC
1 – CMA
2 – CA tracted
3 – CA non-tracted
4 – Strong MIZ
5 – Moderate MIZ
6 – Weak MIZ
7- Not Influenced

RURAL	
SAC code	CSD name
4	Summerland
5	Armstrong
5	Chase
5	Enderby
5	Gibsons
5	Hope
5	Kent
5	Kimberley
5	Ladysmith
5	Oliver/Osoyoos
5	Sechelt
5	Whistler
6	Burns Lake
6	Castlegar
6	Creston
6	Elkford
6	Fernie
6	Fort Nelson
6	Fruitvale
6	Golden
6	Grand Forks
6	Invermere
6	Lillooet
6	Mackenzie
6	Merritt
6	Nelson
6	Pemberton
6	Port Hardy
6	Port McNeill
6	Princeton
6	Revelstoke
6	Rossland
6	Salmon Arm
6	Smithers
6	Sparwood
6	Trail
6	Tumbler Ridge
6	Vanderhoof
7	Chetwynd

Figure 1.2 Map of study communities by urban/rural status

Source: Statistics Canada, 2001

521

522 **Table 1.4 Census variables for correlation with available social capital**

523

Variable	Definition
Population	Total population of CSD in 2001
Employment in Primary Industries	Percent of labour force employed in industries related to primary industries (agriculture, forestry, fishing, hunting, mining, and oil and gas extraction)
Employment in Global Industries	Percent of labour force employed in industries tied to the global economy (Managerial, administrative, and related; primary industries; and occupations unique to processing, manufacturing, and utilities)
Employment in Local Industries	Percent of labour force employed in industries tied to the local economy (Clerical, medicine, health, teaching, technological professions, social service, religious, artistic, sales and service, trades, transport, and equipment operators)
Male Unemployment	Rate of unemployed males in labour force
Female Unemployment	Rate of unemployed females in labour force
Male Youth Unemployment	Rate of unemployed males 15-24 years of age in labour force
Female Youth Unemployment	Rate of unemployed females 15-24 years of age in

	labour force
Male Participation rate	Rate of total male population 15 years and older in the labour force
Female Participation rate	Rate of total female population 15 years and older in the labour force
Male Youth Participation	Rate of total male population 15-24 years of age in labour force
Female Youth Participation	Rate of total female population 15-24 years of age in labour force
Households made up of Census Families	Rate of the total number of private households comprised of census families
Divorced Population	Rate of total population 15 years and older, ever divorced
Lone Parent Population	Rate of total census families identified as single parent families
Male Income	Median male income
Female Income	Median female income
Low Education rates	Rate of population 15 years and older with less than a grade 9 education
High Education rates	Rate of population 15 years and older with a trades degree or certificate, or any postsecondary education
Migration	Rate of total population that have moved within 5

	years
Self-Employment	Rate of labour force members that are self-employed
Managerial Professions	Rate of labour force that are occupied in managerial professions
Governmental Professions	Rate of labour force that are occupied in governmental professions
Low Income Households	Rate of private households that are below the low-income cutoff
Unattached Individuals	Rate of total population comprised of unattached individuals

524

525 Source: Statistics Canada, 2001
526

527

528

529 **Table 1.5 Availability of four types of social capital per 1,000 population for all**

530 **communities (N=64)**

	Minimum	Maximum	Mean	Standard dev.
Market	1.31	51.71	13.18	8.28
Bureaucratic	0.88	52.78	9.11	6.73
Associative	0.99	44.64	8.43	10.54
Communal	0.31	6.79	1.73	1.38
Total	3.49	124.9	34.45	22.17

531

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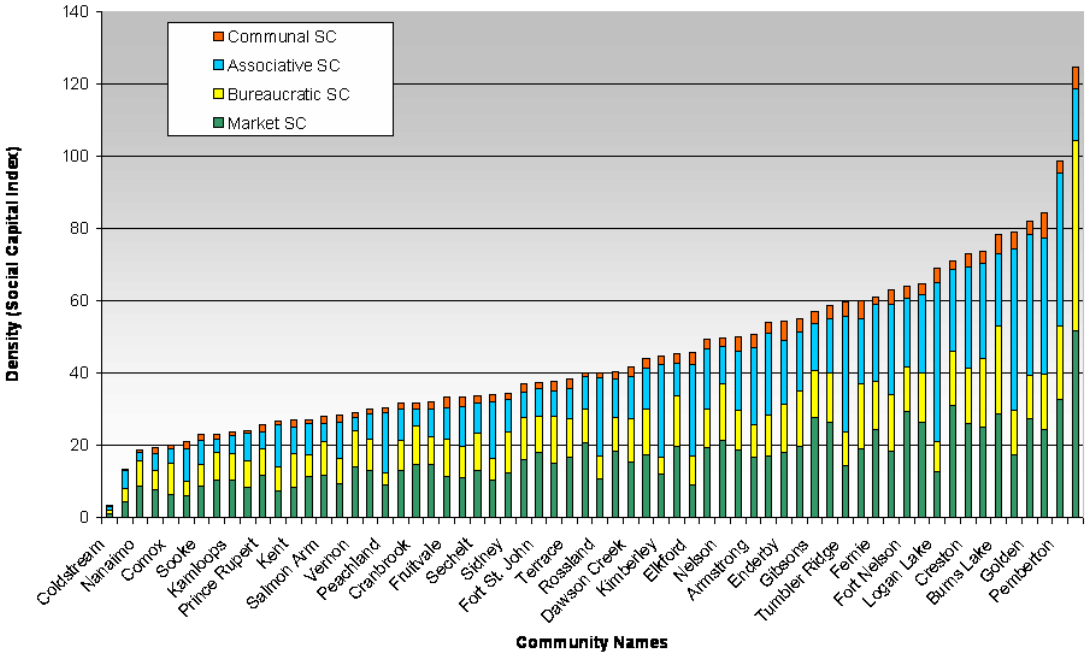

Figure 1.3 Histogram of study communities by social capital scores

538 **Table 1.6 Comparison of social capital scores in urban and rural study communities**

	Urban (n=25)	**Rural (n=39)**
Market	11.7 *	16.9
Bureaucratic	8.4	10.8
Associative	5.5*	15.8
Communal	1.3*	2.7
Total Social Capital	26.9*	46.3

539 * $p<0.05$

540

541

542 **Table 1.7 Statistically significant correlations between available social capital and**

543 **census variables**

544

		Market	Bureaucratic	Associative	Communal	Total Social Capital
Population	ALL	-.281(*)		-.404(**)	-.410(**)	-383(**)
	RURAL					
	URBAN					
Employment in	ALL				.253(*)	
Primary	RURAL					
Industries	URBAN					
Employment in	ALL				.267(*)	
Global	RURAL					
Industries	URBAN					
Employment in	ALL					
Local Industries	RURAL					
	URBAN			.441(*)		
Male	ALL		.280(*)		.262(*)	
Unemployment	RURAL		.349(*)		.471(**)	
	URBAN					
Female	ALL				.304(*)	
Unemployment	RURAL				.480(**)	
	URBAN					
Male Youth	ALL					

Unemployment	RURAL					
	URBAN	.445(*)	.417(*)			
Female Youth	ALL					
Unemployment	RURAL					
	URBAN				.406(*)	
Male	ALL					
Participation	RURAL					
rate	URBAN					
Female	ALL					
Participation	RURAL					
rate	URBAN		-.417(*)			
Male Youth	ALL	.282(*)				
Participation	RURAL	.422(**)				.328(*)
	URBAN					
Female Youth	ALL	.253(*)				
Participation	RURAL	.515(**)	.440(**)			.378(*)
	URBAN					
% Households	ALL	-519(**)	-.512(**)			-.359(**)
made up of	RURAL	-.372(*)				
Census Families	URBAN	-.629(**)	-.683(**)			-.529(**)
Divorced	ALL		.320(*)			
Population	RURAL					
	URBAN	.612(**)	.587(**)		.398(*)	.512(**)
Lone Parent	ALL		.301(*)	-.254(*)		

Populations	RURAL					
	URBAN	.437(*)	.458(*)			
Male Income	ALL					
	RURAL					
	URBAN					
Female Income	ALL				-.279(*)	
	RURAL	.413(**)			-.331(*)	
	URBAN					
Low Education	ALL				.373(**)	
rates	RURAL				.486(**)	
	URBAN					
High Education	ALL				-.395(**)	
rates	RURAL				-555(**)	
	URBAN					
Migration (5	ALL	.317(*()				.296(*)
year)	RURAL	.427(**)	.379(*)			.367(*)
	URBAN					
Self-	ALL					
Employment	RURAL					
	URBAN					
Managerial	ALL	.247(*)				
Professions	RURAL	.444(**)			-.321(*)	
	URBAN					
Governmental	ALL					

Professions	RURAL				
	URBAN		.497(*)		.446(*)
Low Income	ALL	.300(*)	.448(**)	.261(*)	
Households	RURAL		.358(*)	.380(*)	
	URBAN	.510(**)	.573(**)		.402(*)
Unattached	ALL	.490(**)	.428(**)		.320(**)
Individuals	RURAL	.395(*)			
	URBAN	.620(**)	.686(**)		.525(**)

Table 1.8 Summary of statistically significant associations with social capital by rural/urban community status

Urban

Market	
Unattached Individuals[a]	0.620
Divorce Rate[a]	0.612
Low Income Households[a]	0.510
Male Youth Unemployment[a]	0.445
Lone Parent Families[a]	0.437
Census Families[a]	-0.629
Bureaucratic	
Unattached Individuals[a]	0.686
Divorce Rate[a]	0.587
Low Income Households[a]	0.573
Government Professions	0.497
Lone Parent Families[a]	0.458
Male Youth Unemployment[a]	0.417
Female Participation Rate	-0.417
Census Families[a]	-0.683
Associative	
Local Industry Employment	0.441

Communal	
Female Youth Unemployment	0.406
Divorce Rate[a]	0.398

Rural

Market	
Female Youth Participation[a]	0.515
Managerial Professions[c]	0.444
Migration (5 Years)[a]	0.427
Male Youth Participation	0.422
Female Income[c]	0.413
Unattached Individuals	0.395
Census Families	-0.372
Bureaucratic	
Female Youth Participation[a]	0.440
Migration (5 Years)[a]	0.379
Low Income Households[b]	0.358
Male Unemployment[b]	0.349

The Availability of Social Capital

Communal	
Low Education	0.486
Female Unemployment	0.480
Male Unemployment[b]	0.471
Low Income Households[b]	0.380
Managerial Professions[c]	-0.321
Female Income[c]	-0.331
High Education	-0.555

Superscript a, b, and c indicate shared characteristics within Urban and Rural CSDs, as further discussed in this section.