

Understanding and Measuring Social Capital and Social Cohesion

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February 13, 2002

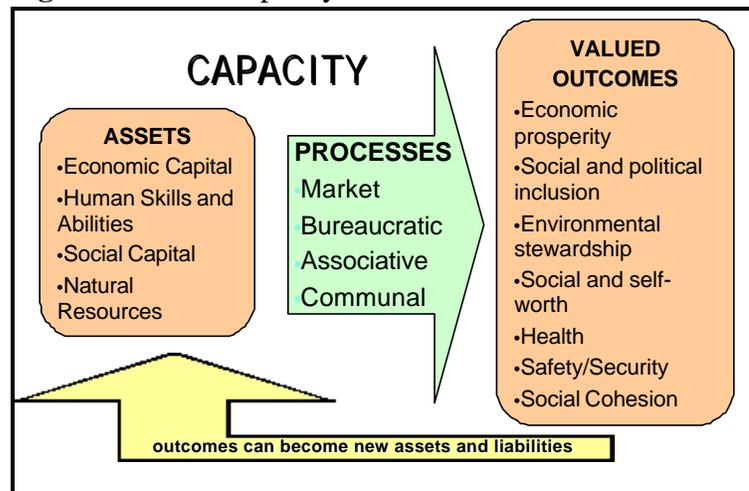
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1. Introduction

Social capital, social cohesion, and social capacity have emerged as three central concepts in the New Rural Economy Project (NRE) theoretical framework. They emerge from our preoccupation with the vitalization and revitalization of rural Canada and are rooted in the importance given to social capacity as a key to that revitalization. A brief outline of that framework will therefore be presented as an introduction to our interpretation and measurement of social capital.¹

Social capacity refers to the ability of people to organize their assets and resources to achieve objectives they consider important. These objectives may be reactive, where people are faced with a challenge – or innovative, where new visions are established and pursued. As illustrated in figure 1, the analysis of capacity requires a consideration of the assets and resources available to rural people. These include economic, human, social, and natural capital in various forms. It also requires an analysis of the outcomes that are valued by the various actors. The most important aspect of the framework, however, is the analysis of the structures and processes involved in producing those outcomes from different arrangements of assets and resources.

Figure 1: Social Capacity Framework



From this perspective, social capital is one type of asset or resource that can be used to achieve valued outcomes. As *capital*, it is a part of production that is reinvested into future production. As *social capital* it refers to social forms as reflected in organizations, collective activities, networks, and relationships. From this point of view, social capital is a relational, as opposed to an individual characteristic. It is also distinguished from social cohesion, but can be directly connected to it. Social capital can be used to increase (or decrease) social cohesion, just as social cohesion can be used for productive ends, thus providing a form of social capital. Both social capital and social cohesion are part of the capacity process – the former as an asset and the latter as an outcome.

¹ As usual, these ideas reflect the contribution of many people in the New Rural Economy Project (NRE) of the Canadian Rural Revitalization Foundation (CRRF). I thank them for their insights and inspiration. Whereas I have borrowed liberally from their ideas, the particular formulation here is not an official position of the NRE or CRRF.

2. Social Capital

Putnam (Isuma: 41) suggests there are many forms of social capital. In the process, he hints at a number of typologies and distinctions that might differentiate these forms. These include a classification based on what they might “be good for”, distinguishing formal from informal, and density of their interconnections. To these we might add several others found in the literature, such as the distinction between bonding and bridging social capital (Flora).

Although these distinctions are useful for particular purposes, they remain limited since they are unconnected to more general frameworks that could provide a strong basis for understanding the processes involved or for generating hypotheses relating to social capital.

In this paper, we present a definition and elaboration of social capital that is strongly integrated into a framework for social relations. Using a modified framework inspired by Polanyi {Polanyi 1944 #36 /d} and Fiske {Fiske 1991 #35 /d} we argue that social capital is embedded in four fundamental types of social relations: market, bureaucratic, associative, and communal. Each type of relation is distinguished by its own norms, rules of engagement, institutions, and control mechanisms. As a result, the processes by which social capital is created, maintained, and used will vary by each type.

As social relations, the four types have important implications for the skills and abilities of social actors. Through aptitude, training, and social construction, individuals and groups may be predisposed to one or the other of these types. As a result, these individuals or groups may be vulnerable to exclusion (or inclusion) where one or the other of the types is dominant. We will use this conclusion to show how social capital might be understood as a basis for power, exclusion, and development processes.

Although for analytical purposes these four types are discussed as if they were independent, they are all found in most social situations, in some cases reinforcing one another, and in other cases, working in an incompatible fashion. In fact, it is in the interaction between the types that many of our insights and hypotheses are generated. It also provides an important basis for strategic suggestions directed to rural communities and community action in general.

We will present data analysis relevant to several of these hypotheses. Using data collected as part of a national research project on rural Canada, we will propose measures of the four types of social capital, demonstrate their multidimensional nature, and test a number of hypotheses regarding their relation to community and individual characteristics. Finally, we will conclude this paper with some strategic suggestions and include several policy implications for rural communities and rural programs.

3. Social Capitals: meaning and elaboration

In the traditional economic literature, capital refers to anything in which we individually or collectively invest to create a durable asset. In most cases, it is discussed with respect to those assets that can be used for productive purposes. Social capital, therefore, refers to social assets, either with respect to the source of investment or with the goods or services produced. Since these assets are embedded in social relations, the identification of social capital becomes particularly difficult, for it may be considered as the means by which an asset is created and the asset itself.

For example, as I plan a picnic with my friends and relatives, I am simultaneously building social capital and using it. Where this occurs in market relations such as a company picnic, a similar process occurs. With each successful transaction, I am reinforcing the social capital that was there and at the same time, making use of the social capital for productive ends. Thus, we find in the literature, that social capital is treated as stock in some cases (networks, institutions) and flow in others (social participation, collective action). It is often unclear whether they are distinguished by many authors.

To avoid this confusion, we will treat social capital as a stock that can be drawn upon primarily, but not exclusively, for economic ends. Although this goes beyond the traditional interpretation of 'capital' it is consistent with many of the interpretations used in the literature and recognizes the multi-functional nature of social relations – relations that must be developed and nurtured. As a result, understanding social capital requires an understanding of social relations: their formation, transformation, vulnerabilities, and resilience. Only in this way will we be able to clarify how social capital might function in a similar or different fashion than other forms of capital. It is to this issue that we now turn.

We propose that social capital can be best understood as a feature of four fundamental modes of social relations. They represent four relatively coherent ways in which people organize their relationships to accomplish tasks, legitimize their actions, distribute resources, and structure their institutions. Since such relations stand as the basis for social capital, our understanding of this type of capital should begin there.

3.1. Market Relations

Market relations are those based on the exchange of goods and services within a relatively free and information-rich context. The classical economic market, for example, is envisaged as individuals bringing surplus goods, searching for those things they desire, and striking an exchange that is mutually acceptable. This may take the form of barter, where goods or services are exchanged for other goods or services, or it may involve the mediation of money, where goods and services are exchanged with the help of some currency. To exchange in this way, people must be willing and able to equate their goods and services to a common standard or currency and they must be confident that the exchange will be completed in a dependable manner. Distribution within this system is primarily based on principles articulated by classical economics for free markets: supply and demand, pricing, transaction costs, and information flow.

Market relations function best where information is plentiful, mobility of goods and labour are high, trust is high, uncertainty is low, and people are relatively free to move in and out of relationships. The relationships established tend to be short-term and limited for the purpose of exchange. Encounters outside exchange negotiations are most often directed to the collection of information relevant to trade and the maintenance of trust and loyalty for purposes of exchange.

The creation and maintenance of this form of social capital requires access to tradeable goods or services, adequate information about markets and prices, good negotiation skills, and a high level of mobility. Individuals and groups that have such qualities are likely have high levels of market-based social capital.

3.2. Bureaucratic Relations

Bureaucratic relations are those based on a rationalized division of labour and the structuring of authority through general principles and rules. They are the 'rational-legal' relationships originally explored by Weber: impersonal and formal, with the distribution of resources based on status positions rather than productivity. Individuals relate to each other through the roles they are assigned rather than individual characteristics. Examples of these types of relations are found in state or corporate structures organized as hierarchies where authority is delegated from central to subordinate positions. Bureaucratic relations may also be organized using a more flat structure so long as there is considerable division of labour and power and control are assigned to positions rather than individuals. A critical feature of such relations is the explicit or implicit articulation of rights and entitlements through these positions and statuses.

Distribution within this type of relationship is primarily based on the allocation of rights and entitlements through formal charter or legal document. As with any formal system, they are usually backed up with law and access to enforcement related to law. Bureaucratic relations are status-related with integration requiring deference to another largely because of the position they hold.

Bureaucratic relations function best under conditions of stability or predictable change. Since they require explicitly coordinated rules of relationships, they take time to establish and tend to resist change as the individuals involved form expectations and take on commitments dependent on the bureaucratic relations. The articulation and enforcement of objectives, strategies, and structures also require a context where the rule of law is legitimized and mechanisms for its enforcement are in place.

Bureaucratic relations create and maintain social capital through the formulation of objectives and the organizational structures created to reach those objectives. The charters and by-laws of government and corporate organizations are key points of reference for identifying the allocation of rights and entitlements. The level of social capital, therefore, is strongly related to the ability of institutions to enforce those rights, either formally or informally (Stinchcombe). At a more individual level, social capital maintenance requires individuals and groups to meet the personal and collective conditions of formal structures. This includes the cognitive ability to operate in terms of roles and generally applied principles, the facility to frame individual and collective interests in terms of those principles, and sensitivity to the manner by which formal organizations

operate including at an informal level. Those who are unable to separate persons from roles or who are highly committed to more personalized relations are likely to find themselves excluded from the distribution of resources or services controlled through bureaucratic relations.

3.3. Associative Relations

Associative relations are primarily based on shared interests. Individuals come together in order to accomplish goals and express concerns that are common to the group. Churches, clubs, social action groups, internet chat rooms, spectator events, hobby groups, and food banks are examples of these relations. They are often characterized by focused objectives, informal structures, and short-term lifespan, but they can address more long-term objectives by being transformed into more formal structures.

The distribution of resources within these relations is typically based on acceptance of the group objectives and perspectives. In some cases this will require individuals to follow closely those objectives, even where it may involve some compromise on their part in order to benefit from the collective. In others, the group interests may be more limited and specific, allowing for people with very divergent backgrounds and interests to accomplish very specific goals.

Social capital of an associative form is likely to be highest where information about others' interests is easily available, interests merge, where the symbols of commitment to the goals are clear, and where there is considerable contribution to the goals on the part of members. The classical measurement of social capital in terms of volunteer group participation and charitable giving is primarily sensitive to this type of social capital. Much of the empirical investigation, therefore, focuses on the analysis of social capital based on associative relations.

3.4. Communal Relations

Communal relations are based on strongly shared identity. Members are treated as equivalent, usually referring to ascribed characteristics of birth, ethnicity, or location as a basis for such equivalence. Family, friendship, and clan relationships are common examples of such relations. The rights and obligations of members are strongly associated with this identity, largely developed and maintained by custom.

Goods or services are usually distributed equally to all members according to need rather than status or ability to pay. Exchanges typically involve obligations beyond the goods themselves and they are often mediated through networks of relations that carry indirect obligations by virtue of common identity. Family members, for example, may be held responsible for one member's debts: an obligation that may be transferred to subsequent generations. Complex networks of reciprocity are the norm.

Communal relations require a high level of trust and loyalty, especially where exchanges are long term or the 'objects' of exchange are unclear. For that reason, they are often associated with strong markers of inclusion and exclusion such as rituals, symbols, and ascribed characteristics. This

form of social capital tends to require a long time to develop, but it is also relatively resistant to erosion and forgiving of abuse.

4. The Coherence and Inter-relation of the 4 Modes of Relating

These four modes operate with considerable internal coherence. Norms of behaviour, values, perspectives, and ways of operating surround each of them in such a way that particular expectations emerge to reinforce the legitimacy of action and the particular bases for the distribution of resources. In many cases, these norms become formalized in law with associated methods of enforcement. As a result, people come to depend on the secure operation of the system for access to resources and services. Threats to the operation of the system will activate resistance and those who benefit from it are likely to champion its survival and expansion. In this respect it can become self-regulating in a weak or strong sense.

On the other hand, the modes of relating are not isolated. All four of them usually operate in a specific situation, although only one or two may be dominant. This may be seen in a social action group where associative relations can become transformed into bureaucratic ones as the group articulates its interests as general principles and establishes the norms and regulations to enforce them. In this case, the bureaucratic and associative relations may reinforce one another. To the extent that the common interests of the associative relations are organized to match the bureaucratic objectives, the advantages of the two systems might be realized. However, this is not always the case. Where the associative interests of a group are short-term, flexible, and spontaneously generated, the relative inflexibility of bureaucratic relations may undermine the original objectives, or divert them to a more limited set of goals. Hence the suspicion of bureaucratic modes of operating in many fledgling social movements.

4.1. Fiske

The four modes identified above are reflected in a wide range of literature from economics, anthropology, psychology, political science, and sociology. By far the most extensive is the treatment provided by Fiske {Fiske 1991 #35 /d} in his analysis of the elementary forms of human relations. Indeed, our formulation can be seen as context-bound manifestations of the four basic forms of human relations that he identifies. Focusing on the cognitive aspects of human relations, he proposes four elementary structures to describe social relations: Market Pricing, Authority Ranking, Equality Matching, and Communal Sharing. Except for one major difference, they parallel the four modes we have outlined above. His work extends our analysis to include implications for values, social motives and emotions, intuitive social thought, and moral judgement.

According to Fiske, “Market Pricing” relationships are guided by values determined by market principles. In this respect they are similar to the market relations as we have identified them above. People coordinate their actions on the basis of estimated exchange values for the goods and services of the other. These exchange values in turn are determined by the operation of a wider market – where alternative sources for the goods and services exist.

Our primary difference from Fiske occurs where he identifies ‘market pricing’ with ‘rational-legal’ legitimacy and a ‘social contract’ orientation {Fiske 1991 #35 /ft ":27"}. Although market pricing may include such structure as a means of reducing deception and deceit, the structure need not be of this form. In fact, rational-legal structures may serve as a basis for non-market types of relations. Indeed, Weber contrasts the bureaucratic distribution of resources based on status rather than productivity as one of the important points of difference from market relations (xxx). The abstract, formal, universalistic nature of rational-legal rules are better understood as a type of social relationship that is independent from the market form. Market calculations are often made outside of a rational-legal framework just as rational-legal structures of authority operate outside of market relations.

Fiske’s “Authority Ranking” relationships are most similar to the bureaucratic systems we have identified above. In both, it is the social status of the person that is important, not their personal qualities alone. Fiske’s approach is more general than ours, however. Whereas Fiske emphasizes the obedience of inferiors out of respect and loyalty for the superior, we prefer to point to the rational-legal aspects of the relations as the critical distinguishing feature. This provides for the operation of organizations without strong hierarchies – the relatively flat structure of smaller bureaucracies and the ‘new corporations’. Under this framework, obedience is a reflection of the legitimization afforded to the general rules and norms supported by the society or its institutions. In most cases, respect and loyalty arise from the position, not the person. Where they are the result of a more personal or charismatic characteristic, they are more closely allied to associative or communal relations.

Fiske’s last two forms of relations (equality matching and communal sharing) are very similar to the associative and communal systems we have proposed. Equality matching bears some correspondence to associative relations insofar as people are considered equal but separate. But Fiske’s emphasis on in-kind reciprocity and equal compensation moves away from the common cause emphasis of associative relations.

Communal sharing is close to communal relations in that individual identities are subordinated to those of the group. Our emphasis is more on the elaborate network of obligations that occurs among the individuals, however. These obligations are established by norms of reciprocity that go beyond the two people involved in the most elementary form of relationships.

As Fiske points out, all these relationships go beyond the dyadic relationship {Fiske 1991 #35 /ft ":170"}. Not only must the people directly participating in the relationship fulfil the norms and obligations, but even “people with social links to the primary parties have a duty to react when the primary parties fail to meet their obligations” {Fiske 1991 #35 /ft ":171"}. This feature not only provides a basis for testing the veracity of the classification, but helps explain higher level emergent social phenomenon. In this way the four-fold classification holds promise as a framework for integrating multiple levels of analysis.

4.2. Polanyi

Polanyi's three 'modes of economic integration' {Polanyi 1944 #36 /d} provided the initial inspiration for understanding inclusion processes, but we have modified them somewhat to suit contemporary social relations. Polanyi's framework identified 'market exchange', 'redistribution' and 'reciprocity' as three basic forms. We use market relations in essentially the same way as he did, but argue that 'redistribution' takes two different forms in contemporary society.

The first is the bureaucratic form, where integration occurs through the division of labour in hierarchic organizations, using rules and roles. Giddens {Giddens 1991 #39 /d} identifies this form as one of the major characteristics of modernity. It becomes a key mechanism of reflexivity.

The second is the associative form, whereby integration occurs through the sharing of common interests. In contemporary society, single-interest groups of this nature may occur within a wide range of contexts - including the Internet (where space and time are no longer necessary elements for the relationships to occur).

This distinction also has the effect of modifying Polanyi's interpretation of the reciprocal mode. It places more emphasis on the multiplicity of exchanges that take place under reciprocity and reserves single interest relations to those found more often in the associative form. By doing so, we reduce the geographical restriction that underlies Polanyi's classification and recognize the distinct form of single interest associations, whether they be organized within neighbourhoods, across regions, or globally, over the Internet. We suggest that such relations are significantly different that the multiple-interest interactions of communal relationships.

{to develop}

5. Measuring Social Capital

Social capital is embedded in four basic types of relationships. It is these types of relationships, therefore, to which we turn to develop indicators. In each case, we rely primarily on data collected as part of the NRE Project but the measures frequently reflect similar indicators in other literature regarding social capital. What distinguishes much of our work, however, is the fact that we have collected information at both the site or community level and at the individual or household level. This allows us to avoid two limitations of the individual-level data most often represented in the literature.

First, researchers frequently use participation and volunteering to measure social capital. These indicators assume that the *use* of particular social resources is equivalent to the *availability* of those resources. From our perspective this difference is very important. Rural people may have access to social capital that they do not use. In fact, considerable effort on the part of community development programs is directed to identifying and learning to use social capital that goes unrecognized. Since we have site-level in addition to individual-level data it is possible to distinguish the *availability* of social capital from its *use*.

Second, using site-level data makes it possible to represent the institutional forms of social capital. For example, the social capital embedded in a school, hospital, or food bank is often overlooked because their existence is difficult to infer from information provided by individuals. We argue that such institutions and organizations (both formal and informal) are key repositories of social capital. They consist of highly coordinated social relations, strong (often formalized) norms, and well-structured mechanisms of social control – all features of social capital. Information about such institutions and organizations is directly available from our site-level data.

The four types of relations are found in most situations. For that reason, our organization-based indicators will not be strongly exclusive of one type of relation or the other. Instead, we classify situations and organizations on the basis of their predominant type of relations. Indeed, in a few cases, we classify them as reflecting more than one type.

5.1. Social Capital Embedded in Market Relations

The NRE database provides considerable information regarding the primary institutions and organizations in which market relations predominate. Enterprises and commercial businesses are among the most obvious. They represent the organization of financial, labour, and commercial markets for both owners and workers. Rural sites that have a large number of such enterprises are considered to be relatively high with respect to social capital. We include in this total, organizations such as credit unions and micro-financing groups since they provide training and resources that reflect market relations as well as those of an associative nature.

An important component of market relations is the access to information that is required for making choices. For this reason, we include media and communication tools that are available to people in the sites.

Using material from the 2000 field site surveys, we identify the following indicators for market-based social capital.

- total number of enterprises in the site (within 30 minutes travel) (pr7a) [pr7a]
- total of: bank, credit union, ATM Machine, Micro-financing group, insurance office in the site (within 30 minutes travel) (pr64a1 to pr64e1) [msserv]
- total of: cable TV, Internet, public access terminals, local newspaper, regional newspaper, national newspaper, community newsletter, local radio station, number of available radio stations [mcomser]
- rating of commercial services in the following way: [pr8]
 - 1 minimum convenience centre (gas and basic groceries)
 - 2 full convenience centre (minimum plus some general merchandise, full grocery store, implement dealers)
 - 3 partial shopping centre (above plus selected merchandise – small malls)
 - 4 complete shopping centre (above plus extensive retail merchandise – large malls)
 - 5 secondary wholesale-retail centre (above plus some wholesale)
 - 6 primary wholesale-retail centre (above plus central wholesale outlets)

A summary index for market-based social capital [msite] is constructed from the sum of the four items above. It is then standardized on the basis of population size [dnmstot] since the availability of social capital with these organizations is likely to be affected by the number of people drawing upon it.

5.2. Social Capital Embedded in Bureaucratic Relations

Proceeding from a similar rationale to the one above, we have used the number of bureaucratic institutions and organizations as a key indicator for social capital. Our data allows us to identify a large number of formal and informal institutions in each site. When selecting our list for this measure, we concentrated on those organizations that operate on the basic principles of bureaucracy as identified above: relations based on roles, entitlements based on general categories, and objectives formulated as general principles. The indicators include the following.

- the total of the following organizations in the site (within 30 minutes travel): [bsserv]

elementary school	speech therapist(s)
high school	occupational therapist(s)
CEGEP or community college	police
university	fire department
continuing education or extension courses	911 emergency line
other educational institutions	lawyer(s)
hospital	notary(s)
blood/urine test facility	citizenship court
X-ray facility	daycare
baby delivery facility	senior citizen's retirement home
nursing home	employment insurance office
doctor(s)	Revenue Canada office
nurse(s)	provincial automobile licence office
dentist(s)	welfare office
dental surgeon(s)	town hall
optometrist(s)	band council
home care/visits	post office
Victorian Order of Nurses	bus
social Worker(s)	passenger train
pharmacy	freight train

ambulance	airport
emergency services	heliport
public health nurse	boat
phyiotherapist(s)	taxi service

- the total of: Internet, public access terminals, national newspaper [bcomser]

As with market relations, the total for organizations was calculated from the two items above [bsaccess] and standardized by the population in each field site where they are located [dnbsacc].

5.3. Social Capital Embedded in Associative Relations

This indicator was constructed using the list of services offered in each field site. Services that were likely to be largely organized on associative principles were selected. In some cases an organization was considered to be organized in such a way that more than one type of social relation played a major role (e.g. co-ops). In these cases, the organization was added to the totals for both types of indexes. The index was constructed using the following indicators.

- the total of the following organizations in the site (within 30 minutes travel): Credit Union, Micro-financing group, food bank, clothing exchange or depot, second-hand stores, drop-in centre, half-way house, personal aid services, curling rink, municipal swimming pool, municipal skating rink, community playing field, community gym, community centre, YMCA/YWCA, athletic club, theatre, cinema, museum, library, park. [asserv]
- the total of: Internet, public access terminals, local newspaper, regional newspaper, national newspaper, community newsletter, local radio station, number of radio stations available in the site, community bulletin boards, community ‘welcome’ sign, community flag, community symbol. [acomser]

The total for organizations was calculated from the sum of the two items above [asaccess], then standardized by the population in each field site where they are located [dnasacc].

5.4. Social Capital Embedded in Communal Relations

This indicator made use of census data regarding the family. Family structure is a key feature of communal relations for it usually serves as a centre of reciprocity and multi-lateral obligations. To reflect the level of this type of social capital we used the following information.

- the proportion of economic families in the site [pefam96]. Economic families “includes all persons related by blood, marriage or adoption living in the same dwelling.” {Statistics Canada 1992 #13 /ft ":90"} This definition has the advantage of excluding unattached individuals.
- the percentage of divorced individuals in the site [pdivo96]. This indicator is based on the assumption that divorce reduces the opportunity for individuals to call upon family for support.

5.5. Exploring the Indicators for Social Capital

Table 1 provides information regarding the basic characteristics of the indicators selected for the four types of relations.

Table 1: Social Capital Indicators - 4 Types of Relations

	N	Min	Max	Mean	Std. Deviation
Market Relations					
number of businesses [pr7a]	17	4	350	77.53	104.09
no of market-based services within 30 minutes [msserv]	19	0	5	1.74	1.76
no of market communication services [mcomser]	19	1	8	6.00	1.73
commercial shopping code from iwg survey [pr8]	19	0	3	1.16	0.90
total of business and market services for site [msite-sum of 4 above]	19	5	359	78.26	102.48
density of enterprises and market services per 100 people [dnmstot]	19	.30	30.07	7.09	6.68
Bureaucratic Relations					
no of bureaucratic-based services within 30 minutes [bsserv]	19	0	32	9.37	8.82
no of bureaucratic communication services [bcomser]	19	1	3	2.68	0.75
no of bureaucratic access services within 30 min of site [bsaccess-sum of 2 above]	19	2	35	12.05	9.04
density of bureaucratic services per 100 people [dnbsacc]	19	.10	7.01	1.93	2.09
Associative Relations					
no of associative-based services within 30 minutes [asserv]	19	0	18	6.68	5.20
no of associative communication services [acomser]	19	1	11	7.58	2.55
no of associative access services within 30 min of site [asaccess-sum of 2 above]	19	3	28	14.26	6.78
density of associative services per 100 people [dnasacc]	19	.19	12.74	2.52	3.02
Communal Relations					
% of pop living in economic families - 1996 [pefam96]	20	70.83	97.56	88.85	6.67

The items used as indicators for Social Capital qualify as “cause” indicators according to Bollen’s {Bollen 2001 #20 /d} classification. Such indicators are presumed to act as “causes” of the underlying concept rather than as “effects”. In the example above, we presume that the greater the density of businesses in a site, the higher the opportunities for market relations. Similarly, the greater the density of other market services in the site, the greater these opportunities. We do not assume, however, that there need be a high correlation between the density of businesses and the density of other market services in the site. As a result, conventional item and validity analyses based on such correlations are inappropriate.

6. Social Cohesion

Social cohesion is the extent to which people respond collectively to achieve their valued outcomes and to deal with the economic, social, political, or environmental stresses (positive or negative) that affect them.

From this perspective, social cohesion is a characteristic of social activities: it represents the extent to which people work together. As such, it should only be used as a constant characteristic of groups with caution. In each application, the point of reference must include particular activities

with which the group is concerned, otherwise the temporal nature of social cohesion is overlooked. For example, a neighborhood group might be very cohesive when dealing with parking regulations, but not cohesive around issues of housing development. If we were to identify this group as cohesive, our analysis would be insensitive to the way in which such cohesion shifts with respect to the issue considered. Social cohesion is highest when groups work together to achieve economic, social, political, or cultural objectives or when they do so to deal with the stresses facing them, whether those be positive or negative.

Using this definition clarifies the discussion, not only about social cohesion, but about such related concepts as social capital and capacity. It also helps distinguish when social cohesion is being used as a theoretical concept from when it is used as an indicator and it gives us the conceptual tools to deal with the many levels of analysis at which the concept applied. Finally, it provides a sound basis for the empirical investigation of social cohesion – allowing us to both investigate its power for understanding social behavior and specify its limitations.

Social cohesion, or the collective activity on which it is based, can be achieved in the number of ways. Following the framework outlined above, we consider social cohesion as rooted in the same four types of relations. They represent four ways in which social cohesion is constructed and maintained. Each of them represents ways in which people form bonds and distinguish social boundaries – both essential characteristics of social cohesion. The bonds, norms, and expectations associated with market relations are likely to be shorter and more instrumental than those established with communal relations, for example. Similarly, the skills and abilities demanded by one type are often quite different than those demanded of another.

Our approach has some important implications for the interpretation of several of the more popular measures of social cohesion. It tends to relegate items in those scales into two types of categories: those reflecting the ‘capital’ part of our framework, and those reflecting the ‘outcomes’ part. The former refers to the interpretation of social cohesion as a resource from which people or groups might draw to achieve various objectives. A common identity, a feeling of community support, confidence in ones neighbours are all perceived characteristics that can facilitate the organization of action or resistance to a threat. As such, these aspects of social cohesion become part of the social capital stock. On the other hand, many social cohesion scales solicit information more like the outcome-oriented approach we have taken. Visiting, participating, and borrowing are some of the more frequently identified activities included.

This two-fold distinction is reflected in the analysis of the Buckner scale of social cohesion as conducted by Wilkinson {Wilkinson 2001 #30 /d}. In his factor analysis of the Buckner items, he identifies three rather independent factors. The first, he labels community cohesion, is composed of the following items:

- I regularly stop and talk with people in this community
- Living here gives me a sense of community
- I feel loyal to people in this community
- I believe my neighbours would help me in emergency
- The friendships and associations I have with other people in this community mean a lot to me
- A feeling of fellowship runs deep between me and other people in this community

- If I needed advice about something I could go to someone in this community
- I would be willing to work together with others on something to improve this community
- I think I agree with most people in this community about what is important in life
- I like to think of myself as similar to the people who live in this community
- I feel like I belong in this community

The second, labeled 'commitment' is composed of the following items.

- I feel like I belong in this community
- Given the opportunity I would like to move out of this community (scale reversed)
- Overall, I am very attracted to living in this community
- If I can I will remain a resident of this community for a number of years

The third, labeled 'neighbouring activity' is composed of the following items.

- I visit with my neighbours in their homes
- I rarely have neighbours over to my house to visit (scale reversed)
- I borrow and exchange favours with my neighbours

According to our framework, we consider the first two as social cohesion as capital rather than social cohesion as outcome. They reflect the respondent's sense of identity and intentions rather than their cohesion as action. The third factor is more directly related to the type of action we look to as social cohesion.

It is important to emphasize, however, that as with most of the outcomes in our framework, they can all be used as social capital. The dynamic aspects of the approach require us to be cautious in any of these distinctions and modest about any claims we make regarding the validity of any measures we construct for social cohesion. For this reason, the indicators of social cohesion that we construct below will be compared to the three factors developed from Wilkinson from the Buckner scale.

7. Measuring Social Cohesion

Since social cohesion as we have defined it, is reflected in the way people relate, its measurement is more amenable to individual-level data than is social capital. For this reason most of our indicators emerge from the NRE household survey as conducted in the summer of 2001.

7.1. Social Cohesion Embedded in Market Relations

We measure the level of social cohesion by identifying the extent to which people coordinate their activities with others to achieve objectives. Since we are focusing on the field sites as the locus of cohesion at this point, the measures we use reflect coordination with others in the immediate vicinity (within 30 minutes travel time). Market relations do this through exchange and barter: the offering of one thing in exchange for another. This is a feature of the following types of activities. They will be used to form the basis of our measure of social cohesion.

- the level of employment and self-employment within 30 minutes of the site (Q8 - employ and employer) [employ30, maccess]
- the number of ways the Internet is used involving market relations (Q25: contacting businesses or obtaining market information, making on-line purchases, paying bills or banking on-line,

- searching for a job or contacting potential employers, conducting your paid employment) [imuse]
- the number of market-based services within 30 minutes that have been used in the last 12 months (Q26: gas station, grocery store, drug store, home furnishing or furniture store, ATM or banking machine, bank or credit union, financial advice services, homemaking services) [smuse30, smuse]
- the number of employment organizations within 30 minutes in which the respondent participates (Q31, Q32) [mpart30, mpart]
- the number of sources for household income that are market-based (Q48: wages and salaries, income from self-employment, farm income, dividends and interest) [mincome]
- the number of persons or groups within 30 minutes from whom the respondent sought market-based support for the change that had the most impact on the household (Q21: employer, financial advisor, business friend(s), a business, accountant, employment and economic organization, or other business people) [tmarke30, tmarket]

These items are used to construct an index for market-based involvement of each respondent [muse30, muse]. When aggregated to the site level, this provides a value to estimate the extent to which the site people turn to market relations to meet their objectives.

7.2. Social Cohesion Embedded in Bureaucratic Relations

Following a similar approach, we identify the extent to which the respondent makes use of bureaucratic relations. The items used are the following.

- the number of ways the Internet is used involving bureaucratic relations (Q25: obtaining information or communicating with federal or provincial governments, completing government forms on-line, contacting health-care providers, finding health information) [ibuse]
- the number of services based in bureaucratic relations within 30 minutes that have been used in the last 12 months (Q26: legal services, family doctor, dentist, ambulance services, emergency room at hospital or clinic, therapy services, home support services, visiting nurse, social services such as child or family intervention programs, public health nurse, post office, public library, public adult education service, provincial government service, federal government service) [sbuse30, sbuse]
- the number of actions addressed to a bureaucracy that have been taken over the last 12 months (Q33: written a letter to a municipal, provincial, or federal representative) [baction]
- the number of sources for household income that are bureaucracy-based (Q48: employment insurance, worker's compensation, Canada or Québec pension plan, retirement pension, old age security, guaranteed income supplement, child tax benefit, provincial or municipal social assistance or welfare) [bincome]
- the number of persons or groups within 30 minutes from whom the respondent sought bureaucracy-based support for the change that had the most impact on the household (Q21: doctor or other health professional, lawyer or legal professional, counsellor or other social service professional, teacher or other education professional, mayor or council member, municipal staff member, economic development officer, contacting other government

resources or employees, applying to one or more government programs, contacting an elected representative, law or justice organizations) [tburea30, tbureau]

These items are used to construct an index for bureaucratic-based involvement of each respondent [buse30, buse].

7.3. Social Cohesion Embedded in Associative Relations

Following a similar approach, we identify the extent to which the respondent makes use of associative relations. The items used are the following.

- the number of ways the Internet is used involving associative relations (Q25: as part of volunteer work) [iause]
- the number of services within 30 minutes based in associative relations that have been used in the last 12 months (Q26: second-hand clothing store, meal program) [sause30, sause]
- the number of groups within 30 minutes of an associative nature in which the respondent currently participates (Q32: environment/wildlife, arts/culture, health, law/justice, social service, sports/recreation, public benefit, religious, education, women, men, youth, casual/social) [apart30, apart]
- the number of actions taken reflecting an associative involvement (Q33: written a letter to the editor of a newspaper, called a radio talk show about a public interest issue, signed a petition, given money for an emergency action, volunteered for a specific community action, posted a comment to an e-mail or web-based discussion groups about a public issue) [action]
- the number of persons or groups within 30 minutes from whom the respondent sought associative-based support for the change that had the most impact on the household (Q21: community or voluntary organizations that had a health, social service, public benefit, religious, or education/youth development focus) [tassoc30, tassoc]

These items are used to construct an index for associative-based involvement of each respondent [ause30, ause].

7.4. Social Cohesion Embedded in Communal Relations

We identify the extent to which the respondent makes use of communal relations in the following way.

- the number of ways the Internet is used involving communal relations (Q25: keeping in touch with family or friends) [icuse]
- the number of family and extended family members with which the respondent shares locally grown fruits and vegetables, wild foods, meat, wild meat, or firewood. (Q38 to Q42) [t1share, t2share]
- the number of family and extended family members with which the respondent shares skills and services such as painting, carpentry, plumbing, mechanical or electrical work, sewing or knitting, housework, babysitting or child care, adult respite care, automotive or boat repair, technical or professional services, snow removal, garden work, or transportation. (Q46) [nshserv]

- the number of persons within 30 minutes from whom the respondent sought communal-based support for the change that had the most impact on the household (Q21: spouse, parents, children, other relatives, close personal friend, friend, work-mate, or neighbour) [tcommu30, tcommune]

These items are used to construct an index for communal-based involvement of each respondent [cuse30, cuse].

7.5. Exploring the Indicators for Social Cohesion

Table 2 provides information regarding the basic characteristics of the indicators selected for the four types of relations.

Table 2: Social Cohesion Indicators - 4 Types of Relations

	N	Min	Max	Mean	Std. Deviation
Market-based Cohesion					
access to market relations - employ or own business [employ30]	1995	0	8	1.18	1.14
use internet for market relations [imuse]	1995	0	4	0.47	0.88
market public services used [smuse30]	1995	0	8	5.09	1.25
number of market participation groups [mpart30]	1995	0	2	0.06	0.27
income from market sources [mincome]	1995	0	4	1.40	0.98
total market supports [tmarke30]	1995	0	4	0.14	0.40
summary indicator for market-based cohesion [muse30]	1995	0	19	8.34	3.02
Bureaucratic-based Cohesion					
use internet for bureaucratic relations [ibuse]	1995	0	6	0.53	1.09
bureaucratic public services used [sbuse30]	1995	0	12	4.69	2.02
number of bureaucratic actions taken [baction]	1995	0	1	0.13	0.34
income from bureaucratic sources [bincome]	1995	0	7	1.38	1.15
total bureaucratic supports [tbureau30]	1995	0	7	0.33	0.63
summary indicator for bureaucratic-based cohesion [buse30]	1995	0	18	7.05	2.82
Associative-based Cohesion					
use internet for associative relations [iause]	1995	0	1	0.06	0.24
associative public services used [sause30]	1995	0	2	0.23	0.42
number of associative participation groups [apart30]	1995	0	21	1.94	2.71
number of associative actions taken [aaction]	1995	0	5	1.37	1.16
total associative supports [tassoc30]	1995	0	3	0.10	0.34
summary indicator for associative-based cohesion [ause30]	1995	0	26	3.69	3.45
Communal-based Cohesion					
use internet for communal relations [icuse]	1995	0	2	0.50	0.73
total types of sharing from family and friends [cshare]	1995	0	11	2.34	1.93
total communal supports [tcommu30]	1995	0	7	0.84	1.30
summary indicator for communal-based cohesion [cuse30]	1995	0	15	3.68	2.59

As with the indicators of Social Capital, these are “cause” type indicators. There is little value, therefore in conducting validity analysis based on correlations.

8. Exploring Indicators for Social Capital and Social Cohesion

We are now in a position to explore a number of hypotheses regarding the relationships between these various indicators. This process will not only allow us to test our assumptions about the characteristics of these measures, but also build a framework regarding the functioning of the capacity process in the rural context.

8.1. Interrelationships among the 4 types of relations

8.1.1. Social Capital

We argue that social capital is embedded in four types of social relations. They are not necessarily correlated, however, since they represent independent ways in which social capital is generated or maintained. On the other hand, there may be some empirical relationship between them since the first three (market, bureaucratic, and associative) are frequently rooted in enterprises or organizations that are likely to be found in geographical proximity. Those sites with a large proportion of enterprises, for example, are likely to have a large proportion of education or health institutions per population. Our data allows us to examine this possibility.

Correlation coefficients for the 19 sites with complete information on social capital are provided in Table 3.

Table 3: Correlation between indicators of four types of Social Capital (19 NRE sites)

	Density of Bureaucratic Services	Density of Associative Services	Communal Capital (% of Pop. in Economic Families)
Density of Market Services	.95**	.99**	-.39
Density of Bureaucratic Services		.91**	-.39
Density of Associative Services			-.38

** Correlation is significant at the 0.01 level (2-tailed)

It is clear from these results that market, bureaucratic, and associative social capital are strongly related in our NRE sites. Their relationship to our indicator of communal social capital is much lower, however. This is graphically demonstrated in the scattergrams of these relationships as provided by Figures 2 and 3. Whereas the relationship between market and bureaucratic-based social capital is linear and ordered, the relationship between market and communal-based social

Figure 2: Density of Market by Bureaucratic Services (19 NRE sites)

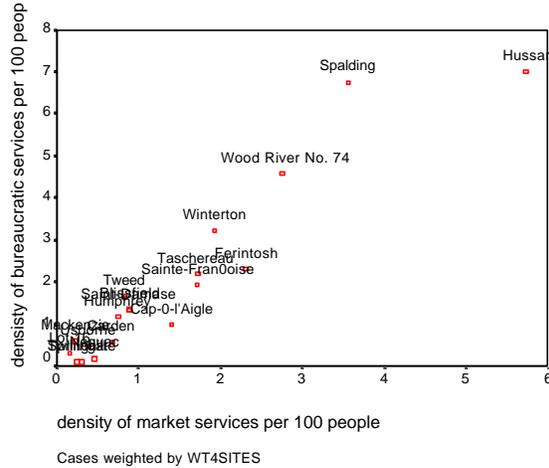
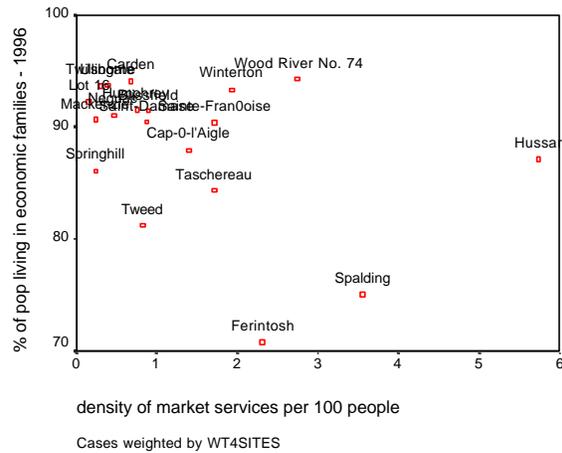


Figure 3: Market by Communal Social Capital (19 NRE sites)



capital is much more scattered. The negative signs of the communal relations suggest a reversal of the pattern found with other types, but these values are not statistically significant. A closer look at population size suggests that the strength of the relationship reflects characteristics of scale: smaller centres have a higher per capita representation of market, bureaucratic, and associative services.

This approach to understanding and measuring social capital is somewhat different than that found in much of the literature. Rather than measure it by the extent to which people perceive or use their social relations, we have focused on the social capital available to them and measured it on the basis of the many organizational forms it can take – both formal and informal. This approach has the advantage of distinguishing social capital from social cohesion and bringing it more in line with the conceptualization of other types of capital. The empirical results show how three of these types of social capital are strongly related – at least in the rural context. They also warn us that the more informal manifestations of social capital as reflected in communal relations may not be so tightly bound to its other forms.

8.1.2. Social Cohesion

Social cohesion is also reflected in four types of relations. Table 4 provides the results of correlation analysis of the behavioural indicators we created. It is produced using analysis at the household and individual level.

Table 3: Social Cohesion - Behavioural Indicators at the Individual Level (N=1995)

	Market-based	Bureaucratic-based	Associative-based
Bureaucratic-based	.332**		
Associative-based	.253**	.322**	
Communal-based	.202**	.271**	.209**

** Correlation is significant at the 0.01 level (2-tailed)

These individual-level results are consistent with our expectations regarding the nature of social cohesion and the indicators we have developed. First, they show there is some relationship between each of the indicators. This is in line with our claim that they are all measuring aspects of social cohesion. Second, the relatively low values for the correlations are consistent with our suggestion that each of the indicators reflects a different aspect of social cohesion without implying that they are all used to the same extent in individual households. Third, the results support our proposition that the four types of relationships are relatively independent from one another. The use of market relations, for example, need not imply high levels of use of bureaucratic relations.

We are also able to consider the relationship between social capital and social cohesion using indicators developed at the site level. In this case, we average the individual scores for all persons in each site sample, and assign that value to the site. Table 5 provides the results from this type of analysis.

Table 5: Social Cohesion - Behavioural Indicators at the Site Level (20 sites)

	Market-based	Bureaucratic-based	Associative-based
Bureaucratic-based	.630**		
Associative-based	.592**	.691**	
Communal-based	.042	.045	.305

** Correlation is significant at the 0.01 level (2-tailed).

The site-level results show a slightly different pattern from those at the individual level. First, the correlations for the market, bureaucratic, and associative-based indicators are all higher than those at the individual level. Second, the relationship between market and bureaucratic-based indicators and the communal-based one are virtually non-existent. These results reinforce our propositions regarding the mutually reinforcing nature of market and bureaucratic-based social relations but they also suggest that associative relations are implicated as well. This confluence suggests a number of possibilities are available for the transference of skills and capacities from one type of relationship to another. Associative-based organizations, for example, may serve as a strong basis for building market or bureaucratic capacity.

On the other hand, communal-based cohesion appears to be relatively isolated from the other three. Associative relations are suggested as the only type that may be consonant with communal ones. This implies that a strategy for capacity-building from strong communal cohesion is likely to be most successful via associative-type relations.

8.1.3. Social Cohesion: Behavioural by Perception

The data from the NRE field sites allows us to examine the relationship between two major types of indicators: those that focus on behavioural characteristics, and those that utilize reports of the respondents regarding their feelings and impressions. Using the Buckner scale we have identified three indicators reflecting social cohesion from the perception-based approach. The first is the general scale of community cohesion identified by Wilkinson {Wilkinson 2001 #30 /d}, the

second is his scale for commitment to the community, and the third is his scale for Neighbouring activity. Table 6 provides the results from this analysis.

Table 6: Behavioural Indicators of Social Cohesion by Perception-based Indicators

	Market-based	Bureaucratic-based	Associative-based	Communal-based
Cohesion (N=1991)	.093**	.117**	.249**	.166**
Commitment (N=1991)	-.002	.018	.137**	.076**
Neighbouring (N=1988)	.125**	.079**	.151**	.200**

** Correlation is significant at the 0.01 level (2-tailed)

These data reveal some valuable insights regarding the various indicators of social cohesion. First, we are struck by the overall low levels of correlation found. This suggests considerable difference between social cohesion as it is perceived and as it is reflected in behaviour. Even with Neighbouring activity, where respondents made judgements of their visiting and sharing practices, there were only low correlations with the more descriptive data regarding those practices. A closer look at the behavioural-based indicator for sharing with neighbours (cshare) only has a correlation value of .188 with the Neighbouring scale.

Second, we note that the Commitment scale shows little relationship to the market and bureaucratic-based indicators of social cohesion and only a weak relationship to the communal-based indicator. There appears to be some distance between individuals' involvement in community life and their sense of belonging or commitment. This hints at the complexity of inclusion processes, especially with respect to the more subjective side of inclusion.

Third, the strongest relationship appears between the Buckner Cohesion measure and the associative-based indicator from our survey. This is consistent with our point that the traditional measures of cohesion as discussed by Putnam are primarily sensitive to associative-based relationships. The variation in findings with respect to the other three types of relationships suggests that more attention is required to these other manifestations of social cohesion.

In summary, this analysis reinforces the value of independent investigation of the four types of social cohesion in addition to its behavioural and perceptual manifestations. As we continue our work, therefore, we will conduct the analysis using several of these indicators.

8.2. External Validity

8.2.1. Social Capital and Social Cohesion

Our model of capacity implies we should find some relationship between the types of social capital available in a site and the types of social cohesion generated. The argument is slightly different depending on the level of analysis used, however.

At the individual level, we understand the types of social capital as a resource pool for residents: a pool that might be drawn upon to produce outcomes – one such outcome being social cohesion. Individuals are likely to be more proficient in some of the relational skills over others, thus creating a situation where some correlation will be found between the type of capital selected and the type of social cohesion outcome produced. The relationship is not likely to be strong, however, since there are many ways in which the capital might be combined to produce cohesion and individuals are often able to make use of more than just one type. Nevertheless, the data afford us an opportunity to see if there is any empirical support for this suggestion.

Table 6:

	density of enterprises and market services per 100 people	densisty of bureaucratic services per 100 people	density of associative services per 100 people	% of pop living in economic families - 1996
total for indicators of market relations - within 30 min	-.075**	-.063**	-.077**	.196**
total for indicators of bureaucratic relations - within 30 min	-.133**	-.052*	-.056*	.003
total for indicators of associative relations - within 30 min	-.059*	.047*	.012	.053*
total for indicators of communal relations - within 30 min	-.167**	.069**	.036	.075**

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

At the site level, the results are similar. By calculating the mean of each social cohesion index for each site, we are able to estimate the level of social cohesion at this level. Correlations between the social capital and social cohesion indices over the sites, produces the values in Table XX.

Table 7:

	muse30 by site	buse30 by site	ause30 by site	cuse30 by site
density of market services per 100 people	-.223 (19)	-.229 (19)	.047 (19)	.178 (19)
density of bureaucratic services per 100 people	-.177 (19)	-.183 (19)	.154 (19)	.211 (19)
density of associative services per 100 people	-.181 (19)	-.174 (19)	.063 (19)	.131 (19)
% of pop living in economic families - 1996	.461* (20)	.063 (20)	.192 (20)	.209 (20)

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).